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**The EU economy:  
2005 review**

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**European Commission**

# **EUROPEAN ECONOMY**

**Directorate-General for Economic and Financial Affairs**

**2005**

**Number 6**



# **The EU economy: 2005 review**

Rising international economic integration

Opportunities and challenges

## Abbreviations and symbols used

### Member States

BE	Belgium
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
EL	Greece
ES	Spain
FR	France
IE	Ireland
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	The Netherlands
AT	Austria
PL	Poland
PT	Portugal
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom

EUR-12	European Union Member States having adopted the single currency (BE, DE, EL, ES, FR, IE, IT, LU, NL, AU, PT, FI)
EU-25	European Union, 25 Member States
EU-15	European Union, 15 Member States before 1 May 2004 (EUR-12 plus DK, SE and UK)
EU-10	European Union, 10 Member States that joined the EU on 1 May 2004 (CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK)

### Currencies

EUR	euro
ECU	European currency unit
DKK	Danish krone
GBP	Pound sterling
SEK	Swedish krona
CAD	Canadian dollar
CHF	Swiss franc
JPY	Japanese yen
SUR	Russian rouble
USD	US dollar

## **Other abbreviations**

BIS	Bank for International Settlements
FDI	Foreign direct investment
GSP	Generalised system of preferences
ICT	Information and communication technology
IMF	International Monetary Fund
MNEs	Multinational enterprises
NMS	New Member States
ODA	Official development assistance
OECD	Organisation for Economic Cooperation and Development
PEPs	Pre-accession economic programmes
PTAs	Preferential trade arrangements
R & D	Research and development
RCA	Revealed comparative advantage
SCPs	Stability and convergence programmes
SGP	Stability and Growth Pact
WTO	World Trade Organisation

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# Summary and main conclusions



***International economic integration promotes prosperity...***

***... and globalisation has also worked well for the people of Europe.***

***Deeper international economic integration offers the prospect of further gains in living standards...***

***... but public perceptions are often dominated by anxieties...***

***... and recent developments appear to have heightened concerns about jobs and wages.***

***Notwithstanding the overall benefits of globalisation, it must be acknowledged that the associated adjustment process can be costly for some people.***

## 1. Introduction

More than 50 years of ever-growing international economic integration has confirmed what economics has always taught: that increased trade and foreign direct investment promote prosperity — and thereby promote peace. The liberalisation of trade and investment has proved crucial for raising the living standards of the world's poorest. Since the Second World War, no country has prospered by closing off to trade, while there are many, especially in Asia, that have grown rapidly by opening to the world economy.

Globalisation has also worked well for the people of Europe — including the less affluent, who probably benefit the most from the availability of affordable imports. Conservatively estimated, about one fifth of the increase in living standards in the EU-15 over the past 50 years is the result of our integration in the world economy — and there is nothing in the historical record to suggest that this has come at the expense of higher levels of unemployment.

The rapid global economic change we are now witnessing brings with it huge opportunities and, as in the past, the potential for further sustained increases in living standards. Rising international economic integration offers direct access to new and expanding markets and sources of finance and technology, and provides firms with the potential for significant cost advantages. This, in turn, opens the prospect of significant gains across the whole economy, with EU Member States benefiting from lower prices for consumers and firms, greater volumes of international trade, and potentially higher levels of productivity, real wages and growth.

But, at present, many people in our high-wage countries see little or no benefit from globalisation. Public perceptions of rising international economic integration are often dominated by anxieties concerning job losses and downward pressures on wages and working conditions. Fears are running strong that increased import competition from low-wage countries puts too much pressure on local producers and workers and may result in factories being closed at home and economic activities being relocated abroad.

Such concerns are not new, but they have been heightened by the acceleration of the pace of international economic integration and the emergence of China and India on the world trading scene. The combination of technological advance and policy liberalisation is allowing economic activity to become increasingly specialised and spread out across countries and continents. The boundaries of what can and cannot be traded are being steadily eroded, and the global economy is encompassing an ever-greater number of tradable goods and services, increasingly affecting white-collar workers. Set against the background of sluggish economic growth and persistently high unemployment in much of the EU, these developments have led to a sometimes highly charged debate about European competitiveness and the allegedly negative impact of rising international economic integration on jobs and wages.

Notwithstanding the overall benefits of deeper international economic integration, both economic theory and empirical evidence demonstrate that it may indeed result in the welfare of some groups in the labour force being reduced even as aggregate productivity and income improve. Obviously, reaping the potential gains from globalisation necessarily entails adjustment towards further specialisation, innovation and diversification into new areas of comparative advantage, inducing shifts in the sectoral and occupational composition of employment. The reallocation of resources may generate frictions, in particular in the labour market, due to adjustment costs for workers who

have to acquire additional skills and/or to move between jobs, sectors, occupations and regions. The challenge posed by globalisation should thus be seen as part of the broader policy challenge of enabling dynamic economies to successfully cope with structural economic change.

***The EU economy: 2005 review seeks to provide a solid basis for the debate about responses to globalisation.***

Against this background, the 2005 annual review attempts to provide a solid analytical and empirical basis for the ongoing debate about how to respond effectively to the challenges of globalisation. Part I of the report reviews the main current trends in international economic integration and examines the underlying mechanisms. Part II evaluates the impact of deeper international economic integration and attempts to identify the channels through which the EU can realise its potential gains. Special attention is devoted to the impact of globalisation on jobs and wages, a focal point of the current debate. The last chapter of this part examines the link between international integration, growth and poverty reduction from the perspective of developing countries. Part III complements the analyses of the previous parts with a number of specific studies further characterising globalisation and assessing its impact.

***Global financial integration has developed dynamics of its own...***

## **2. Main findings**

Global integration and economic performance has been fostered by a new dynamic in financial markets, which both mirrors and amplifies the effects of foreign direct investment and trade-driven integration. The economic performance of countries across the world is increasingly supported by — and dependent on — international capital flows, which have built on a process of progressive liberalisation and advances in technology since the 1980s.

***... and the introduction of the euro was a major change in the international financial system as well.***

The new dynamics in the global market also reflect the major institutional change brought about by the introduction of the euro in 1999. EMU was built on and reinforced the trade and financial integration that had already been achieved in the common market. Externally, the euro has quickly established itself as the second currency in all major segments of international financial markets. The introduction of the euro has fostered economic and financial integration through the creation of more homogeneous markets, a wave of consolidation among intermediaries and exchanges, and the emergence of new and innovative products and techniques since 1999.

***Foreign direct investment flows have risen strongly.***

Global financial market integration has progressed rapidly. Cross-border holdings of assets began to increase steadily from the mid-1970s on, with the accumulation of foreign assets accelerating sharply in the 1990s. In global terms, FDI flows rose from 5 % of world GDP in 1985 to over 15 % by the late 1990s. The most remarkable feature in foreign direct investment in recent years was the acceleration of mergers and acquisitions activity from the mid-1990s, which drove global FDI inflows to a peak in 2000, but FDI flows slumped sharply after the dot-com bubble burst.

***Developed countries continue to be the main recipients of FDI...***

In 2004, the USA was the biggest recipient of FDI, followed by the UK and China. Developed countries continue to be the main recipients of EU outflows of FDI, with the USA in first place. The most dynamic intra-EU flows are those between the EU-15 and the new Member States, reflecting one of the benefits of the recent enlargement. Over the period 2001–03, 7.1 % of all EU foreign direct investment went to the new Member States, while only 1.6 % was directed to China and 0.4 % to India.

***... but the new EU Member States have become particularly successful at attracting FDI as well.***

Attracting inward FDI is likely to become an ever more important challenge for the EU. Present FDI stocks are still largely concentrated in those regions of the EU-15 Member States which offer good market access, an existing strong industrial base and a well-educated labour force. The new Member States have become particularly attractive for FDI as well, often because they offer market access, as for example in the case of financial services. In manufacturing, the location decisions of multinationals have been determined less by market access and more by the existence of a local manufacturing base in the new Member States. Overall, lower wage levels in the new Member States do not appear to be the main driving force for FDI flows from the EU-15.

***The EU has well defended its market share in world trade...***

World trade increased at an annual average rate of around 8½ % over the period 1992–2003. Growth in intra-EU-15 trade was less buoyant, while extra-EU-trade growth rates were close to the world average. In global terms, the EU has embraced the process of rising international trade integration, well defending its market share in world trade. Perhaps the most striking development over the last decade is the rapidly growing role of China in world trade. In 2003, Chinese exports accounted for 6.2 % of world exports, up by almost four percentage points from 1992. However, as imports rose almost in parallel, China's trade surplus increased only moderately, to 1.6 % of GDP in 2003. India's share in world exports and imports is still relatively small at about 1 % each, and it ran a trade deficit with the rest of the world.

***... due to its ability to sell upmarket, high-quality products; however, its performance may not be sustainable.***

The EU industry's position on world markets is still good, mainly due to its ability to sell upmarket, high-quality products which now account for about half of European exports and a third of world demand. However, the EU may be less than ideally positioned to fully realise the potential gains from deeper international economic integration and may be missing opportunities in newly emerging markets. Extra-EU-15 trade balances show large and rising deficits with China and south-east Asia, compensated by surpluses with other world regions, most importantly with the US and the recently acceded Member States. Moreover, while the EU's trade balance in high-tech sectors is improving, a good deal of the EU's positive trade performance is due to intermediate skills sectors, whereas other high-income regions are more specialised in products requiring high-intermediate to high skills. In those areas where most of the growth in world exports is taking place (semiconductors, passenger cars, telecommunications, computers, computer parts and pharmaceuticals), the EU has managed to maintain but not improve its position.

***Trade in intermediate goods is growing, but delocalisation remains fairly limited.***

As regards the (de)localisation of production activities, it is difficult to assess developments here because of the difficulty in defining and measuring the phenomenon. FDI flows and trade data, particularly intra-firm trade and trade in intermediate goods, may be used to assess the international division of the value chain and hence international outsourcing, and in fact they show that trade in intermediate goods accounts for an increasingly large proportion of total trade. But overall, and despite the measurement problems, the available indicators suggest that delocalisation still remains fairly limited. However, surveys on EU firms' intentions to delocalise suggest that the number that will do so in the future will rise. Even so, the number of affected jobs is likely to remain small compared to the impact of restructuring in general.

***Trade integration in services has also progressed, with both imports and exports of business services increasing rapidly.***

Trade integration has also progressed quickly in services and international outsourcing of business services has been growing. However, insourcing — that is, exports of business services — has also increased substantially in the EU in recent years. The UK is a net exporter of business services, and several other EU countries have a balance of trade in business services that is broadly in equilibrium. Looking ahead, however, some authors see considerable potential for eventual off-shoring of ICT-intensive occupations; among the reasons mentioned for this is the overpricing of scarce skills at home and a strong emerging skill basis abroad, while low-cost communication and global cost competition facilitate and enforce the most efficient allocation of resources.

***To fully seize the opportunities that globalisation brings, the EU must shift towards a knowledge-based economy...***

The potential macroeconomic pay-off from the ongoing deepening of international economic integration could come through the same routes as in the past: lower prices for consumers and firms; greater volumes of international trade; higher levels of productivity and real wages; and a wider choice of product varieties. However, there have been difficulties on the part of the EU to seize the opportunities arising from globalisation in the past 10–15 years. In order to fully realise the gains arising from globalisation, the EU will have to shift the emphasis of its economic model towards much more innovation and the creation of a more business-friendly environment.

***... and remain attractive for R & D investment.***

It is a worrying sign that the EU is losing its attractiveness for R & D investment relative to the USA and other third countries. China, in particular, is a new hot spot on the list of prospective location sites for R & D. The EU also lags far behind the USA in its ability to attract highly skilled immigrants. The trend towards delocalising R & D activities is increasing, but most R & D still occurs in the home market. The empirical evidence suggests that, although location of R & D is influenced by technology sourcing, being close to local markets remains important.

***Globalisation is no threat to jobs in general, but it can negatively affect certain sectors and regions.***

The adjustment challenge in the labour market centres on the smooth reallocation of labour from shrinking to growing activities. Indeed, from a general perspective, international trade and investment has not been associated with aggregate net employment losses, and there is no indication that more open economies suffer from higher unemployment. However, globalisation is a significant, though far from dominant, factor behind overall job turnover and the reallocation of labour; as such it can have a negative impact on employment in certain sectors and regions and may impose significant adjustment costs on the people affected.

***The overall impact of trade integration on manufacturing jobs has been relatively small...***

In particular, trade integration is likely to have had a negative impact on manufacturing jobs in the EU, albeit a relatively small one, with industries affected by more intense import penetration suffering from somewhat stronger declines in employment shares. Estimates of job displacement accounted for by increased international trade range between zero and 20 % of all permanent layoffs. However, the negative impact of company relocation on employment has been almost negligible, namely when compared to total employment or total restructuring. The wage share in national income does not appear to be systematically related to deeper international integration. Despite some high-profile cases, it has not led to a systematic erosion of working conditions either.

***... but the labour market prospects for the low-skilled have deteriorated in the process...***

In addition, while the outsourcing of intermediate inputs has contributed to increased productivity, the available evidence also suggests that trade and vertical integration of production processes has caused a decline in relative demand for unskilled labour, in particular in manufacturing. This development is estimated to account for as much as one third of the overall increase in wage inequality in the US. The case is less obvious



in the EU, where there has been little increase in wage inequality, though the employment prospects for the low-skilled remain unfavourable.

***... and there appear to be undue difficulties in reallocating resources.***

Whether or not the benefits from globalisation can be fully reaped depends largely on how well and how rapidly employment can be reallocated. In Europe, there appear to be significant obstacles to the reallocation process, which lock resources into inefficient use. This is particularly troublesome for labour, with displaced workers experiencing undue difficulties finding new employment. High long-term unemployment is just one indicator of this. Another sign is that displaced workers in the EU are less likely to find a new job than those in the USA. In the USA, however, displaced workers have to accept larger drops in earnings when re-entering employment. Occupational and regional labour mobility is generally low in the EU-15 Member States and has hardly increased over recent years. On an encouraging note, however, evaluation of training programmes has shown that, if they are well designed, they have the potential to significantly improve re-employment chances.

***Immigration could be a positive factor in labour market adjustment...***

Labour mobility improves the allocation of workers across firms, sectors and regions, thereby 'greasing the wheels' of labour markets. Immigrant workers can play an important role in this area. They may ease labour shortages in areas in which nationals do not want to work and, as they are often more responsive than local workers to labour market conditions, they may smooth the adjustment to regional differences or shocks. Moreover, increasing human capital through immigration would contribute to long-term growth, in addition to the purely quantitative impact of increasing the labour force. Indeed, attracting foreign talent is likely to become an ever more important challenge, in particular for migration policy.

***... and while immigration has not endangered jobs or wages in general, the EU needs to better integrate immigrants into its labour market.***

Net immigration into the EU-15 has risen again in recent years — partly due to labour demand pressures in certain sectors and regions — and new destination countries have emerged, particularly in southern Europe. With an overall level of around four per 1 000, relative immigration levels into the EU appear to be, at present, roughly on a par with those into the US. However, the EU appears to be significantly less successful than the US in efficiently absorbing migrants into its labour markets, as it has to cope with a larger share of low-skilled immigrants. From an empirical perspective, past immigration has had no obvious impact on unemployment among nationals, nor have the estimated effects on domestic wages been very conclusive. With the accession of 10 new Member States in 2004, part of what was classified as immigration in the past has now become internal mobility. The evidence so far and projections for the future suggest that massive net westward flows of labour would not take place even if the movement of workers were completely unrestricted.

***There is generally a positive link between globalisation and growth and poverty reduction in developing countries.***

Moving beyond the EU-25 to examine the link between globalisation, growth and poverty reduction from the perspective of developing countries, the empirical evidence generally supports the view that globalisation tends to be associated with higher growth. However, trade is a necessary but not sufficient condition for growth and development. Economic and social policies, institutions and geography, and public and private investment are important additional factors in whether countries are able to fully benefit from trade opportunities.

***The EU, being inextricably linked to the world economy, needs to tackle the challenge from globalisation proactively.***

***Resorting to protectionism and trying to shield jobs and industries from international competition is not a viable option.***

***The renewed Lisbon strategy has a key role to play.***

***Policies that match flexibility with fairness should help to equip citizens with the skills, support and incentives they need to succeed in a changing world.***

### **3. Policy implications**

The European economy is inextricably linked to the world economy. Happily, upon close inspection, many of the allegedly negative implications of rising international trade and investment for jobs, wages and living standards are belied by the evidence. However, widespread public concerns should not be dismissed too easily. In order to realise the potential gains from globalisation, production structures will have to shift considerably towards further specialisation and diversification into new areas of relative comparative advantage, and this process is likely to be associated with considerable frictions.

Throwing sand into the wheels of deeper international economic integration, as contemplated by some, in order to reduce adjustment costs is not a viable option. Clearly, it is difficult for policy-makers to withstand protectionist tendencies in the face of concentrated, localised short-term adjustment needs, when the gains from economic integration are dispersed and only materialise in the medium to long term. But living in a fortress will not benefit us; it will only reduce economic efficiency, income and employment opportunities in the long run. And it will weaken our bargaining stance against trade barriers in other countries, thereby undermining job creation at home in those sectors that would benefit from economic integration. Moreover, past experience of defensive policies which try to shield established firms or industries from new sources of competition and/or which have tried to protect people within specific jobs has largely been negative.

Integration is a two-way street. The EU stands to win from the further opening of markets worldwide. An ambitious strategy in the Doha Round — complemented by bilateral or regional initiatives — should ensure that domestic producers have adequate access to third markets. Our response to globalisation cannot be to bring the process to a halt, but rather to design policy in such a way as to capitalise on the opportunities that it affords while minimising unavoidable adjustment costs. This is what the renewed Lisbon strategy, with its focus on employment and productivity, sets out to do.

Obviously, well-functioning labour markets that enable workers to move smoothly from declining to expanding activities will ease tensions in the adjustment process; in practice, this may often mean ensuring a better balance between income support for job losers, adequate job-finding assistance, training, and proper re-employment incentives. In a nutshell, we need modern social and labour-market policies which match the pursuit of efficiency with considerations of fairness and ensure that citizens are equipped with the skills, support and incentives they need to succeed in a changing world. A new Globalisation Adjustment Fund could complement the Structural Funds, and notably the European Social Fund, by providing a swift response, focused on people, to urgent problems which result from globalisation; and targeted anticipation policies could reduce the costs of change and facilitate transition.

***The EU requires a dynamic framework where innovation and R & D, fostered by excellent education systems, can spur productivity and job growth ...***

However, meeting the broader challenge from globalisation requires policy responses that extend far beyond labour-market and social safety-net policies. The EU must enhance its ability to create new activities and jobs in order to take the high road in the emerging new international division of labour, and it must not miss out on the huge sales and investment opportunities in the large and fast-growing new markets overseas. Obviously, producing only goods and services reflecting traditional comparative advantage will not be enough in the long run. Creating new high value-added activities with deeply rooted comparative advantage requires a dynamic framework where innovation and R & D, fostered by excellent education systems, can spur productivity and job growth. This should be supported by regulatory reforms to reduce excessive and unnecessary burdens on business and to facilitate entry and exit of firms.

***... embedded in an overall strategy to turn globalisation into a win-win situation.***

Last but not least, any strategy designed to make globalisation a win-win situation must include a stable macroeconomic environment, efficient and integrated financial markets, an open and dynamic internal market including a genuine single market in services, responsive labour markets and a well-trained and highly skilled workforce, as well as improved access to third countries' markets.



# Introduction to the theme

This year's edition of the EU economy annual review is entirely devoted to the issue of globalisation. Although the term 'globalisation' is widely used, it is not always clear what is meant by the term. While it obviously encompasses a variety of phenomena, the focus in the report is on the process of deeper international economic integration in terms of financial markets, trade in goods and services, foreign direct investment, and flows of human capital, including issues such as outsourcing, off-shoring and the relocation of production activities abroad.

At present, many people apparently see little economic benefits from globalisation, if any at all. Public perceptions of how rising international economic integration affects the EU economy are often dominated by anxieties concerning job losses and downward pressures on wages and working conditions, with potential detrimental impact on economic well-being. Fears appear to be running strong, in particular in our high-wage economies, that increased import competition from low-wage countries puts too much pressure on local producers and workers; import penetration of products from countries endowed with cheap labour may render domestic industries uncompetitive, enforce the closing of factories or parts of them at home and induce the relocation of plants and operations abroad. Clearly, such perceptions of the impact of 'globalisation' fuel widespread anxieties that this process will be associated with rising employment and earnings insecurity, or may even lead to a mass exodus of well-paid jobs in high-wage countries and induce a 'race to the bottom' which is deemed as inescapable by many.

Concerns about the impact of globalisation on jobs and wages are not new, of course, given the rapid pace of international economic integration in recent decades as reflected in the steadfastly growing volumes of world trade and foreign direct investment. However, more recently, a number of factors appear to have heightened public apprehensions about the negative impact of the increasingly open character of the EU economy and have led to a sometimes highly charged debate about European competitiveness and the allegedly negative impact of rising economic integration on jobs and wages.

- *The weak economy.* Weak economic growth across the EU has exacerbated fears of losing jobs to inter-

national competition. While most economists would argue that the lacklustre labour market performance in much of the EU is due to a combination of cyclical and domestic structural factors, globalisation has also often been blamed for stagnant employment and high unemployment.

- *Emergence of new key players.* The rapidly growing presence of large developing countries such as China and India on the world trading scene has contributed to reignite the recurrent fear in developed countries of losing jobs to low-wage countries. The new international partners are characterised by a large labour force and relatively high (as compared with other episodes of emerging developing countries) technical capacities, sometimes inherited from their industrial past, sometimes stimulated by active industrial policy, as well as transferred by multinationals. Obviously, a lower wage than elsewhere is an even more attractive competitiveness factor if it comes with a well-educated labour force. The annual output and quality of science and engineering graduates from India and China, as will be documented in the report, have been increasing rapidly and are now comparable to the advanced countries. This inevitably translates into low wages in the exportable sectors, a relatively high pool of skilled labour and technical capacities not very different from those of the industrialised countries.
- *ICT is affecting production structures.* International specialisation, according to Ricardo's comparative advantage, applies increasingly to segments of the production cycle rather than to complete products. The growing share of parts and components in world trade (as will be documented in the report) indicates the increasing fragmentation of manufacturing production. ICT has been a fundamental contributor to the dramatically changed tradability of goods and services. The use of ICT allows knowledge to be codified, standardised and digitalised which, in turn, then allows the production of many goods and services to be fragmented into components that can be located in other countries to take advantage of costs differentials, economies of scale, etc.
- *Services are affected.* While modularity and fragmentation of manufacturing production is not a new

phenomenon, it is now also being applied to services. Many jobs previously considered as non-tradable are suddenly exposed to international competition and may risk being dislocated. Although still in small numbers, the trend has worried many. Examples of services being off-shored include audiovisual and cultural services, business services, higher education and training services; financial services; health services; Internet-related services, etc. Since services outsourcing is structurally easier than manufacturing outsourcing in terms of resources, space and equipment requirements, it may proceed more quickly. Thus the spread of off-shoring to services is likely to affect firms' strategies in all sectors of the economy. Since the services sectors take up the bulk of employment in the EU, many jobs are potentially at risk. Furthermore, while manufacturing outsourcing mainly impacted blue-collar jobs and led to increased inequality between blue-collar and white-collar occupations, services outsourcing impacts white-collar jobs, and may lead to increased inequality within white-collar occupations.

- *Migration* (labour mobility in the case of the recently acceded Member States) may constitute another mechanism whereby previously non-tradable economic activities become exposed to intensified competition as domestic workers find themselves in more contestable positions in activities such as construction, hotels and restaurants, and social and personal services.
- Last, but not least, the proposals for *further liberalisation of trade and investment flows* in the context of ongoing WTO negotiations and the Doha Development Agenda also appear to carry with them intensified competitive pressures for workers, farmers and firms in high-wage countries.

The widespread popular ambivalence towards globalisation in general and relocation in particular, stands in stark contrast to the sanguine view shared by most economists that trade and investment liberalisation is an important source of rising living standards for the overall population. The broad consensus view holds that the most important long-run impact of international trade and investment has been to raise average real wages without undermining the aggregate employment base, thus providing substantial payoffs to all countries in the aggregate. Indeed, conservatively estimated, about one

fifth of the increase in living standards in the EU-15 over the past 50 years is the result of our integration in the world economy — and there is nothing in the historical record to suggest that this has come at the expense of higher levels of unemployment.

The rapid global economic change we are now witnessing offers the prospect of further gains in living standards. As in the past, these could come from lower prices for consumers and firms, greater volumes of international trade, higher levels of productivity and real wages, and a wider choice of products. However, in order to realise the potential gains from globalisation, production structures will have to shift into new areas of comparative advantage, and both economic theory and empirical evidence demonstrate that in this process the welfare of some people may be reduced even as aggregate productivity and income improve. There is no shortage of individual case studies and anecdotal evidence indicating significant labour market adjustment costs arising from intensified international competition for certain groups of the workforce, as reflected in higher job displacement rates and the social hardship associated with ensuing long spells of inactivity and unemployment and/or large wage losses once re-employed.

Yet, the EU is inextricably linked to the world economy and needs to be proactive in tackling the challenge of globalisation. The question is therefore not so much whether we should be for or against globalisation, but rather how to make sure that it works to Europe's advantage. Against this background, the 2005 Annual Review attempts to provide a solid analytical and empirical basis for the ongoing debate about adequate responses to the challenges of globalisation. The report is organised as follows.

Part I examines recent trends in international economic integration. It looks first at the process of global financial market integration, which has been both mirroring and amplifying the effects of foreign direct investment and trade-driven integration; obviously, the introduction of the euro in 1999 was a major change in the international financial system as well. Next, the analysis turns to trade in goods and services and foreign direct investment flows; this also encompasses phenomena such as growing trade in intermediate inputs and business services, and the relocation of production activities abroad. Last, but not least, recent trends in labour migration and flows of human capital are examined.

Part II evaluates the impact of deeper international economic integration and attempts to identify the challenges to realise the potential gains from this process. First, model simulation techniques are employed to derive a quantification of the macroeconomic benefits and risks for the EU economy in a both backward and forward-looking manner. Then, the available evidence of the impact on jobs and wages in the EU is examined, a focal point of the current debate. The last chapter in this part looks at globalisation from the developing countries' perspective, in particular under the aspect of its impact on growth and poverty reduction.

Part III complements the analyses of the previous parts by further characterising globalisation and its impact in

a number of specific studies. Chapter 1 of this part provides an illustration of the trends and drivers in the internationalisation of R & D and offers an assessment of the EU's attractiveness for the location of R & D activities. Chapter 2 reviews the existing literature and provides empirical evidence on the pattern and determinants of the location decisions of multinational companies in the manufacturing industry across EU regions during the period 1998–2002. The next chapter looks specifically at the relocation of activities within services sectors, clearly an important issue given the number and nature of jobs potentially affected. Chapter 4 discusses the ongoing process of integration in the banking sector. Finally, Chapter 5 analyses the experience of Ireland integrating into the world economy.





# Part I

## Characterising trends in international economic integration



# 1. The internationalisation of monetary and financial markets

## Summary

Financial globalisation, i.e. the integration of more and more countries into the international financial system and the expansion of international markets for money, capital and foreign exchange, took off in the 1970s. From the 1980s on, the increase in cross-border holdings of assets outpaced the increase in international trade, and financial integration accelerated once more in the 1990s. In EMU, monetary integration boosted the integration of financial markets, which had begun under the single market programme, even further. The internationalisation of finance was driven by technical advances, above all the decrease in the cost of communication and information processing as well as policy changes, in particular the spreading liberalisation of cross-border financial flows.

This chapter discusses various facets of financial globalisation, its benefits and challenges for different groups of countries as well as its implications for economic policy. While economic theory clearly predicts efficiency gains from international financial integration, the empirical evidence on the economic benefits of financial opening remains weak and disputed. It is useful to distinguish several dimensions. Plainly, trade integra-

tion (which is beneficial in itself) and financial integration reinforce each other in various ways. The past decade has also seen widespread improvements in macroeconomic and structural policies that may, to some extent, be linked to a disciplining effect of financial integration. Moreover, there is evidence that financial linkages have strengthened the transmission of cyclical impulses and shocks among industrial countries. Financial globalisation is also likely to have helped finance the build-up of significant global current account imbalances. Finally, a great deal of public and academic discussion has focused on the series of financial crises in the 1990s, which has highlighted the potential effects of capital account liberalisation on the volatility of growth and consumption.

Macroeconomic policy in open economies is subject to the so-called 'policy trilemma'. It stipulates that a country normally can only sustainably pursue two of the three goals of a fixed exchange rate, an open capital account and an autonomous monetary policy. The policy section of this chapter highlights some of the different solutions that have been applied to the 'trilemma', in different countries and at different times. It also reflects the recent discussion on the preconditions for, and appropriate timing of, financial opening in emerging economies.



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# 1. Introduction

Financial globalisation is associated with such diverse phenomena as daily foreign exchange transactions worth trillions of euros, strong and mutual foreign ownership of companies across the Atlantic, massive foreign direct investment flows to some emerging markets such as China, and the emerging market financial and currency crises of the 1990s.

Financial integration in the current wave of globalisation first occurred among industrialised countries, and still remains concentrated among them, despite a spread of financial openness <sup>(1)</sup> to the developing world and, in particular, emerging markets. It has been favoured by the tremendous decrease of the cost of communication and information processing, but also by recent improvements in (external and internal) macroeconomic and structural policies. While theory predicts a positive effect of financial integration on growth and the capacity to weather volatility of consumption, empirical evidence for these benefits is still weak and disputed. Moreover, scepticism about the benefits of financial opening for emerging economies

was nourished by the series of financial crises in the 1990s. Economists' advice to policy-makers has therefore recently focused on improving the functioning of the international financial architecture, finding sustainable solutions to the 'policy trilemma in open economies' and carefully sequenced capital account liberalisation.

This chapter undertakes a structured discussion of the various facets of the internationalisation of financial markets. While describing a global phenomenon, it also addresses the specific developments in, and challenges for, advanced, emerging and developing economies. The specificities of monetary integration in EMU and the role of the euro in international financial markets are also dealt with. The chapter is structured as follows: The next section provides an overview of capital market integration since the 1970s as well as recent monetary integration and the international role of the euro. It then turns to the main drivers of financial integration, in particular technological advances and changes in policy. The fourth section discusses the benefits and challenges of financial globalisation based on economic theory and the empirical findings in the substantial body of literature on the subject. The fifth section discusses the policy implications of the preceding. Section 6 concludes.

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<sup>(1)</sup> In this chapter, the term 'financial openness (opening)' is used as a synonym for 'open (-ing of the) capital account'. It should not be confounded with openness to trade in financial services.

# 2. Financial market integration

Financial market integration has increased significantly in recent decades. The strong internationalisation first occurred among industrial countries from roughly the mid-1970s on. Since then, more and more developing countries (in particular emerging economies) have also been progressively integrated into the global financial system (see International Monetary Fund, 2005). The introduction of the euro in 1999 was a major change in the international financial system. EMU built on previous trade and financial integration in the common market and reinforced it. On the external side, the euro has quickly established itself as the second currency in all major segments of international financial markets.

## 2.1. Capital market integration

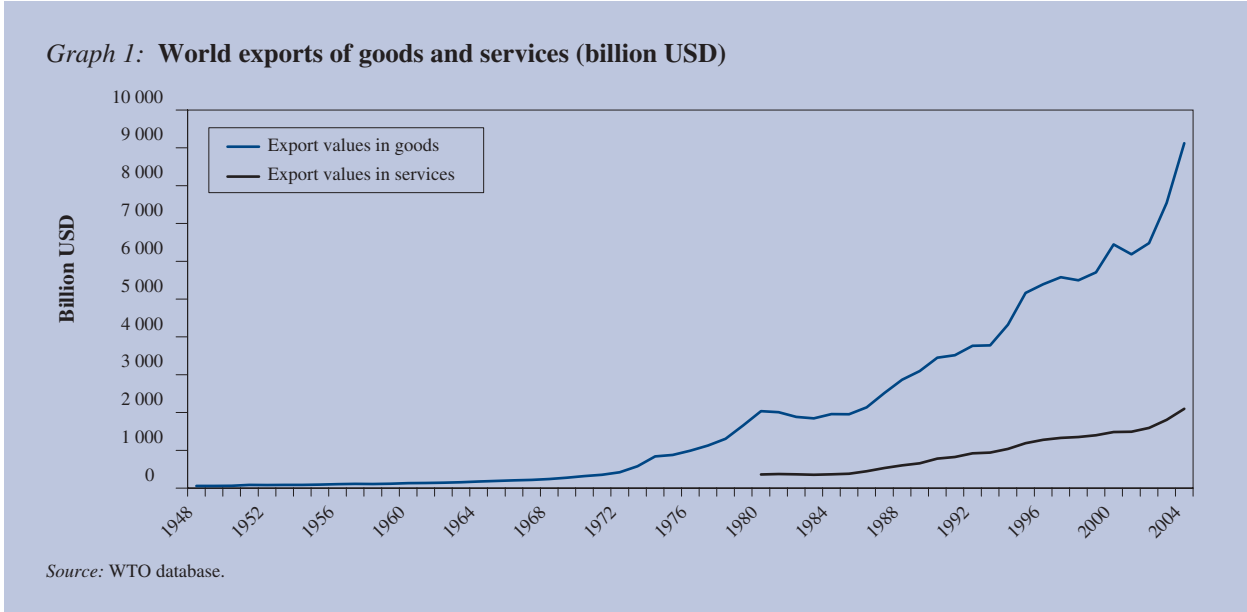
Financial globalisation took off later after the Second World War than trade integration. Trade is a major factor underpinning financial integration, both directly (settle-

ment of trade accounts) and indirectly. Lane and Milesi-Ferretti (2003) find that trade flows can statistically explain financial flows that are a multiple of their own size. It is therefore not surprising that, from the 1980s on, the build-up of foreign assets and liabilities in industrial countries outpaced the increase in trade.

### 2.1.1. A short overview

Alongside falling tariffs, the value of world merchandise exports has surged, reaching USD 9.1 trillion in 2004, compared to USD 58 billion in 1948.

Since the General Agreement on Tariffs and Trade (GATT) was first established in 1948, and through the following seven rounds of multilateral trade negotiations, the average tariff level for non-agricultural products has fallen from 40 % to 4 %. The number of countries involved in multilateral trade negotiations has also continued to grow since the inception of the GATT,





**Part I — Characterising trends in international economic integration**  
**1. The internationalisation of monetary and financial markets**

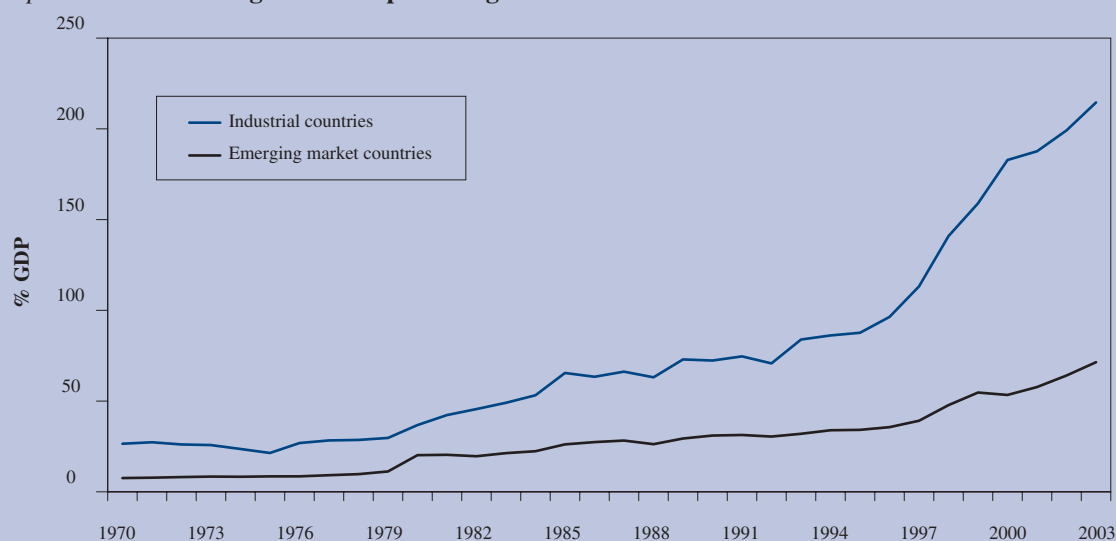
reaching 148 WTO members today. The growing role of services in global production is yet to be reflected in international trade data, with services representing just 20 % of global trade.

Graph 2 depicts the development of financial integration. Cross-border holdings of assets began to increase steadily from the mid-1970s on. The accumulation of foreign assets accelerated sharply in the 1990s. By contrast to the relatively early multilateral reduction in tariffs, capital controls remained a common feature for quite some time after the end of the war, even among industrial countries.

Convertibility was reintroduced in Europe only in 1958, but remained mostly limited to current account transactions. In fact, participants in the Bretton Woods system were supposed to ensure convertibility for the purpose of current account transactions. Opening of the capital account was not seen as crucial (see Obstfeld and Taylor, 2002). It took some major industrial countries until the 1990s to fully liberalise capital account transactions.

Table 1 distinguishes the trade and capital market integration of country groupings, namely G7 industrial countries, other OECD countries and key (non-OECD)

**Graph 2: Stock of foreign assets as percentage of GDP**



Source: World Economic Outlook, IMF.

**Table 1**

**Indicators of trade and financial integration**

	Average G7	Average other OECD	Average emerging
Imports plus exports (million USD)	949 212	159 122	109 893
(Imports + exports)/GDP (%)	39.0	59.1	66.9
External assets + liabilities (million USD)	8 032 734	940 959	273 376
(External assets + liabilities)/GDP (%)	303.7	333.4	137.6
Net assets/GDP (%)	0.1	- 24.2	- 20.2
<b>Absolute size of</b>			
Current account/GDP (%)	2.0	3.7	2.8
Net assets/GDP (%)	14.8	40.6	20.2

Source: International Financial Statistics, IMF, 2003 data.

emerging markets <sup>(1)</sup>. Trade openness is here approximated by the sum of exports and imports relative to GDP and financial market integration by the sum of external assets and liabilities relative to GDP <sup>(2)</sup>. (These measures are common in the literature, for example, IMF, 2002; Lane and Milesi-Ferretti, 2003; however, see also the caveats in Obstfeld and Taylor, 2002). While dominating the picture in absolute terms, G7 countries have the lowest trade integration figures, doubtless because these are large economies: trade penetration tends to be higher in smaller economies, which is also the case in the sample presented here <sup>(3)</sup>. However, the G7 also come slightly behind the other OECD countries in terms of the financial integration indicator. Here, the highest individual values can be found in middle-sized OECD countries with a developed financial industry <sup>(4)</sup>. The indicator of financial integration is also more than twice as high in the industrialised economies as in selected emerging markets.

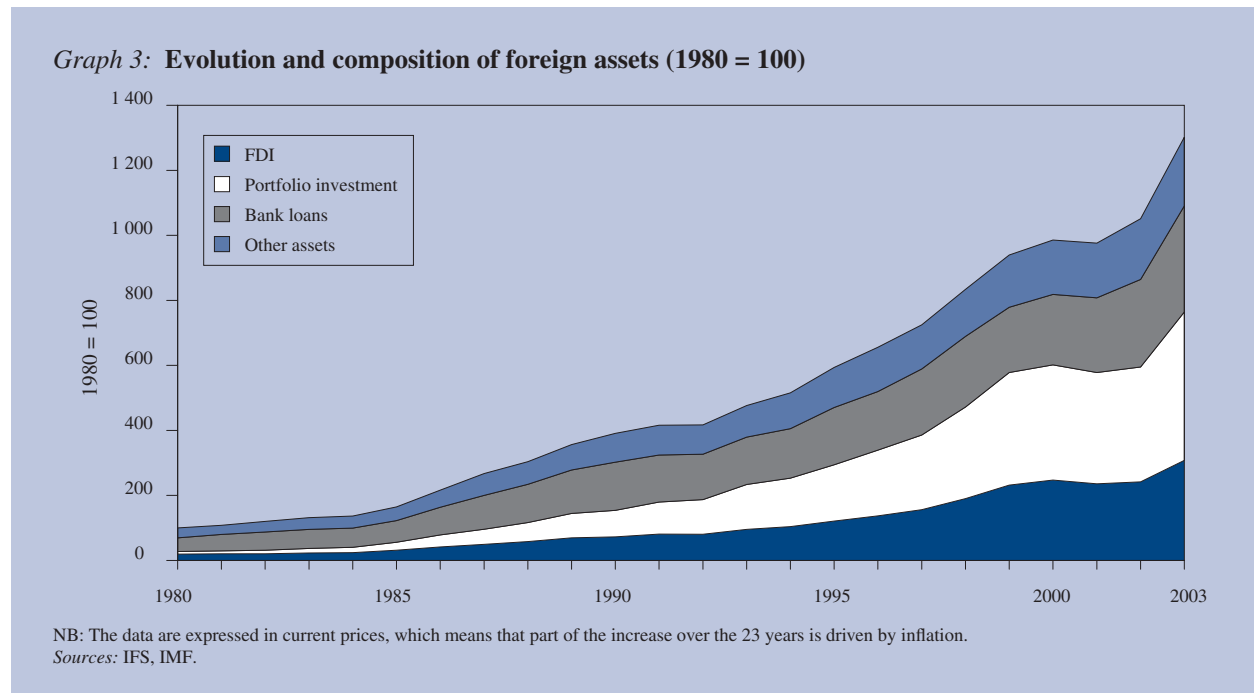
<sup>(1)</sup> Argentina, Brazil, China, India, Malaysia, South Africa and Thailand.  
<sup>(2)</sup> Note that the higher relation of foreign assets and liabilities to GDP compared to the relation of trade to GDP does not express more advanced financial market integration. In fact, one is a stock variable, whereas the other is a flow variable. Obviously, the stock of assets is linked to the flow of goods through balance of payments mechanics.  
<sup>(3)</sup> For example, Malaysia 177 %, Slovakia 136 % and Belgium 130 %.  
<sup>(4)</sup> Seventeen times the size of its GDP for Ireland, seven to nine times in Belgium, the Netherlands, Switzerland and the G7 member the UK.

The absolute size of the balance of the current account and net foreign assets are also reported, both in relation to GDP. Again, the OECD countries other than the G7 score the highest values, followed by the emerging economies. Several OECD countries have very substantial net foreign liabilities. They lie above 75 % of GDP in Hungary, Iceland and New Zealand. Switzerland has net foreign assets of 148 % of its GDP.

Graph 3 shows, for 11 industrial countries <sup>(5)</sup>, the evolution over time of the stock of private foreign assets and its main components: bank lending, foreign direct investment and portfolio investment. The most striking feature is the 13-fold increase of foreign assets in the 23 years under observation.

Portfolio investment was even multiplied by a factor of 54 and represents today over a third of foreign assets. The burst of the asset price bubble in 2000/01 provoked a setback, but in 2003 there was again strong growth of the stock of portfolio investment.

<sup>(5)</sup> Austria, Belgium, Canada, Finland, Germany, Italy, Japan, the Netherlands, Spain, the UK and the USA (the choice is driven by the availability of data from 1980 on).



Although they have also grown by a factor of eight, the relative importance of outstanding bank loans has strongly decreased from over 40 % of foreign assets in 1980 to a quarter today.

Finally, foreign direct investment has grown 16-fold in the country sample and today also represents a quarter of their foreign assets. Their FDI stock decreased in 2001, but its growth picked up again in 2003.

**2.1.2. The main forms of cross-border investment**

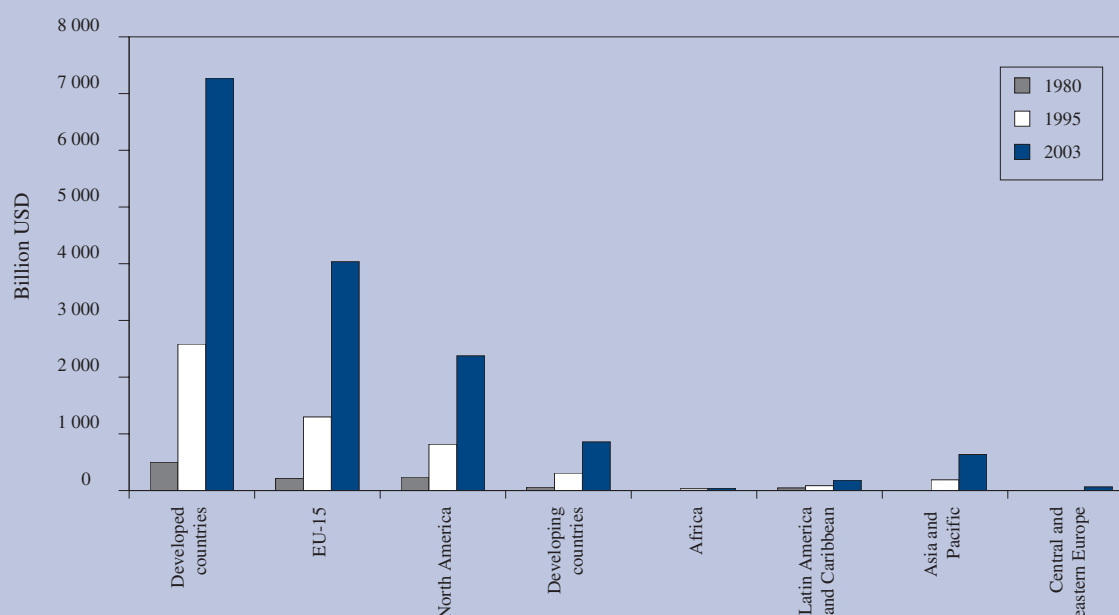
The most remarkable feature in foreign direct investment in recent years was the acceleration in mergers and acquisitions activity from the mid-1990s on (see Unctad, 2004). It drove global FDI inflows to a peak of USD 1.4 trillion in 2000. This was followed by a sharp slump of FDI flows. In 2003, global inflows amounted to USD 560 billion, of which USD 367 billion (two thirds) flew to developed countries. Excluding Luxembourg, China was, in 2003, the biggest recipient of FDI, followed by France and the USA.

Still, FDI flows are the largest capital flows to developing countries, where they represented 10 % of gross fixed capital formation in 2003 (7 % in developed economies).

Graph 4 presents the evolution of inward and outward FDI stocks since 1980. It highlights both the massive increase in FDI stocks over the past 25 years and the continuing concentration on developed countries. In 2003, global outward stocks of FDI represented USD 8.2 trillion.

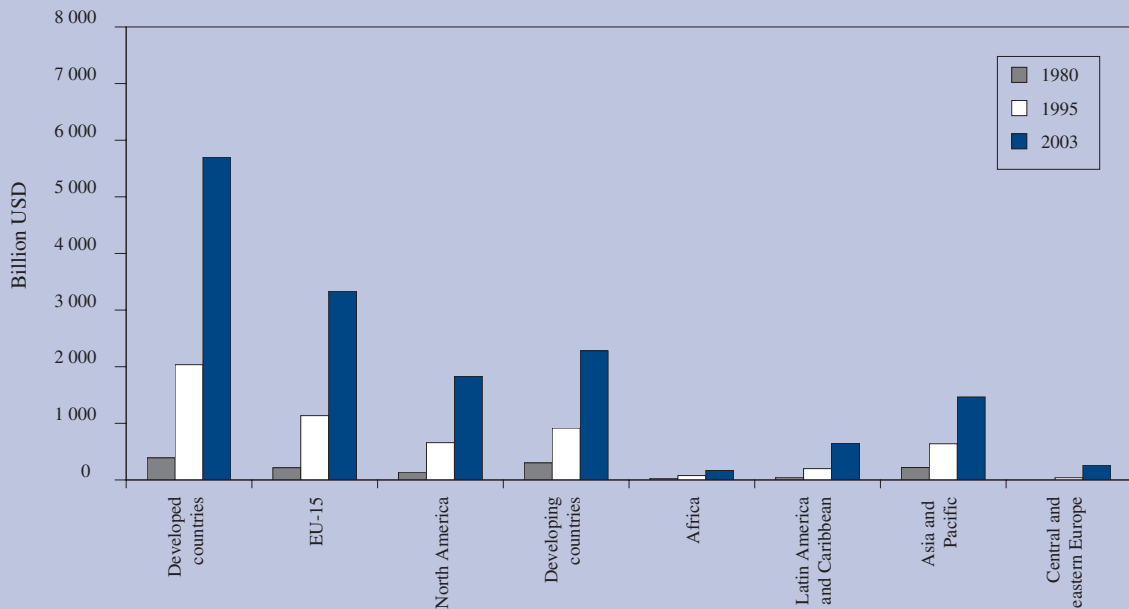
Obviously though, outside the OECD area investors are also increasingly attracted to large economies such as Russia, China and India that offer not only competitive production costs but also access to a buoyant customer base with good prospects for further fast growth in the future. The recent changes in the international trade architecture, including China’s WTO accession and the termination of the multi-fibre arrangement, have further encouraged direct investment. In addition, regulatory and administrative reforms have encouraged international investors to take a closer look at developing countries.

**Graph 4a: FDI outward stock**



Source: Unctad.

Graph 4b: FDI inward stock



Source: Unctad.

The EU-15 is, by far, the largest investor ‘abroad’ (the data are not adjusted for intra-EU FDI), accounting for half of the world’s outward FDI stock. In 1980, it was 39 % for the EU, compared to 43 % for North America. North America’s share has since fallen to 29 %. Developing countries’ share of outward FDI stocks has been relatively stable over the past 25 years at low levels and in 2003 accounted for 10 %. Most of this FDI originates in the Asia/Pacific region. Africa accounts for less than half a percent of the global outward FDI stock.

Inward foreign investment is distributed a bit more evenly, with developing countries accounting for 28 % in 2003. Of this, the Asia/Pacific region (64 %) and Latin America and the Caribbean (28 %) have the largest shares. However, developing countries have not been able to benefit proportionally from the increase in FDI over the past quarter of a century — in 1980, their share stood at 44 % of global FDI stocks. Again, the EU is, at 40 % in 2003, the largest recipient of FDI ahead of North America (22 %). Central and eastern Europe, despite the progression since the early 1990s, still accounts for only 3 % of the global inward FDI stock.

More recently, in 2004, the trend in inward FDI in continental Europe was downward. Sluggish economic growth in much of the area is likely to have been one of the factors behind this development. Another important factor has been the weakening US dollar. Apart from equity investment, FDI includes large amounts of cross-border transactions between the related entities within the ownership structures of multinational enterprises (MNE). According to the OECD, many MNEs have reportedly taken advantage of the weak dollar to repay inter-company loans, which has had the effect of depressing inward FDI figures in some of the European economies in 2004.

In Germany, for example, total equity investment inflows in 2004 were USD 22 billion, which, while somewhat lower than in previous years, was comparable with other large developed economies. In the overall figures this was drowned out by no less than USD 46 billion in credit flows out of foreign-owned German companies toward related enterprises. Apart from the historically high valuation of the euro, changes in the corporate tax code may have played a role as well. In France, the drop in inward FDI from USD 42 billion to USD 24 billion in

*Part I — Characterising trends in international economic integration*  
*1. The internationalisation of monetary and financial markets*

2004 was influenced, as in the case of Germany, by declining inter-company loans, but it also reflected a drop in equity investment by USD 12 billion, probably due to a dwindling number of large-scale transactions. The UK saw a sharp pick-up in inward FDI to USD 78 billion in 2004, about triple the values of 2002 and 2003, and even exceeding the 2001 value by some USD 25 billion. One reason for this was an apparent pick-up in large-scale mergers and acquisitions (M & A); the largest individual inward M & A transaction was in the financial sector with a publicly announced value of around USD 15 billion.

Globally, portfolio investment is the largest asset category held cross-border; global portfolios (equity and debt securities) amounted to USD 19 trillion at the end of 2003 (IMF CPIS, preliminary data). Turnover in international financial centres is very substantial. At the London Stock Exchange, EUR 7.6 billion worth of foreign equity was traded on a daily basis in May 2005. That represents 45 % of the total London trading volume. The part of turnover of foreign equity in the New York and Frankfurt stock exchanges stands at 8 % and 7 % respectively. Currently, 235 EU firms are listed in US stock exchanges and 140 US firms in London, Frankfurt or at Euronext. Moreover, an agreement on equivalence of

accounting standards was reached, in April 2005, between the US Securities and Exchange Commission and the European Commission.

Table 2 shows the 10 countries that are the largest investors and recipients of portfolio investment in absolute terms.

The group consists of large developed countries, countries with a large and internationally oriented financial industry and financial centres. Almost by definition, financial centres receive and invest by far the largest amounts in relation to their GDP.

Cross-border bank lending, as reported by the BIS (Table 3), amounted to USD 13.9 trillion at the end of 2004 (2003: USD 11.8 trillion). Some three quarters are interbank loans. 57 % of all lending, and two thirds of the lending to the non-bank sector, go to G7 countries. Among them, overall lending to the euro area and the US has more than doubled over the past 10 years, while lending to Japan decreased (driven by a strong decrease of lending to the banking sector). Within the group of ‘other countries’, off-shore financial centres play a significant role, receiving 16 % of all lending.

Table 2

**Top 10 economies by holders and issuers of portfolio investment (billion USD)**

Investment from:		1	2	3	4	5	6	7	8	9	10		
Investment in:		US	UK	JP	FR	LU	DE	IE	IT	NL	CH	Other	Total
1	US	n.a.	432	620	152	228	133	223	99	217	96	1 926	4 126
2	UK	663	n.a.	100	126	98	77	156	42	74	33	452	1 822
3	DE	187	119	155	187	203	n.a.	70	96	144	82	572	1 814
4	FR	183	124	90	n.a.	109	122	51	74	74	44	423	1 294
5	NL	182	109	61	171	80	143	32	63	n.a.	53	222	1 116
6	IT	67	113	58	181	100	110	66	n.a.	52	9	216	972
7	LU	23	39	54	50	n.a.	171	7	190	12	106	195	847
8	JP	292	118	n.a.	30	41	26	18	12	19	12	169	736
9	CI	125	58	206	43	34	20	10	19	10	21	158	702
10	ES	52	36	22	108	34	78	27	16	27	5	76	480
	Other	1 360	582	356	318	353	325	153	181	155	194	1 094	5 070
	<b>Total</b>	<b>3 134</b>	<b>1 730</b>	<b>1 721</b>	<b>1 367</b>	<b>1 280</b>	<b>1 205</b>	<b>812</b>	<b>791</b>	<b>783</b>	<b>654</b>	<b>5 502</b>	<b>18 978</b>

Year-end 2003, preliminary.  
 Source: IMF CPIS.

Table 3

**BIS bank lending statistics**

Bank lending to (billion USD)	To all sectors		To non-bank sector	
	end 1995	end 2004	end 1995	end 2004
All countries	7 395	13 923	1 743	3 496
G7	3 858	7 935	705	2 307
Euro area	2 159	4 753	444	1 214
Japan	895	512	128	198
US	601	1 762	124	428
Non-G7 OECD	n.a.	3 335	n.a.	735
Other countries	n.a.	2 654	n.a.	454

Euro area in 1995: without EL.  
 OECD: not all 30 OECD members report.  
 Other countries: off-shore centres and emerging economies.  
 Source: BIS.

**2.1.3. Flows of finance to developing countries**

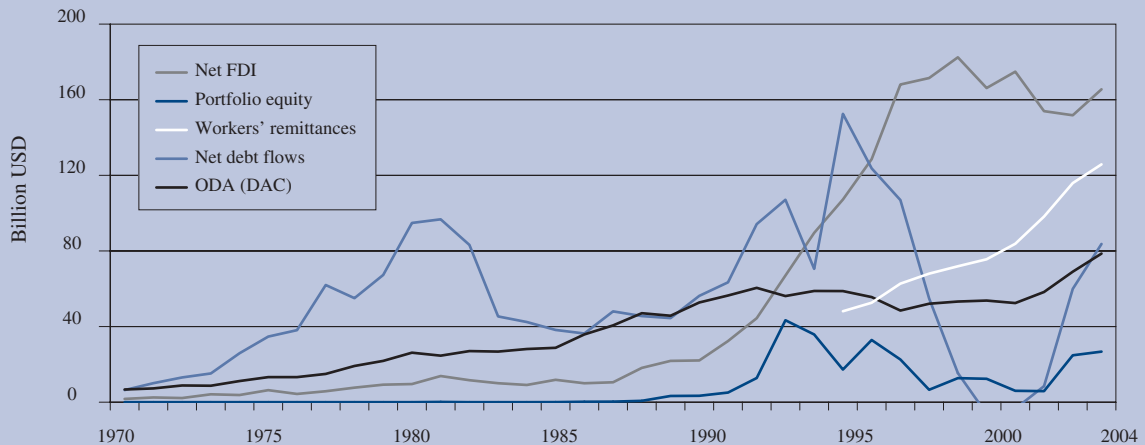
An important aspect of financial globalisation is the extent to which it mobilises capital flows to developing countries. As shown above, capital flows are fairly concentrated among industrial countries. In theory, before financial integration takes place, one would expect the return to capital to be higher in capital-poor countries, though, and accordingly increased investment in developing countries as they open up their capital accounts <sup>(1)</sup>. Graph 5 plots selected financial flows to developing countries comprising FDI, portfolio investment and debt on the side of the capital

account as well as the current account items official development assistance (ODA) and workers' remittances.

Until the mid-1990s, debt represented the largest flows to developing countries. However, these flows have been characterised by periods of strong volatility and sharp declines in the 1980s and around the turn of the millennium. FDI took over as the largest source of finance from the mid-1990s, but, following rapid expansion, declined after 1999 (i.e. slightly before the global decline in FDI flows). While portfolio investment saw a short period of rapid expansion in the early 1990s, it has been hovering at low levels since. Official development assistance (ODA) accounts for a relatively stable source of finance, but has been stagnating or decreasing for most of the past decade. Only most recently has official development assistance been on the increase again. While private capital flows exceed aid by far for developing countries as a whole, for some 40 least developed countries, ODA largely exceeds private flows (Fisher, 2003). Much attention lately has been paid to flows of workers' remittances. Officially recorded remittances now represent the second source of finance to developing countries after FDI (experts estimate that the amount of unrecorded remittances could be as high as the recorded amount).

<sup>(1)</sup> Capital flows to industry and infrastructure in emerging economies were relatively stronger in the first wave of financial globalisation at the end of the 19th century.

Graph 5: Selected resource flows to developing countries (billion USD)



Sources: World Bank, OECD.

#### 2.1.4. The persistence of ‘home bias’

The rapid increase in financial integration notwithstanding, the world is still far from being a single financial market, and investment continues to be biased towards the investor’s domestic market. The so-called ‘home bias’ consists of a relative overweight of domestic assets in investor’s portfolios that cannot be explained by the return of domestic assets. Investors’ apparent preference for domestic assets is usually interpreted as an indication of financial market imperfections such as cross-border transaction and information cost.

One possibility of assessing home bias is to compare a country’s foreign equity and bond portfolio to a ‘world market portfolio’ (that is, a portfolio in which each country’s assets are represented according to their share in world assets). Since financial globalisation decreases financial market imperfections that hinder international diversification, average portfolios should become more internationally broad-based as financial integration progresses. The IMF (2005) uses this method for selected industrial countries and finds a significant decrease of home bias between 1990 and 2003 (see also Lane and Milesi-Ferretti, 2004). However, proximity continues to play a role in international portfolios: assets tend to be over-allocated (compared to the benchmark) to countries in the vicinity. (This is why the so-called ‘gravity model’, based on distances between coun-

tries, performs well in explaining international asset allocation (see Portes et al., 2001.)

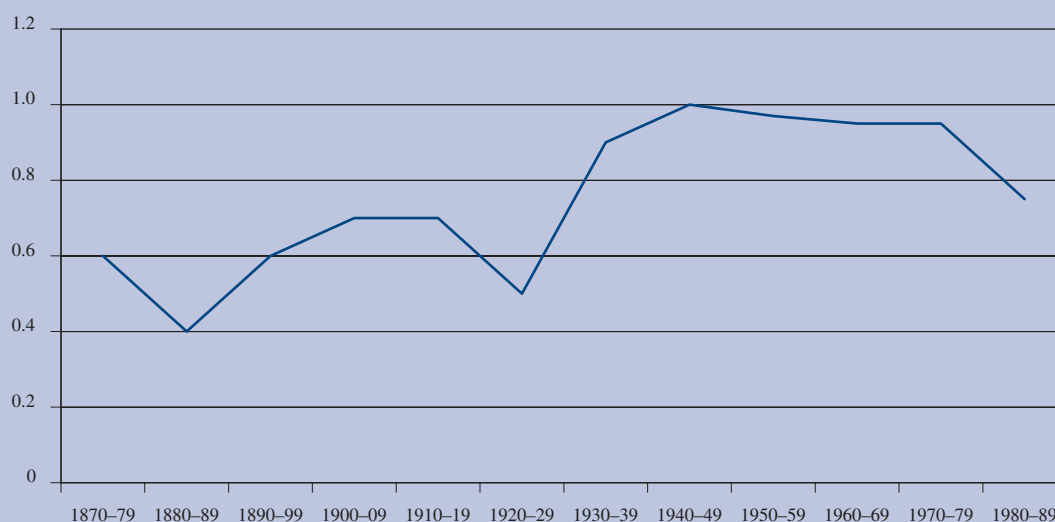
Another indicator of the persistence of home bias is the correlation between domestic saving and investment. If capital mobility was perfect, domestic savings of any country should be allocated globally to the investment project yielding the highest return, and there should be no systematic relationship between domestic saving and domestic investment. However, as Graph 6 indicates for a sample of 12 major countries <sup>(1)</sup>, the correlation of domestic saving and investment is, in fact, quite strong <sup>(2)</sup>. Moreover, according to this indicator, international capital market integration was only beginning in the 1980s to get back to the level of the late 19th century.

Other assessments of financial integration use financial market data. A straightforward approach consists of ana-

<sup>(1)</sup> Argentina, Australia, Canada, Denmark, France, Germany, Italy, Japan, Norway, Sweden, UK, US.

<sup>(2)</sup> This idea is often referred to as the Feldstein-Horioka puzzle after the 1980 paper that examined it. A number of explanations have been proposed as to why the correlation of domestic savings and investment may be high even in the presence of capital mobility. These explanations include policies aimed at balancing the current account (and by implication the capital account), the intertemporal budget restriction that balances the capital account in the long run as well as shocks that may affect savings and investment in a similar way (see Stierle, 1998).

**Graph 6: Correlation between investment and saving**



Source: Baldwin and Martin (1999).

lysing the co-movements of market indices (such as bond spreads or stock market indices) over time. The fact that the correlation of the indices of major stock markets increased during the 1990s could be interpreted as evidence for stronger integration between these markets. This approach has, however, been criticised as being too blunt to actually single out integration as the factor driving stronger co-movements of asset prices. Ayuso and Blanco (1999) therefore propose an indicator that measures deviations from the law of one price between financial centres. They look at the way particular elements of risk are priced in two different markets. The greater the pricing differences of similar risks, the greater the segmentation between these markets must be — otherwise, arbitrage would set in to equalise the pricing. They find too that their more sophisticated indicator shows that the integration of three major stock exchanges (New York, Frankfurt and Madrid) became stronger during the 1990s. Still, Lannoo (2005) points out that there remains scope for further beneficial integration of EU and US securities markets.

## **2.2. Monetary integration — the international role of the euro**

The start of the third stage of EMU in 1999 was an extraordinary event in the international monetary system, as 11 (now 12) countries went beyond tying their exchange rates to a monetary union with irrevocably fixed exchange rates, a common currency, common monetary policy, and coordinated macroeconomic and structural policies.

Monetary union was able to build on a high degree of real and financial integration achieved under the common market programme with its four freedoms (for goods, services, people and capital). In turn, monetary union boosted the integration of EU financial markets. The integration of the money market was particularly fast and close (Bundesbank, 2000); other financial market segments followed suit (see European Commission Economic and Financial Affairs DG, 2004 and Chapter 5.2).

On the international scene, the euro has quickly established itself as the second currency in all major segments of international financial markets, and its role continues to gradually increase in many. The US dollar remains the preferred choice in most areas, but the euro is playing a dominant role in the immediate neighbourhood of the euro area.

### **2.2.1. The role of the euro in financial markets**

By the end of June 2004, the euro accounted for around 31 % of the outstanding amount of debt securities (bonds, notes and money market instruments) issued in a currency other than that of the borrowers' country of residence. This compares to a share of 21.7 % in 1999, reflecting a marked increase of the euro's share in this market segment since the launch of the third stage of EMU. The share of the constructed aggregate of the euro's predecessor currencies was relatively stable below 20 % in the years prior to the introduction of the euro. The share of the US dollar has declined moderately since 1999 from 46.8 % to 44 %.

The importance of the euro in the international loan market varies with different segments of the market. Since 1999, the euro has been the second currency of denomination of loans by euro-area banks to non-bank borrowers outside the euro area, with a share of 38 % in the first quarter of 2004, against 45 % for the US dollar. Within this segment, the euro was the main currency of denomination for loans made to companies in developing countries and emerging market economies in Europe, Asia and the Pacific, Africa and the Middle East. Loans by non-euro-area banks to non-bank borrowers in the euro area are predominantly denominated in euro, with a share of about 60 % against 20 % for the US dollar of total amount of loans outstanding. Where neither the bank nor the borrower is from the euro area, the euro only comes third with a share of about 6 %, behind both the Japanese yen (10 %) and the US dollar (around 67 %).

According to the latest triennial survey of the Bank for International Settlements (BIS) in April 2004, the euro accounted for almost 19 % of all foreign exchange transactions (spot, outright forwards and swaps). This compares to 44 % for the US dollar, 10 % for the Japanese yen and 8.5 % for the pound sterling. The 2004 euro share is higher than the share held by the German mark in 1998 (15 %), but somewhat lower than the share of the synthetic euro composed of the aggregate of its predecessor currencies. The latter is mainly due to the fact that the introduction of the euro has reduced the overall turnover, notably through the elimination of currency trading within the European monetary system (EMS). The dollar/euro pair was by far the most traded currency pair in 2004, accounting for 28 % of global turnover, followed by the dollar/yen (17 %) and the dollar/sterling pairs (14 %).



### **2.2.2. The use of the euro in international trade**

The euro is used to quote, invoice and settle external trade transactions between the euro area and third countries and, in some cases, also between third countries. In 2003, in most euro-area countries for which data are available, the share of euro-denominated exports and imports was above 50 %, for both goods and services. For most acceding countries, this share was even higher (e.g. Slovenia 87 %, Hungary 85 %, Poland 65 % and Romania 64 %). Overall, invoicing data remains notoriously patchy.

### **2.2.3. The use of the euro by third countries**

The euro can be used in third countries: (i) as a parallel currency (i.e. deposits and cash for daily transactions); (ii) as an anchor currency in exchange rate regimes; (iii) as an official intervention currency; (iv) as a reserve currency in official foreign exchange holdings. The functions of anchor, reserve and intervention currency are, of course, closely interrelated.

Approximately 10 % of the euro cash is estimated to circulate outside the euro area as a parallel currency, mainly in some countries of central Europe and the western Balkans. The amount of euro banknotes shipped outside the euro area increased from EUR 36.4 billion by June 2003 to around EUR 46 billion by June 2004. Overall, the share of the euro as a parallel currency in EU neighbouring countries has remained fairly stable since 2002.

Out of some 150 countries that practise some sort of exchange rate management or peg, about 30 countries are using the euro as the main anchor or reference cur-

rency in their exchange rate regime. Ten more countries are managing their exchange rates with respect to a currency basket or special drawing rights (SDR) involving the euro. The euro is mainly used in the exchange rate regimes of countries in the European region, notably acceding and accession countries, countries of the western Balkans, as well as northern Africa and the CFA franc zone in western and central Africa. Bosnia and Herzegovina, Bulgaria, Estonia and Lithuania operate euro-based currency arrangements. In the rest of the world, the euro plays only a limited role as an anchor currency.

Countries that are using the euro as an anchor currency in their exchange rate regimes are most likely to use the euro as an intervention currency, too. However, data on the currency composition of official interventions is rather limited.

The share of the euro in official foreign exchange reserves held by central banks around the world is gradually increasing and stood at a quarter of identified currency reserves at the end of 2004, significantly exceeding positions held by the previous aggregate of the euro's predecessor currencies. Between 1999 and 2004, the amount of euro held in foreign exchange reserves more than doubled from SDR 180 billion to SDR 404 billion. Some 21 % of the official exchange reserves held by industrial countries and 29 % of reserves held by developing countries were denominated in euro. The share of the US dollar declined from 71 % in 1999 to around 66 % in 2004. Overall, the currency composition of official exchange reserves evolves only slowly over time.

## 3. Drivers of financial globalisation

This section looks at the technical developments and policy reforms that have facilitated the rapid financial integration of the past three decades.

### 3.1. Technical developments

The recent surge of international capital flows would not have been conceivable without a strong reduction in communication and information processing cost. Changes in production techniques also make cross-border investment more attractive.

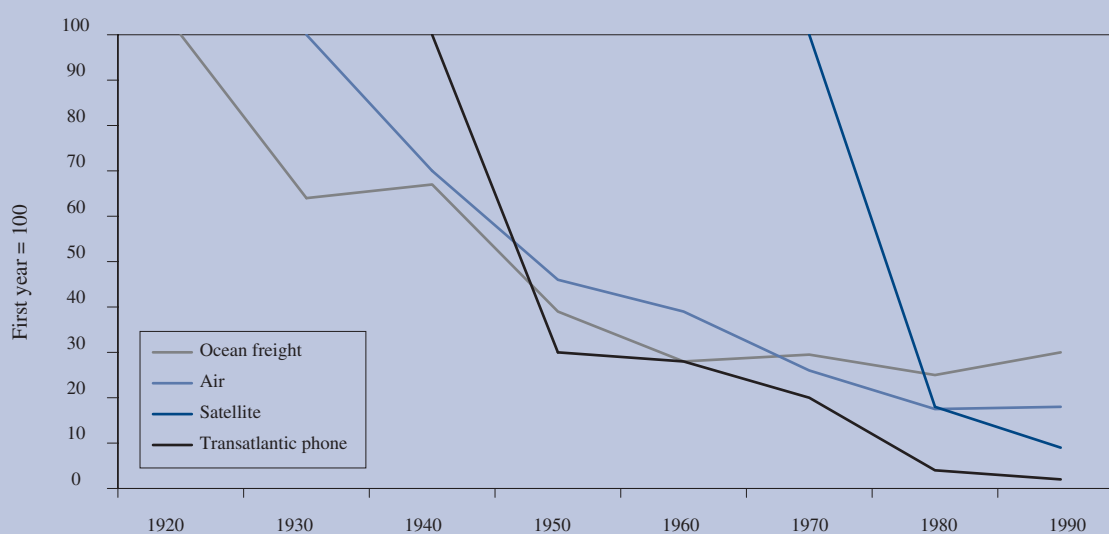
#### 3.1.1. The cost of communication and information

The costs of sea and air transport of merchandise have been relatively stable in real terms since the 1960s and the 1980s, respectively. They declined significantly after

the Second World War but less so than in the phase of rapid trade integration in the late 19th century (IMF, 2002). The same is not true for the cost of information exchange, which has continued to decrease tremendously in recent years (World Bank, 1995; IMF, 2001), making communication technology widely available. In fact, successive technical innovations — the transatlantic telegraph in 1858, the use of communication satellites since the 1970s, the spread of the Internet in the 1990s — have made communication faster and more efficient. This development was underpinned by a fast increase in information storage and processing capacity.

The availability of cheap and fast communication technology is important for several aspects of financial market integration.

Graph 7: Relative transport and communication costs



Source: World Bank (1995).

Faster communication increases the availability of up-to-date information that is relevant for making investment decisions. Global financial news networks and the Internet make information immediately available. It is therefore possible to monitor the development of geographically diversified portfolios from any location. Faster exchange of data also speeds up financial transactions.

Easier communication has improved customer awareness of financial products abroad and thus facilitated the emergence of standardised financial products. Standardisation — as well as lower communication costs — has, in turn, favoured the development of more cost-effective structures for clearing, settlement and custody and by that means reduced the direct cost of cross-border financial transactions.

Cheaper communication also plays a facilitating role for trade in services, including financial services, where it has become common for customer and service provider not to be in the same location. Modern information and communication technology allows the customer to exert a higher degree of control over the remote provider of services and thereby limits principal-agent problems. This, in turn, facilitates the international segmentation of the value-added chain, thereby *inter alia* fostering foreign direct investment. Finally, modern communication techniques allow financial market operations to be carried out 24 hours a day, as trading activity in the same assets moves through different time zones.

Taken together, these developments have also underpinned a reorientation of the financial industry. Financial firms have broadened their international presence and range of activities in order to reap economies of scale and scope. Since institutional investors (including mutual funds and hedge funds) face lower information and transaction cost per transaction (economies of scale), they have been able to attract individual savings and channel them into international investment.

The reorganisation and internationalisation is not limited to the banking sector. Similarly, there is a tendency for stock exchanges to cooperate and merge internationally (see Mussa, 2000).

### **3.1.2. Production techniques and trade**

Product life cycles have shortened over recent decades (see Stierle, 1999). This is due to changes in goods production, such as the increased flexibility of production chains to switch between products, marketing and, argu-

ably, consumer preferences. Faced with shorter product life cycles, producers can no longer wait for deep penetration of the domestic market before launching a product internationally. This need to swiftly introduce products internationally makes foreign direct investment interesting as a vehicle for foreign market penetration.

At the same time, the added flexibility of production processes favours the distribution of the value-added chain over different locations. Outsourcing (discussed in detail in Chapter 2.1) is also an important driver of FDI.

## **3.2. Policy**

The past 15 years have seen the transition of formerly centrally planned economies to market economies, as well as a widespread reorientation away from economic isolation and import substitution towards opening to international markets. As a result, the international economy (though still being concentrated on exchanges between OECD countries) now encompasses most quarters of the world.

This general shift was accompanied by policy shifts that can be expected to have an impact on financial integration. Capital account opening, trade liberalisation, but also domestic policies play an important role. This section will only elaborate on some of the underlying developments. For an analysis of the respective importance of the factors underpinning financial integration for a sample of industrial countries, see Lane and Milesi-Ferretti (2003). They find, *inter alia*, that the liberalisation of capital account transactions played only a limited role for financial integration among industrial countries after 1983, but that trade is a major factor underpinning financial integration.

### **3.2.1. Capital account liberalisation**

Freedom from restrictions on capital account transactions is a necessary condition for substantial cross-border movements of capital and therefore financial integration (although it is in itself not a sufficient condition for creating capital flows to and from a country).

The IMF collects data on restrictions on capital account transaction that show that the last industrial countries liberalised their capital account in the 1990s. The number of emerging economies without capital account restrictions is also growing, but a slim majority still operates such restrictions (IMF, 2005).

Mody and Murshid (2002) present a broader indicator of financial openness, based on capital account openness, current account openness, requirements for repatriation or surrender of export proceeds and the existence of multiple exchange rates for 60 developing countries. Their indicator shows that developing countries' financial integration decreased in the late 1970s to a very low degree of openness. Financial integration increased strongly in the late 1980s and early 1990s, but suffered a partial setback in the mid-1990s (see also Edison and Warnock, 2001, who document a general relaxation of foreign ownership restrictions in 29 emerging markets).

### **3.2.2. Exchange rate regimes**

The relative decline of capital controls could be expected to be related to changes in exchange rate regimes, as moves towards exchange rate flexibility can lessen the need for capital controls <sup>(1)</sup>. However, on aggregate, there is little evidence that capital account liberalisation was driven by changes in the exchange rate regime. In fact, recent analysis highlights that the distribution of exchange rate regimes has been relatively stable over time.

According to Reinhart and Rogoff (2002), there have been far less changes in exchange rate regimes than official announcements would suggest. Attempting to solve the issue of differences between the declared exchange rate regime and the de facto regime, Reinhart and Rogoff undertake a reclassification of the exchange rate regimes observed in the past 60 years. They notably show that officially fixed exchange rates often mask a dual market with some sort of exchange rate flexibility and that, inversely, many floating regimes have de facto limited flexibility. They thus find that the breakdown of the Bretton Woods system had been largely anticipated through more flexible parallel arrangements, and that, on aggregate, there was little change in the distribution of exchange rate arrangements between the periods 1974–90 and 1991–2001.

In fact, in their classification, pegs still account for some 30 % of observed exchange rate arrangements in the 1990s, but there was a certain 'bunching to the middle' with de facto crawling pegs and managed floating

together accounting for almost 40 %. Less than 10 % of countries were freely floating, and 13 % (mostly transition countries) had 'free-falling' currencies (i.e. currencies with an annual inflation above 40 %) — almost irrespective of their official exchange rate arrangement. This research suggests that, with so little change in de facto exchange rate regimes, the impulses for financial openness stemming from this policy area should have been limited as well.

### **3.2.3. Domestic policies**

A widespread tendency towards improved domestic economic policies (sound macroeconomic policy mix, rule of law, financial system oversight, deregulation) has favoured capital flows in the 1990s.

For example, Rogoff (2003) elaborates on global disinflation and its interdependence with globalisation and improved domestic policies. Also, if cutting back of red tape while ensuring financial system stability leads to efficiency gains in domestic financial centres, this may favour trade in foreign assets alongside domestic ones. Prasad et al. (2003) point out that stock market liberalisation (usually including liberalisation of foreign ownership) and privatisation underpinned capital flows to emerging economies. However, the (perceived) exchange rate risks and risks of expropriation, default and bad structural policies may still impede capital flows to many developing countries (see Obstfeld and Taylor, 2002). Finally, income and corporate tax policies may influence capital flows by providing (dis)incentives for investment.

### **3.2.4. The international framework, regional and bilateral integration**

The 19th century episode of financial globalisation occurred largely in the absence of international institutions. Britain as hegemonial power secured the rules of the game (in particular the pax Britannica and the gold standard). In the aftermath of the Second World War, international organisations (in particular the IMF) were set up to promote a stable framework for international financial interaction <sup>(2)</sup>. The international system to ensure monetary stability, fight balance of payments disequilibria and avoid abuses of the financial system has become more sophisticated and differentiated over

<sup>(1)</sup> Section 4.3 elaborates on this link through the so-called 'policy trilemma in open economies'. For example, Obstfeld and Taylor (2002) argue about the post-Bretton-Woods era that 'the years from the 1970s to the 1990s have been characterised by a seeming increase in capital mobility. Generally speaking, industrial country governments no longer needed capital controls as a tool to help preserve a fixed exchange-rate peg, since the peg was gone.'

<sup>(2)</sup> See European Commission (2002).

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*1. The internationalisation of monetary and financial markets*

time <sup>(1)</sup>, not least in response to the experience of financial crises.

Regional and bilateral economic integration has also spurred the internationalisation of financial flows. In terms of financial market integration, the EU single market and EMU were groundbreaking developments. While the single market creates a legal level playing field for cross-border operations of financial service providers in the EU, the advent of EMU has boosted this development through increased transparency, the abolition of exchange rate risk and the creation of unified infrastructures (such as for clearing and settlement).

Bilateral efforts to facilitate cross-border investment have also flourished. Unctad counted some 2 265 bilateral investment treaties to increase and protect FDI in 2002, as against 385 in 1989.

<sup>(1)</sup> There are now a number of international institutions (e.g. IMF, OECD, BIS and WTO) and more informal fora (e.g. the G7, G10, Financial Stability Forum and Financial Action Task Force) dealing with different aspects of the global financial architecture (see annex).

*Table 4*

**Share of bilateral investment treaties per country by region, as at 2002**

Region	Number of BITs	Economy	Average BITs /economy
Developed countries	1 170	26	45
Developing countries	1 745	150	12
Africa	533	53	10
Latin America and Caribbean	413	40	10
Asia and the Pacific	1 003	57	18
Central and eastern Europe	716	19	38

Source: Unctad.

Looking ahead, ageing in most advanced economies is likely to push the internationalisation of investment further. As private old-age savings increase and shifts in the composition of the workforce might lead to a decrease of productivity growth in ageing societies, returns to investment in these societies could decline relative to those in emerging markets (see Prasad et al., 2003; Pichelmann and Roeger, 2004).

## 4. Benefits and challenges of financial globalisation

Financial integration is one of the most criticised dimensions of globalisation, which is not least due to the series of financial crises in the 1990s. Based on economic theory and the empirical findings in the literature, this section reviews the impact of capital account openness on growth, trade, policy framework, shock transmission, volatility and the risk of crises.

### 4.1. Growth effects of financial openness

While the positive link between trade openness and growth is well documented, the evidence is far less clear on the relation between financial openness and growth. Some authors even reject such a link right away: for instance, Joseph Stiglitz, in a 2004 *Financial Times* article, writes, ‘Even the IMF now agrees that capital market liberalisation has contributed neither to growth, nor to stability’ <sup>(1)</sup>. This section recalls how financial openness might benefit growth and briefly reviews the empirical literature, leaving the question of growth volatility and crises to Section 3.4.

#### 4.1.1. Theoretical gains

There are a number of channels through which international financial integration should contribute directly or in an indirect manner to growth. These mechanisms can be summarised as follows: increased ability to borrow (and lend), improved allocation efficiency (and higher productivity), insurance and the smoothing of shocks as well as incentives for sound policy-making. (For what follows see Obstfeld and Taylor, 2002, as well as the overview in Prasad et al., 2003, and the references therein. A more critical view can be found in Stiglitz, 2000 and Rodrik, 1998.)

At the quest for return to investment, capital should flow towards (developing and emerging) countries with relatively low capital intensity. The additional supply of foreign capital should lead to a reduction of market interest rates in the receiving countries, thereby stimulating domestic investment and growth. Of course, certain barriers to financial integration persist even after the full liberalisation of capital account transactions. The persistence of home bias and some possible explanations were already mentioned. Furthermore, currency risk and the fear of shifts in government policy (in particular predatory tax policies on physical capital) are likely to prevent this mechanism from playing fully.

The inflow of capital should make domestic capital markets deeper, reduce transaction costs and, also by these indirect means, favour domestic investment. The presence of foreign agents in the financial market is likely to facilitate domestic (non-financial) firms’ access to international financial markets and innovative financial instruments. Moreover, it can stimulate competition and efficiency in the domestic financial industry.

The development of domestic capital markets and access to international financial markets can, in turn, be expected to facilitate risk diversification, allowing economic agents to engage in riskier activities with higher average returns. In particular, the opportunity of diversifying risks through international financial markets may induce a greater specialisation of the domestic real economy than would otherwise be the case.

Moreover, to the extent that the reliance on foreign capital acts as an incentive for sound policies (disciplining effect), one can expect more stability-oriented macroeconomic policies as well as business-friendly structural policies and the strengthening of the regulatory and supervisory framework for the financial sector.

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<sup>(1)</sup> Stiglitz seems to refer to the paper by Prasad et al. (2003). On the IMF’s stance towards capital account liberalisation, see also Independent Evaluation Office (IEO) (2005).

Foreign direct investment is furthermore likely to induce spillovers of technology (see Mayer, 2000) and business practices. Finally, the implementation of multinational firms should boost competition and stimulate domestic R & D and productivity.

#### **4.1.2. Weak support from empirical work**

The empirical evidence on the role of financial openness for growth is sobering. It is true that industrial countries are financially integrated and that fast-growing emerging economies are, on average, more financially open than less developed economies. However, the majority of econometric studies into the contribution of financial opening to growth performance have not been able to confirm that financial opening is necessary or sufficient for growth. The mentioned overview article by Prasad et al. refers to 14 recent studies, 11 of which failed to find a positive effect of changes in capital account openness on the growth of per capita GDP or at best found mixed effects.

Some studies find evidence that the benefits of capital account liberalisation are confined to relatively advanced economies. Others find that countries reap benefits from capital account liberalisation only if they first liberalise trade and implement a sound macroeconomic framework (see Arteta et al., 2001).

Among the more recent empirical work, Tornell et al. (2004) find that, despite increasing financial fragility, capital account liberalisation leads to higher growth in countries with constraints in domestic credit markets. This is because financial liberalisation leads to financial deepening and, in particular, helps to overcome credit constraints for firms in the non-tradables sector (exporting firms normally have access to international capital markets). However, the expansion of credit typically happens in a ‘bumpy’ way, implying lending booms and occasional financial crises.

Mody and Murshid (2002) look at the nexus between inflows of foreign capital and domestic investment in developing countries. They find that this link has become weaker in the 1990s than in the 1980s, because much of the additional finance went into official reserves or led domestic agents to diversify into foreign assets instead of investing in the domestic market. However, they also find evidence that improvements in the policy environment strengthen the capital flow–investment relationship.

Looking specifically at the FDI component of foreign capital inflows, the picture becomes more positive. Here, the literature is generally more optimistic concerning growth outcomes. However, there may be threshold effects: Borensztein et al. (1998) argue that technology transfer through FDI will only happen if the host country has sufficient absorption capacity, i.e. in the case of technology a sufficiently strong stock of human capital. The beneficial effect of FDI is not limited to developing countries. Barriers to FDI also remain between the USA and the EU, despite the fact that the regions are already each others’ largest foreign direct investors. They are particularly high in network industries such as telecommunication, transport and energy (Golub, 2003). The OECD (2005) argues that slashing remaining barriers to transatlantic FDI could still set free perceptible growth effects.

## **4.2. Financial integration and trade**

‘The capital account commands, the trade balance obeys, not the other way round’, wrote Austrian economist Eugen von Böhm-Bawerk in 1914. Despite the clarity of this early statement, the underlying interactions of trade and capital flows are complex.

Trade integration and financial integration are inter-linked through several mechanisms. They may in some constellations be complementary, in others substitutes. The IMF (2002) reports that trade openness rose more strongly than financial openness over the past three decades in developing countries, while the opposite is true in industrial countries. This finding notwithstanding, there is a positive and significant correlation of trade and financial openness in both groups of countries (see also Lane and Milesi-Ferretti, 2003). Moreover, the IMF finds that capital account restrictions as well as current account restrictions have a negative impact on trade.

This section firstly looks at ways in which trade favours financial integration, then at ways in which financial integration may boost trade. Finally, the issue of a substitutional relationship is raised, in particular in the context of horizontal FDI.

### **4.2.1. The link from trade to financial integration**

Trade flows in goods and services trigger compensating financial flows. Therefore, infrastructure for payment, settlement and foreign exchange — a crucial ingredient of financial integration — will quite naturally emerge as

a result of trade. Furthermore, financial instruments will be developed to hedge the risks associated with trade. Sinn (1986) points to an historical example for this: actually, early forms of insurance emerged from risk pooling among Venetian merchants in the 14th century.

Trade may also play a role in overcoming home bias in foreign investment, if existing trade relations can be exploited to reduce the cost of information gathering in the foreign financial market. The lack of trade integration is, in turn, detrimental to financial integration. Obstfeld and Rogoff (2000) show that trade frictions can explain imperfect financial integration even in the absence of frictions in international financial markets.

Trade openness may also reduce a country's exposure to debt and currency crises. Firstly, trade provides a source of foreign exchange that (provided there is an appropriate currency match) can be used for servicing external debt. This ability to raise foreign currency may also reassure foreign investors about the country's solvability and might therefore reduce the risk of sudden reversals in capital flows.

Secondly, Rose and Spiegel (2004) argue that bilateral trade linkages provide creditors with a mechanism for enforcing a penalty on their foreign sovereign borrower in case of default. In other words, sovereign borrowers have an incentive to service their debt because they fear the reduction in trade that typically follows debt default. Knowing this, foreign creditors are more inclined to extend credit to countries with which there are close bilateral trade links. Sgherri (2002) provides evidence that trade openness in developing countries is indeed related to a lower risk of external financial crisis.

#### **4.2.2. Financial integration can boost trade**

Similarly to the impact of trade on financial integration, a number of potential channels can be identified through which free capital flows benefit trade.

Firstly, capital flows may be a precondition for the ability to participate in trade, for instance if necessary trade infrastructures have to be created. A straightforward example is 'greenfield' foreign direct investment in manufacturing (i.e. the construction of a new factory), which is likely to be accompanied by the import of capital goods, in particular in developing countries that do not produce the necessary machinery themselves. Note that such FDI is also likely to lead to technology transfer, which will further increase the capacity to participate in trade.

Secondly, incomplete financial markets are one explanation of incomplete trade specialisation according to comparative advantage. In developing countries in particular, capital account restrictions remain a significant impediment to trade integration (see IMF, 2002). Koren (2003) argues that, in the absence of international risk pooling through financial markets, real integration will remain incomplete.

Finally, monetary integration, motivated by the desire to abolish exchange rate fluctuations within a geographic area, is a special case of financial integration. In theory, the effect of exchange rate volatility on trade flows, and hence of monetary integration on trade, is not clear cut. Traditionally, empirical evidence that exchange rate volatility disturbs trade is weak at best (see Clark et al., 2004). However, Rose (2000) argues that, while there is a small negative effect of exchange rate volatility on trade, the positive effect of an outright currency union on trade is much larger than previously estimated. Micco et al. (2003) study the 'Rose effect' on the euro area. They find a significant positive effect of EMU on trade (an increase in bilateral trade between EMU members of 4–10 %), although it is less spectacular than Rose's initial paper would have suggested.

#### **4.2.3. A special role for FDI**

Finally, the role of foreign direct investment for trade deserves some special attention. Vertical specialisation, i.e. the distribution of different stages of the production process over different countries according to their comparative advantage, has contributed to the steep increase in trade in recent years (see Chapter 2.1 of this report as well as IMF, 2002). Vertical specialisation can be organised in various forms, not necessarily involving foreign ownership. Nevertheless, foreign direct investment is playing a major role in shifting parts of the production process from one country to another.

Note, however, that the patterns of FDI to emerging economies may change as these economies mature. In the early stages of development, trade with an emerging economy may be motivated by the relative abundance of, say, low-skilled labour. To this would correspond a pattern of vertical FDI in labour-intensive industries. However, if, as a result of economic catching up, the workforce becomes better educated over time, the pattern of trade might shift towards more intra-industry trade. This would probably also shift the balance towards more horizontal FDI.

While vertical FDI is underpinning trade, horizontal FDI may actually substitute for trade. Its impact is huge: Haa-



land et al. (2001) report that the sales of manufacturing goods by US subsidiaries in the EU are approximately 3.8 times larger than EU manufacturing imports from the USA, while EU firms sell 3.6 times as much in the USA through

their subsidiaries than through exports. However, these subsidiaries themselves also participate largely in bilateral trade. EU subsidiaries in the USA are involved in as much as 28 % of EU manufacturing exports to the USA.

**Box 1: The impact of globalisation on current account imbalances**

Given the size of global current account imbalances and the concerns often voiced about how they will eventually unwind, the question arises as to what role globalisation has had in the build-up of these imbalances and whether it can be expected to contribute to their orderly unwinding. Of course, large current account imbalances are only possible if there are cross-border economic and financial transactions. International trade transactions must be allowed to develop. Also, investors in surplus countries must be willing and able to accumulate claims on deficit countries in order for imbalances to be sustained. In that sense, some degree of globalisation is a prerequisite for imbalances to occur. However, it does not follow that increasing globalisation by necessity leads to larger global imbalances. In fact, the channels through which globalisation affects global imbalances are complex and multifaceted and do not always have clear implications for the sustainability of large current account imbalances.

The impact of globalisation on current account imbalances can conveniently be analysed in terms of financial and real globalisation, respectively <sup>(1)</sup>. Regarding financial globalisation, cross-border financial flows and stocks took off in the early 1980s and have accelerated sharply since the mid-1990s. Industrial countries' holdings of foreign assets and liabilities (excluding central bank holdings) about tripled as a share of GDP between 1990 and 2003, reaching around 200 % at the end of the period. In emerging markets, the trend has been similar, but the level of assets and liabilities is much lower. In addition, the share of foreign assets in investor portfolios has increased, reflecting a decrease in the home bias of investors. Data also show that the premium that investors demand for holding foreign assets has come down over the last two decades. All else equal, this would indicate an increased ability and willingness of financial markets to finance larger imbalances.

Given the increasing levels of gross external assets and liabilities, in particular in industrial countries, valuation

effects are likely to play an increasing role in global adjustment. Whether they facilitate or hamper the adjustment depends on the structure of the external assets and liabilities of the countries involved, including their currency composition. For industrial countries, where foreign debt is mostly denominated in domestic currency and foreign assets in foreign currencies, an adjustment process involving a depreciation of the deficit-country currency would tend to lead to a valuation effect that supports the adjustment by increasing the domestic currency value of foreign assets, while the value of foreign debt remains unchanged. In the 2002–03 period of US dollar depreciation, it has been estimated that valuation effects offset about three quarters of the accumulated current account deficits over the same period, thereby limiting the deterioration in the US net debt position. The same phenomenon was observed in the 1985–88 adjustment period. By contrast, for emerging market economies, valuation effects tend to complicate adjustment, since foreign debt tends to be denominated in foreign currencies, thereby putting the onus of adjustment squarely on the deficit country itself.

Real globalisation has also increased steadily over recent decades, with global imports and exports as a percent of world GDP increasing from about 20 % in the early 1970s to around 55 % in 2003. The implications for global adjustment are, however, not clear-cut. On the one hand, the increasing share of emerging market economies in total global trade would tend to facilitate global adjustment, as the burden of adjustment can be spread over a larger number of countries. Moreover, structural reforms, partly reflecting globalisation-induced competitive pressures, have increased flexibility and lowered rigidities in product and labour markets. This may facilitate adjustment. On the other hand, there is no clear evidence that globalisation has increased the price elasticity of trade flows. Integrated production lines may have made firms dependent on particular inputs, making their demand for foreign inputs less price-elastic. This could complicate global adjustment, as bigger price changes (for instance through exchange rate changes) would be needed to achieve a given adjustment in quantity.

*(Continued on the next page)*

<sup>(1)</sup> The following analysis partly draws on Chapter III of *World Economic Outlook*, IMF, April 2005.

Box 1 (continued)

In sum, the analysis above suggests that increasing financial and real globalisation have helped finance the build-up of significant global imbalances. In some respects, it could also facilitate an orderly adjustment of these imbalances. However, given the size of the imbalances and the level of gross assets and liabilities, the adjustment process has become more sensitive to shifting investor sentiment. To avoid a sudden reduction in the willingness of foreign investors to accumulate and hold US dollar-denominated assets, which would risk triggering a disruptive adjustment, it is essential that market confidence in the long-term sustainability of US macro-

economic policies be preserved. That aspect has gained in importance now that the euro is emerging as an alternative to the US dollar as an international reserve currency <sup>(1)</sup>.

<sup>(1)</sup> Eichengreen (2005) points out that there have been historical examples of several international currencies existing in parallel. (Eichengreen, Barry; *NBER Working Paper*, No 11336, 'Sterling's past, dollar's future: historical perspectives on reserve currency competition', May 2005).

This is the topic of the 'new' trade theory, which looks into firms' decisions to service foreign markets through exports of domestically produced goods or through local subsidiary sales (see, for example, the paper by Helpman et al., 2003, with the appropriate title 'Export versus FDI') <sup>(1)</sup>. The decision to set up a foreign subsidiary depends, inter alia, on the size of the foreign market to be serviced, trade frictions, economies of scale and firm productivity.

Strong trade frictions (tariffs and other trade barriers) can indeed be a major motivation for horizontal FDI. Haaland et al. find that US firms in the EU are over-represented in sectors with relatively high remaining trade protection, although the same is not true for EU FDI in the US.

### 4.3. The impact on economic policies

Financial integration has consequences for the degree of freedom of economic policies. Financial openness can have a disciplining effect on domestic macroeconomic policies, but has also been accused of triggering a race to the bottom in terms of regulations, fiscal and social policies. Moreover, open economies are faced with a hard choice between macroeconomic goals.

#### 4.3.1. Disciplining effect

The goal of attracting foreign capital (and avoiding sudden reversals of such inflows) can be expected to enforce discipline on macroeconomic policies. Policy-makers will assess the challenges of adhering to prudent fiscal

and monetary policy against the gain from sustained access to international capital and avoidance of crises (IMF, 2005). However, capital flow fluctuations are not always related to the quality of (macro) economic policy in the host country (possibility of contagion and herd effects), which might loosen the incentive to conduct sound policies.

Despite the clear theoretical intuition, Tytell and Wei (2004) find it hard to identify a disciplinary effect in the data. They find some evidence in favour of a small disciplinary effect of financial openness on monetary policy (see also Rogoff, 2003), while no such effect can be identified for budgetary policy.

#### 4.3.2. A 'race to the bottom'?

There are also concerns that competition for foreign capital may trigger a 'race to the bottom' in terms of the regulatory, fiscal and social policy framework. In a nutshell, the 'race to the bottom' argument predicts that increasingly mobile capital will flow to the location offering the highest rate of return. Several factors with an impact on returns are often highlighted: wages, productivity, non-wage labour cost (related to the welfare system) and working conditions, environmental regulation and corporate taxes. Countries competing for scarce capital will therefore face an incentive to reduce regulations, taxes and the size of the welfare state <sup>(2)</sup>. Since all countries are faced with the same individual (short-run) incentive, they might engage in a downward spiral that is wasteful collectively (in the long run).

<sup>(1)</sup> For earlier work on the localisation decision, see also Dunning (1981) and Dunning (1988).

<sup>(2)</sup> The dilemma was modelled by Zodrow and Mierzkowski (1986); see Sinn (2004) for a recent warning on the 'erosion of national regulatory system'.

There is little evidence in the empirical literature that the predicted race to the bottom is actually taking place <sup>(1)</sup>. Some authors also cast doubt on the validity of the theoretical argument. For example, Basinger and Hallenberg (2004) argue that the political cost of tax reform mitigates the pressure on downward convergence of tax policy. Baldwin and Krugman (2004) take agglomeration forces into account and show that countries in which industry benefits from agglomeration economies can charge higher corporate taxes.

#### **4.3.3. The policy trilemma in open economies**

Financial integration exposes the impossibility of having, simultaneously, a monetary policy oriented at domestic goals, a fixed exchange rate and capital account openness (this is referred to in the literature as the ‘policy trilemma in open economies’ or as the ‘impossible trinity’). The financial history of the past century and a half has seen various combinations of policies to address this difficulty (see Obstfeld and Taylor, 2002, for an overview).

Contrary to the gold standard with its priority on fixed exchange rates and free capital flows, the strong increase in financial integration among industrial countries since the 1970s occurred against a backdrop of high political priority to the freedom of monetary policy to pursue domestic goals. Consequently, in the past three decades, it was routinely exchange rates that had to give when the three goals came into serious conflict, even in constellations where currencies were not officially free floating <sup>(2)</sup>.

After the breakdown of the Bretton Woods system, formal pegs have been more widespread among developing and emerging economies than in industrial countries, again with varying approaches to the trilemma. The strongest form of subordination of domestic monetary policy under an exchange rate regime is the currency board. However, the breakdown of Argentina’s currency board in 2001, despite the seemingly robust way in which it was conceived, has highlighted the difficulty of ensuring the credibility of such an arrangement in the

long run. The crises of the 1990s have demonstrated the vulnerability of hard pegs in the presence of a sudden reversal of capital flows more generally.

In addition, financial globalisation may modify the framework conditions for monetary policy in other ways, such as by reinforcing the exchange rate channel of monetary policy transmission, by exerting competitive pressures that keep a lid on mark-ups and wages, but also by increasing the exposure to shocks in the international economy (see IMF, 2005).

#### **4.4. Shock transmission, volatility and financial crises**

This section briefly looks at the transmission of macro-economic cycles and shocks through more integrated financial markets before turning to the risk of volatility and crises associated with financial opening.

##### **4.4.1. Transmission of shocks and cyclical dynamics**

Financial integration creates new channels for the transmission of business cycles and shocks. Cross-border portfolio diversification strengthens the international synchronisation of wealth effects, which impact on consumption. Foreign direct investment creates corporate linkages which can act as transmission channels. Finally, confidence spillovers may also transmit economic impulses across borders.

It should be noted that the transmission of cyclical impulses does not, by itself, increase volatility. Where financial openness leads to stronger specialisation according to comparative advantage, the importance of common shocks and spillovers relative to country- or industry-specific shocks could actually decrease. Financial flows may also expose countercyclical features, for example if the appetite for riskier investment in (higher-yielding) emerging market assets increases whenever yields in industrial countries are relatively low.

The empirical literature suggests that financial integration has reinforced the co-movement of business cycles among industrial countries (see the overview in Kose, 2004).

The European Commission Directorate-General for Economic and Financial Affairs (2003) analyses specifically the transmission of cyclical patterns and shocks from the US to the euro area and finds that the role of equity and bond market correlations as a vector of transmission has

<sup>(1)</sup> For example, in her literature survey, Brown (2000) finds at best mixed evidence on the relation between labour standards and FDI inflows. Likewise, Kucera (2001) finds no solid evidence that investors favour countries with weaker worker rights. Smarzynska and Wei (2001) only find weak evidence that multinational firms relocate to locations with weaker environmental standards. Brown et al. (2002) point out that multinational firms in developing countries typically pay higher wages than alternative employers.

<sup>(2)</sup> On the difference between de jure exchange rate regimes and the de facto situation, see Reinhart and Rogoff (2002).

increased. They find little evidence for consumer confidence spillovers; consequently, the observed consumption cycle synchronisation seems to be driven to a large extent by common shocks rather than by the spillover of country-specific developments. There is, however, evidence for spillovers in business confidence, and investment cycle co-movements are partly driven by these.

There is also evidence for increased financial spillovers within regional blocks (both among industrial and developing countries). Bordo and Murshid (2002) highlight that, despite potentially wide spillovers of emerging market crashes, emerging country crises have remained predominantly regional.

The evidence for business cycle transmission through financial linkages is weak though between industrial countries and developing countries. Here, specialisation and countercyclical investment patterns may play a larger role.

#### **4.4.2. Output volatility**

Does financial opening in itself make an economy more prone to output volatility? The effect of financial integration on the volatility of output is related to the degree of specialisation or diversification it induces. In theory, financial integration could work in both directions: it provides the opportunity for developing countries with a relatively narrow production structure to diversify their economy, thereby reducing the impact of industry-specific shocks on the economy as a whole. However, the external capital could just as well be used to foster specialisation according to comparative advantage, in which case the vulnerability to sector-specific shocks would increase. More sophisticated models highlight that, in addition, the nature of the shock matters for the impact on output volatility (see Kose et al., 2003).

The evidence in the literature on the link between financial openness and output volatility is, again, weak. The IMF (2002) presents evidence that openness to FDI and portfolio investment reduces the volatility of output in developing countries. Prasad et al. (2003) also find some evidence that suggests that financial integration in the 1990s may have reduced the volatility of GDP growth. They go on to survey evidence on threshold effects. It suggests that only countries with more developed financial sectors are more likely to reduce output variations through financial integration.

Tornell et al. (2004) argue that volatility is not, on its own, an appropriate measure for assessing whether financial

globalisation makes an economy more vulnerable to crises. They argue that volatility may reflect a high frequency of small shocks, which may be exogenous or due to bad policies. According to the authors, one should rather measure financial fragility in terms of skewness of GDP growth, that is, one should look at the likelihood of infrequent but severe crises. As reported above, the authors find that the benefits of foreign capital inflows are larger than the price to pay in terms of occasional crises.

#### **4.4.3. Consumption smoothing or volatility?**

Of greater relevance in terms of social consequences is the question of whether financial openness helps reduce the volatility of consumption. Here, the theory is unambiguous: financial openness allows economic agents to better diversify the risk of income fluctuations and therefore a smoothing of consumption over time.

However, the empirical literature finds little evidence of such international risk sharing (see, for example, Imbs, 2004, and the literature referred to therein). Kose et al. (2003) also find that, on average, consumption volatility is higher, not lower, in financially open economies. However, they identify a threshold effect: above a certain level of financial integration, consumption volatility decreases as predicted by theory. Unfortunately, most of the more financially integrated developing countries seem to be 'stuck in the middle', where the risk of crises is highest. Huizinga and Zhu (2004) investigate, segment by segment, how domestic and international debt and equity markets work in developing and developed countries to allow consumption smoothing. They find that international integration in general helps consumption smoothing, as international markets offer an alternative to investment in the limited domestic financial market.

#### **4.4.4. The experience of financial crises**

The recent debate about the advantage of capital account openness has largely been influenced by the experience of currency and banking crises in the 1990s. Strikingly, these crises hurt a number of fast-growing countries and some countries with policies that had been regarded as exemplary.

The common feature, seen from a bird's eye, in the run-up to the emerging market crises of the 1990s, was a boom in short-term, public or private external borrowing (see, for example, Bordo, 1998; Rodrik 1999), often channelled through a weak and poorly regulated banking sector. When confidence in the sustainability of short-

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term external debt began to weaken, capital flows went sharply into reverse resulting in joint currency and banking crises. A number of other factors played a role in each of the crises, for example currency pegs inconsistent with monetary policy oriented at domestic goals, intransparency and corruption in the financial sector etc.

The series of crises highlighted the issue of the timing of capital account liberalisation, financial sector stability and oversight as well as the trade-off involved in currency pegs, which were designed to import macroeconomic stability through the use of an external nominal anchor, but also delayed devaluation to the point where it was forced upon the countries through a currency crisis.

It also highlighted the vulnerability associated with inflows of easily reversible short-term capital (in particu-

lar short-term debt and portfolio investment; FDI generally provides for more stable investment relationships). This vulnerability is enhanced by the inability of most emerging economies to borrow abroad in their domestic currency, or to borrow long-term<sup>(1)</sup>. In particular, in the presence of foreign-currency-denominated debt, exchange rate movements have a direct impact on the capacity to serve the debt. Therefore, the central bank's ability to act as a lender of last resort in a domestic banking crisis is also constrained, in the presence of 'original sin', by the risk of inadvertently causing the exchange rate to depreciate (see Eichengreen et al., 2005).

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<sup>(1)</sup> This 'original sin' hypothesis was first advanced by Eichengreen and Hausmann (1999).

## 5. Policy responses to financial globalisation

The previous section has shown that financial openness is likely to benefit countries as they advance in their development, but that it is not at all times beneficial to all countries. The series of crises in the 1990s has highlighted this fact and has also led to strengthened international efforts to improve the stability of the global financial architecture. The latter are addressed in an annex to this chapter.

### 5.1. Different approaches to the policy trilemma

Financial integration cannot be dissociated from the other two prongs of the policy trilemma, namely monetary policy directed at domestic goals and a fixed exchange rate.

Contrary to the gold standard, there are very few examples, after the Second World War, of countries that submitted monetary policy independence to the goal of exchange rate stability in a sustained way. Certainly, pegs with a strong commitment to exchange rate stability at the expense of monetary freedom have been used — often with success — to import stability in countries with a history of (hyper-)inflation. Usually, these pegs were softened, and monetary policy tied to a different anchor (such as inflation targeting) once the goal of stabilisation had been reached. The record of ‘permanent’ hard pegs has suffered, not least from the bleak experience of the Argentinean currency board.

European economic and monetary union (EMU) is a particular arrangement in this context. In Europe, 12 countries have delegated monetary autonomy to the transnational and independent European Central Bank, allowing them to achieve irrevocably fixed nominal exchange rates and financial openness. In addition, countries that peg their currency to the euro as part of their strategy to adopt the euro in the future do not suffer from the typical problem of doubts about the de facto permanence of a ‘permanent’ hard peg (also referred to in the literature as

the problem of committing to a credible ‘exit’ strategy). In fact, with the goal of adopting the euro, the exit is credibly defined.

If most countries display a revealed preference for monetary policy autonomy, the policy trilemma suggests that their exchange rate must be flexible, or the capital account restricted (or both).

Not long ago, economists were pondering what seemed to be a tendency towards the corner solutions or a ‘bipolar view’ (Fisher, 2001) of exchange rate regimes. Given the problems with any kind of ‘soft’ peg, so the stylised story goes, countries are moving either towards hard pegs, currency boards and dollarisation at the one end, or towards exchange rate flexibility at the other end of the spectrum. However, the observed tendency towards hard pegs is, to a large extent, driven by EMU and by a number of dollarised small economies — both hardly representative of a general tendency.

Moreover, the observation of countries moving towards greater exchange rate flexibility has also been called into question. Calvo and Reinhart (2000) argue that many countries that officially float their currency in fact do intervene in the forex market to stabilise the exchange rate. The development of policy-controlled interest rates and of foreign exchange reserves provides evidence of a widespread ‘fear of floating’. Reinhart and Rogoff (2002) question the categorisation of exchange rate regimes previously reported by the IMF. Using an alternative way of categorising exchange rate arrangements, they find a ‘bunching to the middle in terms of exchange rate flexibility’, instead of a movement towards the extremes as the bipolar view would have it.

That said, industrial countries have generally chosen flexible exchange rates and capital account openness. The ‘big three’ (US dollar, yen and mark/euro) have usually been floating. The rare interventions in situations of manifest misalignment with fundamentals were often

coordinated. Moreover, their ability to borrow in domestic currency in international financial markets has contributed largely to insulating the largest industrial countries from the risk of currency crises. Developing countries have not enjoyed that comfortable situation.

A number of emerging economies, in particular in Asia, have been limiting exchange rate flexibility. Interventions in the foreign exchange market to resist appreciation have resulted in a large increase of foreign exchange reserves in that region in recent years. China is an example of a combination of limited exchange rate flexibility<sup>(1)</sup> with restrictions on capital account transactions. Moreover, in an effort to keep a lid on domestic liquidity in a context of substantial intervention, the Chinese authorities have combined sterilisation with administrative controls on bank lending.

## **5.2. Financial opening in developing countries**

More generally, with a preference for freedom in domestic monetary policy and a widespread tendency to care about exchange rate developments<sup>(2)</sup>, what is the role of capital account openness in developing — in particular in emerging — economies? What are the lessons to be learned from the crises of the 1990s in terms of capital account opening?

Some authors (e.g. Rodrik, 1999; Stiglitz, 2000) have argued that the costs of financial integration for developing countries are likely to outweigh its uncertain benefits. The empirical literature reviewed above points to some (weak) evidence of threshold effects: more developed countries seem to be in a better position of reaping the benefits of financial integration. That leads on to the question of the preconditions and timing of capital account opening. It is beyond the scope of this chapter to give detailed and country-specific advice on the sequence of domestic reform and financial opening. There is a certain consensus in the literature, though, on what ‘orderly and sequenced’ opening of the capital

account should usually involve. In this context, the IEO (2005) describes the IMF’s evolving attitude towards capital account liberalisation. Related reforms are discussed in the annex to this chapter.

The key mechanism through which financial integration is thought to spur growth is by improving the allocation of resources. In order for external capital to find its way to the most efficient use, domestic disincentives to the efficient allocation of resources (such as subsidies for declining industries) would first have to be removed (Arteta et al., 2001). The frictions resulting from the necessary reallocation of resources need to be kept low, which calls for structural reform to increase the flexibility of the economy prior to financial opening. (On this point, Rodrik (2000) stresses that the required reform agenda will, however, vary from one country to another and criticises the uniformity of IMF recommendations for structural reform.) A premature financial opening can lead to a net outflow of capital (de la Torre and Schmuckler, 2005). This will particularly be the case in the presence of a weak domestic investment climate. Mody and Murshid (2002) report that capital inflows are often diverted into reserve accumulation or offset by capital outflows as domestic investors diversify their portfolios. However, they also show that the link between openness to capital flows and domestic investment works best in the presence of policies oriented at growth and poverty reduction (as measured by the World Bank country policy institutional assessment index).

Several authors (e.g. Borensztein et al., 1998; OECD, 1999) have stressed the need for human resource development in order to strengthen the capacity of the economy to absorb the knowledge that can be transported through FDI inflows and through contacts with international/institutional investors.

Arteta et al. (2001) stress the need for eliminating major macroeconomic imbalances before opening the capital account, as poor macroeconomic policy would provide another incentive for capital flight. Sound macroeconomic fundamentals obviously decrease the potential for financial crisis.

The weakness of the financial sector exposed by the emerging market crises of the 1990s has highlighted the need for financial and corporate sector strengthening. Financial market regulation and oversight as well as disclosure and transparency should encourage rigorous risk

<sup>(1)</sup> As of 21 July 2005, the Renminbi peg to the US dollar was replaced by a managed float with reference to an unspecified currency basket. Practice will show the degree of flexibility of the new arrangement.

<sup>(2)</sup> In what follows, the focus is on the approach towards opening the capital account. To elaborate further on the interactions with the exchange rate regime would go beyond the scope of this chapter. On policy recommendations for the choice of the exchange rate regime see, for example, Bordo and Eichengreen (2002) and Bordo (1998). On the interaction of exchange rate regimes with domestic reform see, for example, Schweickert (2001).

assessments and market discipline. The tax system, competition policy and corporate governance rules should be designed in ways so as not to distort the efficient allocation of resources (see OECD, 1999; Fisher, 2003; Ribakova, 2005). Domestic efforts and international efforts in this field are strongly linked, as argued in the annex to this chapter.

Finally, targeted capital inflow controls (as used, for example by Chile during the 1990s) can help in avoiding the type of boom of short-term debt that proved so dangerous in the Asian crisis, by reducing capital inflows and shifting their composition towards the longer term. The use of capital outflow controls (as in Malaysia in 1998) is far more controversial, and their effectiveness disputed (Fisher, 2003; Rodrik, 1999). For all capital controls there is a probability that their effectiveness declines over time as investors develop vehicles to circumvent them.

### **5.3. Addressing global current account imbalances**

Turning to policy challenges in the short run, the build-up of global current account imbalances in recent years (see Box 1) has a potential for disorderly unwinding. There is widespread agreement in the policy debate (see the statements of G7 finance ministers and central bank governors in the past two years) that an orderly adjustment needs to be facilitated through action at several levels, reflecting the various elements that allowed the imbalances to grow in the first place. These include prudent macroeconomic policies, in particular to rebalance savings and investment in the USA and to allow exchange rates to play their part in bringing about more balanced imports and exports. The policy agenda also includes structural reforms in all major economic regions in order to achieve a better distribution of economic growth.



# 6. Conclusions

## 6.1. Features and drivers of financial globalisation

International financial integration progressed from the 1970s on and accelerated substantially in the 1990s. In EMU, financial market integration was complemented with, and further boosted by, monetary integration.

Although financial openness is increasing in the developing world, capital flows have so far remained fairly concentrated among industrial countries and financial centres. Still, even in highly open and integrated economies, financial integration is far from complete; a significant home bias in asset allocation persists.

The rapid financial integration of the past three decades was mainly driven by technical advances and policy reform. In particular, the strong reduction in the cost of communication and data processing facilitated international financial transactions, while exchange rate flexibility (above all of industrial countries) and improvements in domestic economic policies opened the way for the liberalisation of capital flows.

Given the concentration of capital flows among industrial countries and the importance of portfolio investment, it has been argued that a 'diversification mode' prevails in the current episode of financial globalisation. By contrast, during the 19th century wave of financial globalisation, capital flows into industry and infrastructure in emerging economies ('development mode') prevailed. However, private financial flows to developing countries continue to exceed official development aid by far.

## 6.2. Benefits and challenges

In theory, international financial integration should allow capital to flow to its most efficient uses, thereby increasing economic efficiency and making all participants better off. However, the empirical evidence in the

literature on the growth effects of financial opening is weak and disputed. Several dimensions play a role in this context.

- Theory and evidence concur that openness to trade and openness of the capital account reinforce each other in various ways. Inter alia, foreign direct investment can trigger technology transfer or help develop the infrastructure needed for goods trade. This notwithstanding, FDI, for example in the establishment of foreign affiliates, can also be a way of substituting for trade.
- The past decade saw major and widespread improvements in domestic macroeconomic and structural policies. However, the empirical evidence that this was brought about by a disciplining effect of financial openness, acting through the desire to attract foreign capital and avoid sudden reversals of capital flows, is rather weak.
- Financial integration strengthens the channels for international transmission of cyclical impulses and shocks, and there is evidence that these channels are becoming stronger between industrial countries as financial integration continues to deepen.
- The series of financial crises in the 1990s has highlighted the effects of financial opening on the volatility of output and consumption. Empirically, the general impact of an open capital account on volatility is not yet settled. Much seems to depend on the domestic economic situation prior to the opening of the capital account. There are some indications that financial opening is more beneficial, in terms of average growth as well as volatility, for countries that have already achieved a certain level of economic development, pursue sound macroeconomic policy and have a sound domestic financial sector.

### **6.3. Policy responses**

Financial openness is linked to the other dimensions of external macroeconomic policy through the ‘policy trilemma in open economies’. At country level, various approaches to the policy trilemma have been operated. Given a prevalent preference for autonomous monetary policy, the combination of hard pegs and capital account openness has been rare as a long-term approach (temporary anchoring of monetary policy through a hard peg for the purpose of disinflation notwithstanding). EMU, with a common monetary policy, a single currency and open capital accounts, is a particular case in this context.

Among each other, the large industrial economic entities have opted for principally flexible exchange rates and open capital accounts. Moreover, unlike emerging economies, their ability to borrow from international finan-

cial markets in their own currency makes them less prone to currency crises.

Conversely, experience of crises in some emerging economies that have seen strong and sudden reversals of short-term capital inflows has led some authors to reject capital account openness for developing countries and emerging markets. The more widespread view is that capital account opening should be undertaken only once domestic financial markets are strong and sound macroeconomic policies in place, while capital inflow controls can be beneficial as a transitory measure. Such sequencing is expected to maximise the benefits of capital account openness (in particular a relatively undistorted and free allocation of capital to its most efficient uses) while minimising the associated risks in terms of incompatibility of economic policy goals and sudden reversals.

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# Annex

## Policy responses to financial globalisation

### 1. Strengthening the international financial architecture

#### 1.1. Introduction

In the 1990s, several emerging market economies were affected by financial crises. The economic costs were high, contagion was powerful, and the political and social consequences were severe. These crises highlighted not only the crucial importance of sound policies at the country level — a sound and properly regulated financial system, sound macroeconomic and structural policies and the appropriateness of the exchange rate regime. The crises — characterised by large and sudden reversals of private capital flows — also highlighted the new challenges and risks that had arisen in the international financial system amid the rapid growth and integration of financial markets, and stimulated an intensive debate about the need to reform and strengthen the international financial architecture <sup>(1)</sup>.

In the wake of the Mexican financial crisis in 1994/95, the 1995 G7 summit in Halifax initiated work on improved crisis prevention and management. It called for improved transparency, both at the level of individual countries and at the International Monetary Fund (IMF), and for strengthened IMF surveillance. The Halifax summit also pointed to the importance of effective financial regulation, market-reinforced prudential supervision and enhanced international cooperation among regulators and supervisors. Work was stepped up in the aftermath of the Asian crises, which revealed further vulnerabilities in national and international financial systems. In April 1998, finance ministers and central banks governors of a group of 22 systemically significant economies (G22) met in Washington to discuss the causes that triggered the Asian crisis in 1997/98 and the reforms needed to contribute to crisis prevention and resolution. The reports of the three working groups, which were established by the G22, stressed the importance of

strengthening the international financial system through reforms in three key areas: (i) enhancing transparency and accountability; (ii) strengthening domestic financial systems; (iii) managing international financial crises.

The end of reform debate has not yet been reached but there has been considerable progress. Whilst not claiming to be exhaustive, this section focuses on key reform efforts that have been undertaken in the wake of the financial crises in the 1990s to strengthen the international financial architecture <sup>(2)</sup>. For this purpose, reform efforts have been grouped into three categories: (i) strengthening crisis prevention (Section 1.2); (ii) strengthening crisis management (Section 1.3); (iii) strengthening the international institutional set-up (Section 1.4).

#### 1.2. Strengthening crisis prevention

Given that crises are costly both for the countries concerned and for the international system, many efforts have been devoted at the international level to strengthen crisis prevention, i.e. ex-ante measures to improve market participants' risk assessment, strengthen market discipline and thereby minimise the risk of financial crises. The key elements comprise in particular: the greater focus of IMF surveillance on crisis prevention, increased transparency, and the promotion of best practices for sound domestic financial systems.

##### *IMF surveillance*

While preventing crises first calls for countries' own efforts to strengthen their policies and institutions, IMF surveillance plays an important role in promoting these efforts, in particular by detecting and heightening awareness of vulnerabilities and by anticipating threats to the financial stability of member countries. In response to a changing global environment, the scope of IMF surveillance has expanded from a relatively narrow focus on fiscal, monetary and exchange rate policies to a broader

<sup>(1)</sup> International financial architecture can be thought of as the institutional framework and set of measures at an international level associated with the prevention and resolution of financial crises.

<sup>(2)</sup> For a detailed analysis of the main proposals for reforming the international financial architecture as a response to global financial crises see European Commission (2002).

purview encompassing external vulnerability assessments, external debt sustainability analysis, financial sector vulnerabilities, and structural and institutional policies that have an impact on macroeconomic conditions. Greater attention is also being given to appropriate policies towards exchange rates and capital account liberalisation.

#### *Increased transparency*

In addition, the IMF now discloses most of its country documents and policy papers, and is encouraging and promoting increased transparency by its member countries. There is now a presumption that IMF reports on Article IV consultations and Fund programmes are published. For example, more than half of these reports, including those for the EU countries, are currently being posted on the IMF website. In response to the Asian crises, which had revealed serious deficiencies in the availability of reliable statistics, the IMF has also developed data dissemination standards. The IMF's special data dissemination standard (SDDS) of economic and financial data has become a widely recognised benchmark to which a large and increasing number of countries have subscribed<sup>(1)</sup>. At present, 61 countries, including member countries of the euro area, subscribe to the IMF's special data dissemination standard (SDDS) and 78 to the less demanding general data dissemination standard (GDDS).

#### *International standards and codes for sound financial systems*

More broadly, in the aftermath of the financial crises of the late 1990s, the international financial community has promoted the adoption and implementation of international standards and codes, i.e. widely accepted good principles, practices, or guidelines in the economic and financial area, that have been developed by a wide range of standard setters<sup>(2)</sup>. There has been increasing recognition that standards are yielding both national and international benefits. They are helping to:

- strengthen domestic financial systems by encouraging sound regulation and supervision, greater transparency, and more efficient and robust institutions, markets, and infrastructure;
- promote international financial stability by facilitating better-informed lending and investment decisions, improving market integrity, and reducing the risks of financial distress and contagion.

The Financial Stability Forum (FSF) has published a compendium of standards with over 60 economic and financial standards of best practices that are internationally accepted as pertinent to preventing financial crises<sup>(3)</sup>. Twelve of them have been highlighted by the FSF as key for sound financial systems deserving priority implementation. As shown in Table 1, these 12 key standards cover transparency standards (data dissemination, fiscal policy transparency, and monetary and financial policy transparency), financial sector standards (banking supervision, securities regulation, insurance supervision, payment and settlement, anti-money laundering and combating the financing of terrorism), and market integrity standards (corporate governance, accounting, auditing, and insolvency). Each standard is issued by the appropriate standard-setting body. The IMF and the World Bank have developed a framework for monitoring member countries' observance of these 12 key standards, working in cooperation with national authorities, standard-setting agencies, and other international bodies.

Reports on the observance of standards and codes (ROSCs), introduced by the IMF in 1999 and jointly produced with the World Bank, provide summary assessments of member countries' progress in observing and implementing the abovementioned 12 key standards and provide recommendations on how implementation could be further improved. ROSCs are prepared and published at the request of the member country. They are used to help sharpen the institutions' policy discussions with national authorities, and in the private sector (including by rating agencies) for risk assessment. ROSCs covering the financial sector (i.e. banking supervision, securities regulation, insurance supervision, payment and settlement systems, and market integrity) and monetary and

<sup>(1)</sup> The special data dissemination standard (SDDS) was established in 1996 to guide countries that have, or that might seek, access to international capital markets in the dissemination of economic and financial data to the public. And the less demanding general data dissemination standard (GDDS) was established in 1997 to guide countries in the provision to the public of comprehensive, timely, accessible, and reliable economic, financial, and sociodemographic data.

<sup>(2)</sup> These economic and financial codes and standards have foremost a moral force in that there is no international 'hard law' that requires compliance.

<sup>(3)</sup> For the Financial Stability Forum (FSF), created in 1999 to promote international financial stability through information exchange and international cooperation in financial supervision and surveillance, see section on the institutional set-up.



*Part I — Characterising trends in international economic integration*  
*1. The internationalisation of monetary and financial markets*

**Twelve key standards for sound financial systems**

Subject area	Key standard	Issuing body <sup>(1)</sup>
<i>Transparency standards</i>		
Data dissemination	Special data dissemination standard (SDDS) General data dissemination standard (GDDS) <sup>(2)</sup>	IMF
Fiscal policy transparency	Code of good practices on fiscal transparency	IMF
Monetary and financial policy transparency	Code of good practices on transparency in monetary and financial policies	IMF
<i>Financial sector standards</i>		
Banking supervision	Core principles for effective banking supervision	BCBS
Securities regulation	Objectives and principles of securities regulation	IOSCO
Insurance supervision	Insurance core principles	IAIS
Payment and settlement	Core principles for systematically important payment systems Recommendations for securities settlement systems	CPSS CPSS/IOSCO
Anti-money laundering and combating the financing of terrorism (AML/CFT)	Forty recommendations of the financial action task force (FATF); eight special recommendations against terrorist financing	FATF
<i>Market integrity standards</i>		
Corporate governance	Principles of corporate governance	OECD
Accounting	International accounting standards (IAS) <sup>(3)</sup>	IASB <sup>(4)</sup>
Auditing	International standards on auditing (ISA)	IFAC <sup>(4)</sup>
Insolvency	Principles and guidelines for effective insolvency and creditor rights systems <sup>(5)</sup>	World Bank

<sup>(1)</sup> The standard setting bodies are: IMF (International Monetary Fund); OECD (Organisation for Economic Cooperation and Development); IASB (International Accounting Standards Board); IFAC (International Federation of Accountants); CPSS (Committee on Payment and Settlement Systems); IOSCO (International Organisation of Securities Commissions); FATF (Financial Action Task Force); BCBS (Basel Committee on Banking Supervision); IAIS (International Association of Insurance Supervisors).

<sup>(2)</sup> Economies with access to international capital markets are encouraged to subscribe to the more stringent SDDS and all other economies are encouraged to adopt the GDDS.

<sup>(3)</sup> Relevant international accounting standards are currently being reviewed by the IAIS and IOSCO.

<sup>(4)</sup> The International Accounting Standards Board (IASB) and the International Federation of Accountants (IFAC) are distinct from other standard-setting bodies in that they are private-sector bodies.

<sup>(5)</sup> The World Bank is coordinating a broad-based effort to develop a set of principles and guidelines on insolvency regimes. The United Nations Commission on International Trade Law (Uncitral), which adopted the Model Law on Cross-Border Insolvency in 1997, will help facilitate implementation.

Sources: FSF, IMF, World Bank.

financial policy transparency are usually prepared within the framework of the financial sector assessment programme (FSAP). The FSAP, a joint IMF and World Bank effort introduced in May 1999, aims to increase the effectiveness of efforts to promote the soundness of financial systems in member countries. Supported by experts from a range of national agencies and standard-setting bodies, work under the programme seeks to identify the strengths and vulnerabilities of a country's financial system, determine how key sources of risk are being managed, ascertain the sector's developmental and technical assistance needs, and help prioritise policy responses. The FSAP also forms the basis of financial system stability assessments (FSSAs), in which IMF staff address issues of relevance to IMF surveillance,

including risks to macroeconomic stability stemming from the financial sector and the capacity of the sector to absorb macroeconomic shocks.

Countries' participation in ROSCs, as well as FSAPs, is voluntary, and the assessments are conducted taking into account countries' different economic circumstances and stages of development. The assessment of countries' observance of standards by the IMF and the World Bank is focused on providing feedback to national authorities that can help them identify and address weaknesses in the policy and regulatory environments that could otherwise cause, or worsen, shocks and crises. The provision of information by countries on the observance of standards is important to the conduct of comprehensive anal-

ysis under IMF surveillance. The aim is not to rate member countries or engage in pass/fail tests. Rather, it is to engage and assist country authorities in addressing areas where progress is needed, taking into account their priorities for economic and financial reform and institution building. ROSCs and ROSC updates, though voluntary, provide a systematic and structured way of organising and presenting information on standards assessments, which, together with FSAPs, help to guide and inform the IMF's surveillance process <sup>(1)</sup>.

#### *Limitations of transparency*

Although there is broad recognition that transparency is a precondition for well-functioning markets, since it facilitates better risk assessment and management and hence strengthened market discipline, increased transparency also has its limits. Perfect information is an illusion. The existence of information asymmetries in financial markets is a well-known fact of financial life since a borrower, whatever the standards and his willingness to respect them, will always be better informed about his situation than his creditors. Standards can also sometimes induce perverse behaviour by creating a false sense of confidence and/or introducing a bias towards some type of capital flows or in favour of some specific countries without proper risk assessment. Moreover, standards and codes are not valueless and political differences continue to exist about what they should cover, how normative they should be and how they should be implemented and/or enforced. Finally, increased transparency has also been associated with concerns that the availability of information to all market participants on (actual or potential) vulnerabilities might actually precipitate financial crises, and that the policy dialogue between the IMF and its members might become less frank and candid. Indeed, the publication policy of the IMF has been affected by these concerns. So far, proposals for mandatory publication of IMF staff reports or mandatory participation in (and publication of) ROSCs or FSAPs have failed to find broad support.

#### *Other crisis prevention mechanisms*

In response to the rapid spread of turmoil through global financial markets during the Asian crisis and its aftermath, the IMF established its contingent credit lines (CCL) in

April 1999 as a crisis prevention mechanism, intended to deter speculative attacks and financial contagion. The CCL provided member countries with demonstrably strong economic policies a precautionary line of credit (for up to one year with an amount expected to be typically in the range of 300–500 % of the member's quota) which would be readily available against balance of payments problems that might arise from international financial contagion <sup>(2)</sup>. While other IMF facilities provide loans after countries experience balance of payment problems, the CCL aimed at preventing those problems by offering ex ante eligible countries a seal of approval for their economic policies and thereby helping markets to appropriately discriminate among debtor countries. However, despite several attempts to make the CCL more attractive, the facility remained unused, and the CCL was allowed to expire in November 2003. A number of factors may have discouraged the use of the CCL <sup>(3)</sup>: (i) potentially eligible countries may have feared that a CCL request might be perceived by financial markets as a sign of weakness rather than strength ('entry problem'); (ii) these countries may also have feared that a termination or non-renewal of a CCL might be perceived by financial markets as indicating a downgrading of their policies by the IMF ('exit problem'); (iii) there had been some uncertainty about whether Fund resources under a CCL would in fact be readily available in the event of need, as the release of funds would require executive board approval; (iv) among the Fund's existing instruments, precautionary arrangements were considered as a potential alternative to CCL without incurring its disadvantages <sup>(4)</sup>.

Other proposals in the area of crisis prevention have been put forward, in particular the introduction of currency transaction taxes as addressing undesirable externalities such as excessive short-term capital movements or excessive exchange rate volatility <sup>(5)</sup>. However, no

<sup>(1)</sup> As of end-March 2005, 624 ROSC modules had been completed for a mix of 119 industrial, emerging market and developing countries, of which 468 ROSC modules for 110 countries have been published with the consent of the countries concerned; by the same time, FSAPs have been completed for a mix of 87.

<sup>(2)</sup> In order for a member to be eligible for the CCL, the following four criteria had to be met: (i) an absence of need for use of Fund resources from the outset; (ii) a positive assessment of policies by the Fund, taking into account the extent of the member's adherence to internationally-accepted standards; (iii) constructive relations with private creditors, with a view to facilitating appropriate involvement of the private sector, and satisfactory management of external vulnerabilities; (iv) a satisfactory economic and financial programme, which the member stands ready to adjust as needed.

<sup>(3)</sup> See IMF, Review of Contingent Credit Lines, 11 February 2003.

<sup>(4)</sup> Precautionary arrangements are conventional IMF arrangements where the member has expressed its intention not to make purchases. This statement is not a binding commitment and the arrangement retains its character as an instrument to provide a member with an assurance of access to Fund resources should the need arise.

<sup>(5)</sup> For a detailed analysis see European Commission (2002). Within the ongoing debate on financing for development, proponents of currency transaction taxes have emphasised their potential capacity to generate public revenue.

agreement has been achieved in the international community on such taxes, since views on their economic merits vary. Indeed, there are reasonable doubts with regard to the validity of the main arguments generally invoked for introducing such taxes. In particular, it has not been demonstrated that such taxes reduce exchange rate volatility. By reducing the volume of market transactions, liquidity may tighten and, as a consequence, exchange rate volatility actually may increase instead of being reduced as intended. To the extent that the functioning of financial markets might be hampered by the tax, the risk-sharing benefits of deep and liquid markets might be reduced by its implementation. In addition, a currency transaction tax might not help prevent speculative attacks, as the potential gains from speculation during a currency crisis would far exceed the levy from such a tax. Moreover, given the mobile tax base, such a tax would need to be implemented globally; otherwise the basic operations would be carried out in other jurisdictions, consequently reducing the potential for raising revenues. There are also legal doubts on the compatibility of a currency transaction tax with the EC Treaty as regards the free movement of capital and payments. The main concern is the discrimination of transactions between countries with different currencies — including intra-EU transactions — compared to those within a country and within the euro area.

### **1.3. Strengthening crisis management**

While crisis prevention is considered to be always the first line of defence in dealing with external shocks and vulnerabilities, it would be too optimistic to expect that there will be no further financial crises. Therefore, mechanisms for crisis management will still be needed for when countries get into serious financial difficulties. Compared to the debt crises of the 1980s, the financial crises of the 1990s have become more difficult to deal with given the dominance of market-based financing, which involve a large number and variety of investors and debt instruments. All this increases the ‘collective action problem’ of identifying bondholders, coordinating meetings with creditors and getting agreement among various creditors on the terms of a restructuring<sup>(1)</sup>. In the absence of a clear framework of crisis resolution, there is in addition an issue of moral hazard that has been linked to the provision of large international

financial rescue packages to countries affected by financial crises. Against this background, there has been a growing recognition of the need for an appropriate involvement of the private sector in crisis management and more predictability and clarity on the side of the official sector in order to prevent IMF bailouts from creating moral hazard, encouraging over-borrowing on the part of the countries and lending without regard to the risks on the part of investors and hence undermining market discipline and the stability of the international financial system. Efforts to strengthen crisis management have been focusing in particular on: elaborating a framework for private sector involvement; clarifying exceptional access to Fund resources; working towards a statutory sovereign debt restructuring mechanism; promoting the use of collective action clauses; and developing a code of good conduct for creditor–debtor relations.

#### *Prague framework for private sector involvement*

At the annual meeting of the IMF’s International Monetary and Financial Committee (IMFC) in Prague in September 2000, the international community reached an agreement on a set of principles and broad guidelines for involving private creditors in the resolution of financial crises (the so-called ‘Prague framework’)<sup>(2)</sup>. The three main principles of this framework are: (i) Fund resources are limited and therefore extraordinary access should be exceptional; (ii) neither creditors nor debtors should expect to be protected from adverse outcomes by official action; (iii) the respective amount of IMF financing and private sector involvement should be based on the IMF’s assessment of a country’s underlying payment capacity and prospects of regaining market access<sup>(3)</sup>. In the latter context, the framework sets out three different cases: (1) cases in which the combination of catalytic official financing and policy adjustment should be sufficient for a rapid return to full market access, whereby reliance on this catalytic approach at high levels of access to IMF resources presumes substantial justification; (2) cases in which emphasis should be placed on encouraging volun-

<sup>(1)</sup> In contrast, when bank and official lending dominated international financing, the number of actors and debt instruments involved was much lower and it was easier to reach a cooperative solution.

<sup>(2)</sup> See IMFC communiqué of 24 September 2000 (paragraphs 21–22) and IMFC communiqué of 16 April 2000 (paragraphs 12–16). The ‘Prague framework’ itself can be seen as an elaboration on the principles for crisis resolution contained in the report of the G7 finance ministers to the Köln summit in 1999.

<sup>(3)</sup> These principles are widely recognised too by the private sector. For instance, the IIF notes that official financing is not expected to bail-out private investors and creditors; market participants should bear the consequences of their investment decisions in order to reinforce market discipline and avoid the potential of moral hazard. See, for instance, IIF (Institute of International Finance), action plan of the IIF Special Committee on Crisis Prevention and Resolution in Emerging Markets, April 2002.

tary approaches to involve the private sector, as needed, to overcome creditor coordination problems; (3) cases in which the country's debt burden may be judged unsustainable and a debt restructuring and/or a standstill on debt payments may be needed <sup>(1)</sup>. However, progress in operationalising and implementing the Prague framework turned out to be rather limited.

#### *New framework for exceptional access*

In response to the risks posed by more integrated financial markets, the IMF has provided exceptional access to its resources for several member countries suffering from balance-of-payments crises originating in the capital account <sup>(2)</sup>. This was notably the case for Mexico (1995), Thailand (1997), Indonesia (1997), South Korea (1997), Brazil (1998–2003), Turkey (1999–2002), Argentina (2000–03) and Uruguay (2002) <sup>(3)</sup>. Given the size of the problems, Fund financing needed to be combined with large parallel bilateral official financing packages for Mexico, and in the Asian crisis, which helped to keep access to Fund resources lower than would have been the case in the absence of such financing. Besides supporting needed adjustments in domestic policies, these large lending packages aimed generally at restoring market confidence and slowing capital outflows, in the hope of quickly restoring the country's access to private financing. However, the exceptional use of Fund resources also raised concerns, in particular with regard to moral hazard. In the light of these concerns, and in order to make official financing more predictable, the IMF agreed, in 2003, on specific criteria and procedures to make exceptional access to Fund resources subject to rules. In order for a member to be eligible for

exceptional access to Fund resources, the following four criteria have to be met <sup>(4)</sup>: (i) a country must be experiencing exceptional capital account pressures that cannot be met within the Fund's normal access limits; (ii) a debt sustainability analysis indicates that there is a high probability that the country's debt will remain sustainable; (iii) the country has good prospects of regaining access to private capital markets during the time Fund resources would be outstanding; (iv) the country's policy programme provides a reasonably strong prospect of success, based in part on an assessment of the government's institutional and political capacity to implement that programme. In addition, the new framework also established stronger procedures for decision-making on exceptional access, including a higher burden of proof in programme documentation, ex post evaluation of programmes within one year of the end of the arrangement, and systematic board consultations on programme negotiations. The new framework also includes a presumption that exceptional access in capital account crises should be provided under the supplemental reserve facility (SRF) rather than on credit tranche terms to strengthen the incentives for temporary use of Fund resources <sup>(5)</sup>. A crucial element of this new framework is the debt sustainability analysis which helps operationalise the decision-making process for distinguishing between the first two cases in the Prague framework from the third case. In a case where the debt sustainability analysis indicates that the country is facing an unsustainable debt burden, official financing would be clearly limited and a debt restructuring would be required.

#### *Implementation challenges*

Implementation of the agreed rules, however, still remains a challenge, as evidenced in the recent past by the exceptional access cases approved under the new framework <sup>(6)</sup>. For instance, in the case of Argentina in September 2003, exceptional access was provided notwithstanding the assessment that the debt sustainability criterion (criterion 2) was not met and prospects were not good for rapidly regaining market access (criterion 3) <sup>(7)</sup>. Yet, in the case of Brazil in December 2003, exceptional access was approved notwithstanding the

<sup>(1)</sup> Under a standstill, a country would be allowed to suspend temporarily payments on some, or all, of its external obligations. Although the framework does not use the words 'liquidity' and 'solvency' to distinct different cases, if this distinction were being used, the first two cases could be described as liquidity crises, and the third as solvency crisis. However, this distinction is difficult to apply to sovereign debtors, because whether a country is in one or the other situation depends not only on the extent to which a government can or is willing to reduce domestic demand in order to continue to service its debt but also on actions taken by the international financial institutions, as a liquidity crisis can turn into one of solvency in the absence of temporary support.

<sup>(2)</sup> Exceptional access to Fund resources is defined as access above the normal access limits, i.e. access exceeding 100 % of a country's quota annually and 300 % of quota cumulatively.

<sup>(3)</sup> As a result of this exceptional access policy, IMF credit has become increasingly concentrated on a few large borrowers. At the end of 2003, credit to the Fund's three largest borrowers (Argentina, Brazil and Turkey) reached over 70 % of total Fund credit, compared to 33 % at the end of 1994. The IMF's increased credit concentration, in turn, raised concerns about whether the Fund's financial position could be put at risk if large borrowers are unable or unwilling to meet their financial obligations to the Fund.

<sup>(4)</sup> See IMF, 'Review of exceptional access policy', 23 March 2004.

<sup>(5)</sup> The supplemental reserve facility (SRF) was established in December 1997, in the midst of the Asian crisis, to provide assistance to members that are experiencing exceptional balance of payments difficulties due to a large short-term financing need resulting from a sudden and disruptive loss of market confidence. Compared to the Fund's normal lending window, the SRF features higher interest rates and shorter repayment maturities.

<sup>(6)</sup> See IMF, 'Review of exceptional access policy', 23 March 2004.

assessment that there was no actual balance of payments need (as required under criterion 1) and that regaining access to private capital markets (criterion 3) was not applicable since Brazil had such access. Although adherence to agreed rules is important, not least in order to provide the markets with the right signals, there is the recognition that every single financial crisis is different, requiring in each case an appropriate balancing between adjustment by the debtor country, private sector involvement and official financing. Consequently, crisis management in practice has to struggle with the inherent tension between rules and clarity on the one hand and discretion and flexibility on the other.

#### *Sovereign debt restructuring mechanism (SDRM)*

Given the lack of an international legal framework for dealing with cases where a country's debt is judged to be unsustainable and hence a debt restructuring is required (the third Prague case), IMF management, during 2001–02, made the case for a new approach to sovereign debt restructuring by proposing a sovereign debt restructuring mechanism (SDRM) aimed at establishing a universal statutory framework to make the restructuring process more prompt, orderly and predictable<sup>(1)</sup>. Key features of this statutory SDRM approach include the following. It would allow a sovereign debtor and a qualified majority of its creditors to agree on terms for a debt restructuring that would then be binding on all creditors, that is, minority creditors would be prevented from blocking such agreements or enforcing the terms of the original debt contracts. To deter disruptive litigation during the restructuring process, the SDRM could either include a stay on the enforcement of creditor rights after a suspension of payments, or require that any amounts recovered by a creditor through litigation would be deducted from

its residual claim under an approved restructuring agreement (through the application of the so-called 'hotchpot rule'). As a means of inducing new financing, an SDRM could exclude a specified amount of new financing from the restructuring, if such exclusion were supported by a qualified majority of creditors. During the restructuring process, the Fund would continue to rely on its existing financing power to provide support for an effective economic adjustment programme and create the right incentives for debtors and creditors to use the mechanism appropriately. To give the SDRM legal force, the adoption of an international treaty, binding all countries, or a change in the IMF articles of agreement, requiring a qualified majority of vote (85 %) of the Fund's members would be needed.

However, the Fund's efforts to advance a formal treaty-based SDRM did not attract the requisite political support to move forward and the official sector eventually shelved the setting up of a SDRM<sup>(2)</sup>. Nonetheless, those efforts did much to improve understanding of the issues that are of general relevance to the orderly resolution of financial crises (such as inter-creditor equity considerations, enhancing transparency and disclosure, and issues related to the aggregation of claims across instruments), and gave new impetus to complementary approaches, especially with regard to collective action clauses and the development of a code of good conduct for creditor–debtor relations.

#### *Collective action clauses (CACs)*

Another (complementary) approach to promote expeditious and orderly debt restructurings when crises occur is to incorporate suitable provisions into sovereign debt contracts (contractual approach)<sup>(3)</sup>. Such provisions are known as 'collective action clauses' (CACs) and usually include: (a) majority restructuring provisions, which enable a qualified majority of bondholders to bind all bondholders within the same issue to financial terms of restructuring, both before and after a default; (b) majority enforcement provisions, which enable (i) a qualified majority of bondholders to limit the ability of bondhold-

(<sup>1</sup>) In addition, the case of Argentina has highlighted the desirability to further clarify the IMF's lending into arrears (LIA) policy, through which the IMF can lend to a country in arrears to external private creditors as long as three criteria are met: (i) the country is making 'good faith' efforts in its debt negotiation; (ii) the debtor-country is pursuing appropriate policies; (iii) prompt Fund support is considered essential for the successful implementation of the adjustment programme. There are in particular two challenges. First, what constitutes 'good faith' has not been clearly defined and, hence, the assessment of 'good faith' is judgmental in essence. Second, the current LIA policy does not appear to be a binding constraint on IMF lending practices. Thus, the question arises about how it can be enforced more consistently. Some, including the IIF Managing Director Charles Dallara, even claimed that the IMF is breaking its own rules by lending money to Argentina, because the country is not trying hard enough to reach a debt deal with its private creditors (see 'Bankers group says IMF breaking rules on Argentina', 15 January 2004, <http://www.forbes.com/markets/newswire/2004/01/15/rtr1212980.html>).

(<sup>1</sup>) See Krueger (2001); IMF, 'Proposed features of a sovereign debt restructuring mechanism', 12 February 2003.

(<sup>2</sup>) The IMFC communiqué of 12 April 2003 (paragraph 15) recognised 'that it is not feasible now to move forward to establish the SDRM.'

(<sup>3</sup>) The essential difference between the statutory SDRM approach and the contractual approach is that the latter relies on the inclusion of CACs in individual debt instruments (bond and loan agreements) and leaves, as a result, jurisdiction to courts in the country/State under whose law the debt instruments were issued. The contractual approach has the appeal of avoiding the need to agree on new international treaties or to amend the Fund's articles of agreement to establish a universal statutory basis.

ers within the same issue to accelerate their claims following a default and (ii) a simple or qualified majority of bondholders to reserve an acceleration that has already occurred<sup>(1)</sup>. When the G10 report (Rey Report) in 1996 first advocated the use of collective action clauses<sup>(2)</sup>, there was strong opposition to it, mainly as a result of the alleged potential increase in borrowing costs and adverse signalling effects of implementing CACs first ('first-mover' problem). However, this argument became much less persuasive since econometric analysis failed to uncover any systematic impact of collective action clauses on borrowing costs<sup>(3)</sup>. The wider adoption of collective action clauses was then again recommended in the 1998 report of the G22 Working Group on the Resolution of Financial Crises<sup>(4)</sup>, and the 2002 report of the G10 Working Group (Quarles Group) on Contractual Clauses proposed a set of model clauses, aiming at catalysing a change in market practice<sup>(5)</sup>. Moreover, the use of CACs has also been encouraged by the EU countries' commitment, in 2002, to lead by example and to include CACs in international bonds<sup>(6)</sup>. For a long time, the use of CACs in international bonds has been the exception rather than the rule. However, in February 2003, Mexico included such clauses in a new sovereign bond (issued under New York law) and, since then, CACs have been included in almost all new issues of international sovereign bonds.

#### Limitations of CACs

Exclusive reliance on such clauses also has considerable limitations with regard to debt restructurings. First, CACs do not allow dealing with the stock of existing debt. Even if one could ensure that such clauses would

be included in all new debt instruments, one would still be faced with the large stock of outstanding bonds (many with long maturities) that do not contain such clauses. Second, and perhaps more importantly, even if these clauses existed in all bonds (or debt contracts), they would not provide a comprehensive and durable solution to the collective action problem, in particular with regard to aggregation of claims and inter-creditor equity. These clauses traditionally only bind holders of the bond issue in question and, consequently, negotiations between the debtor country and its creditor would have to be conducted contract by contract. However, a country with an unsustainable debt burden will typically require a comprehensive restructuring across a broad range of indebtedness, potentially including different bonds issued under different jurisdictions, bank loans, trade credits and some official claims.

#### Code of good conduct (CGC)

In order to improve the process of restructuring sovereign debt within the existing legal framework, efforts continue to complement CACs with a voluntary code of good conduct (CGC) for creditor-debtor relations. The proposal of such a code was put forward first in 2002 by the Banque de France ('Trichet proposal') motivated to 'fill the present vacuum' in the crisis resolution framework, in view of the obstacles to implementing the SDRM<sup>(7)</sup>. Specifically, a CGC would list what is expected from each party concerned in times of sovereign financial distress and comprise three aspects<sup>(8)</sup>: (i) general principles aimed at enhancing the predictability and transparency of the debt negotiation process, in particular related to early and regular dialogue, transparency of information, fair representation of creditors, comparable treatment of different creditors, economic and financial conditionality of debt rescheduling, and preservation, re-establishing and strengthening of normal financial relations between creditors and debtors; (ii) a 'road map' determining the different phases of diagnosis and debt renegotiation as well as the role to be played by each party involved (i.e. debtor countries, private creditors and official creditors); (iii) a 'tool box' providing a range of internationally agreed instruments and procedures to prevent or resolve financial crises,

<sup>(1)</sup> For further background on CACs, see IMF, 'The design and effectiveness of collective action clauses', 7 June 2002.

<sup>(2)</sup> In the wake of the Mexican crisis, ministers and governors of the G10 countries established in 1995 a working party, chaired by Jean-Jacques Rey, to consider the complex set of issues arising with respect to the orderly resolution of sovereign debt crises. The working party (Rey Group) concluded, inter alia, that incorporating collective action clauses into sovereign bond contracts could be helpful in facilitating the resolution of future sovereign debt crises. See G10, 'The resolution of sovereign liquidity crises, a report to the ministers and governors', prepared under the auspices of the deputies, May 1996.

<sup>(3)</sup> For instance, Becker, Richards and Thaicharoen, (2001) have examined the pricing of bonds with and without CACs using data for both primary and secondary market yields and found no evidence that the presence of CACs had increased yields for either higher- or lower-rated issuers.

<sup>(4)</sup> See G22, Report of the Working Group on the Resolution of Financial Crises, October 1998.

<sup>(5)</sup> See Report of the G10 Working Group on Contractual Clauses, 10 September 2002.

<sup>(6)</sup> See speech by the Ecofin President to the IMFC in April 2003. The speech by Commissioner Solbes to the IMFC also announced that: 'the Commission intends to follow the EU Member States' decision to lead by example on CACs, by incorporating CACs into the Communities' international bonds.'

<sup>(7)</sup> See Banque de France (2003). The private sector has been an enthusiastic supporter of such a code and has been pressing for the code proposal in addition to work on CACs as an alternative to the statutory SDRM approach. In the view of the EU, however, the proposal for a code is seen as supportive of CACs and the SDRM, and not as an alternative.

<sup>(8)</sup> See Couillault and Weber (2003).

such as CACs and ‘good practices’ for dialogue, information sharing, representation of creditors, modalities of restructuring, etc.

#### *Limitations of a CGC*

While it is recognised that a code could facilitate a continuous dialogue between creditors and debtors, promote corrective policy action to reduce the frequency and severity of financial crises, and facilitate the orderly and expeditious resolution of crises, the fact that, in contrast to CACs and the SDRM, a code would have no legal basis represents a major limitation <sup>(1)</sup>. No party would be legally bound by any of the provisions of such a code. Hence, unlike the SDRM, a voluntary code would not be able to prevent creditor litigation or to provide for debt restructuring with a majority vote. Nevertheless, a code could provide some useful guidance for promoting more efficient coordination between the parties involved in debt restructuring <sup>(2)</sup>. However, its effectiveness hinges critically on its acceptability to the affected parties. But, although a number of sovereign emerging market issuers of international bonds (primarily Brazil, Korea, Mexico and Turkey) and private creditor associations (Institute of International Finance (IIF) and the International Primary Market Association (IPMA)) agreed in November 2004 on a set of ‘principles for stable capital flows and fair debt restructuring in emerging markets’, no broad consensus on the content of such a code has been reached so far <sup>(3)</sup>. The G20 welcomed the principles ‘as a good basis for strengthening crisis prevention and enhancing the predictability of crisis management’. These principles were welcomed, but not endorsed, by the G20 at their Berlin meeting in November 2004 <sup>(4)</sup>, and the IMFC communiqué of April 2005 encouraged further efforts to improve the principles, aimed at achieving a broad consensus <sup>(5)</sup>. Views differ mainly on the comparability of treatment (in particular with regard to putting official and private claims on the same footing), recom-

mended instruments (in particular with regard to the role of partial debt-service payments and payment standstills during the restructuring process), and information sharing and transparency (in particular with regard to the risk of misusing confidential information).

#### **1.4. Strengthening the institutional set-up**

Given the mismatch between the increased integration of the world economy and financial system reflecting the process of globalisation and the policy responsibilities ultimately residing on nation states, close international cooperation is considered as key to addressing issues with global implications. In particular, in response to the growing systemic importance of emerging market economies and the need to improve international cooperation on financial sector issues, the scope of international cooperation has widened, but also the forms of cooperation have evolved over the recent past through the emergence of new international fora, notably the Financial Stability Forum (FSF) and the G20.

#### *Changes to the IMF*

While the IMF has preserved its central role in the international monetary and financial system, it has been continuously subject to considerable changes to adapt to the new environment <sup>(6)</sup>. Over the past decades, the IMF has been able to accommodate a substantial increase in both its membership, thereby becoming a quasi-universal institution, and in the scope of its mandate. In particular, since the Asian crises in 1997/98, the Fund has considerably enhanced its transparency, increased the scope of its surveillance, sharpened its focus, and reinforced its

<sup>(1)</sup> See IMF, ‘Proposed features of a sovereign debt restructuring mechanism’, 12 February 2003, paragraph 62.

<sup>(2)</sup> One benefit of a code of conduct could be to help set rules of behaviour during a debt restructuring which could be used as ‘good faith’ guidelines in the context of the IMF’s lending into arrears policy.

<sup>(3)</sup> The principles are based on four pillars: (i) transparency and timely flow of information; (ii) close debtor–creditor dialogue and cooperation to avoid restructuring; (iii) good faith actions during debt restructuring; (iv) fair treatment of all parties. See IIF (Institute of International Finance), ‘Key principles agreed to strengthen emerging markets finance’, 22 November 2004.

<sup>(4)</sup> The G20 welcomed the principles as ‘a good basis for strengthening crisis prevention and enhancing the predictability of crisis management’ (G20 communiqué of 20–21 November 2004, paragraph 8).

<sup>(5)</sup> See IMFC communiqué of 16 April 2005 (paragraph 17).

<sup>(6)</sup> The IMF, whose current membership consists of 184 countries, has responsibility under its articles of agreement for surveillance of all member countries, and monitors developments in the global economy and financial markets. Besides the IMF, there are a number of other international organisations which share responsibility for the supervision and surveillance of the international financial system, in particular: the World Bank, which assists countries in the design and implementation of reforms to strengthen financial systems; the Bank for International Settlement (BIS), which provides analytical and technical support for various official groupings working to strengthen the global financial system; the Organisation for Economic Cooperation and Development (OECD), which participates in the process of macroeconomic and financial surveillance and formulates guidelines for evaluating and improving the framework for corporate governance. In addition, there are a number of sector-specific international regulatory and supervisory groupings where international cooperation and coordination of supervisory practices are effected, in particular: the Basel Committee on Banking Supervision (BCBS), the International Organisation of Securities Commissions (IOSCO), and the International Association of Insurance Supervisors (IAIS). Moreover, there are also Committees of Central Bank Experts, which are concerned with market infrastructure and functioning, in particular: the Committee on Payment and Settlement Systems (CPSS) and the Committee on the Global Financial System (CGFS).

financial support. However, all these changes have been accommodated without substantial changes in the institutional setting or the decision process. Proposals with a greater institutional content, such as re-balancing the decision power within the Fund through changing the quota formulas<sup>(1)</sup>, increasing the number of basic votes<sup>(2)</sup>, or improving the representation of developing countries and emerging market economies have made little progress or are still under consideration. One proposed means to enhance the representation of those countries is to streamline Europe's widely perceived over-representation in the IMF<sup>(3)</sup>. The proponents argue that the advent of the euro and the strengthening of the coordination of economic policies in the EU are presenting an opportunity for recalibrating the quotas of European countries and consolidating the European representation in the IMF into a single chair<sup>(4)</sup> or into two constituencies<sup>(5)</sup> (one for the members of the euro area and one for the rest of the EU). The EU Member States hold indeed about a third of the voting power and of the executive directors' seats. A readjustment of quotas and a move toward a single European chair would free up voting power and board seats for under-represented countries. To this end, the legal and political implications of consolidating EU representation in the IMF would need to be carefully examined<sup>(6)</sup>.

#### *Financial Stability Forum (FSF)*

The Financial Stability Forum (FSF) was created in April 1999, at the initiative of G7 finance ministers and central bank governors, with the objective of assessing vulnerabilities in the international financial system, identifying and overseeing action needed to address those vulnerabilities, and improving coordination and information exchange among the various authorities responsible for financial stability<sup>(7)</sup>. The FSF has a total of 40 members: 25 representatives of national financial authorities (such as central banks, supervisory authorities and treasury departments) from 11 countries (Australia, Canada, France, Germany, Hong Kong SAR, Italy, Japan, the Netherlands, Singapore, the UK and the US), 14 representatives of international financial institutions and organisations (IMF, World Bank, BIS, OECD), international regulatory and supervisory groupings (Basel Committee on Banking Supervision, International Accounting Standards Board, International Association of Insurance Supervisors, International Organisation of Securities Commissions), Committees of Central Bank Experts (Committee on Payment and Settlement Systems, Committee on the Global Financial System), European Central Bank and a chairman. The FSF seeks to coordinate the efforts of these various bodies in order to promote international financial stability, improve the functioning of markets, and reduce systemic risk. Given its composition, the FSF is the only informal forum which addresses issues from a global and cross-sectoral perspective. The FSF meets usually twice a year (spring and autumn) but can meet as often as needed to carry out its functions. The FSF has worked on several topics, including the implementation of standards, the activities of highly leveraged institutions (HLIs) and off-shore financial centres (OFCs). Since 2001, the FSF has also held regional meetings with non-member financial authorities in Latin-America, Asia-Pacific, central and eastern Europe, and Africa.

#### *G20*

The G20 was established in December 1999 in the wake of the Asian financial crises by the G7 finance ministers

<sup>(1)</sup> The adequacy of the IMF capital, the so-called 'quotas' that determine not only a member's capital subscription to the IMF but also its voting power and access to IMF financing, is reviewed periodically. These reviews provide an opportunity to adjust the quota of each member and/or of some members. For each review, formulas are used to calculate quotas for each country based on its GDP, official reserves and international trade.

<sup>(2)</sup> The articles of agreement provide for 250 basic votes for each member, in addition to one vote per SDR 100 000 of its quota. Until the mid-1970s, basic votes as a percentage of total votes at the IMF remained above 10%. Since then, however, successive general increases in quotas have reduced the share of basic votes to 2% of total votes. However, an increase in basic votes requires an amendment of the IMF's articles of agreement.

<sup>(3)</sup> Parallel arguments can also be made for the World Bank.

<sup>(4)</sup> See, for example, Eichengreen (2003), and Boyer and Truman (2005). Boyer and Truman argue that a reduction of the combined EU share in IMF quota would be justified based on traditional quota formulas, because about half of the EU's trade is internal to the European Union. In contrast, however, the 2000 Quota Formula Review Group (QFRG) of independent experts argued against a single calculated quota for the EU countries on the basis of aggregated data, because 'under the IMF articles of agreement, the basis for membership, and therefore the assignment of a quota, is an entity's status as a country (Article II, Section 2). Therefore, unless a group of members becomes a single country, those members would each continue to have individual quotas. More fundamentally, the creation of the economic union, and of the European monetary union with its single currency, does not preclude an individual member from running into balance of payments difficulties and requesting appropriate Fund financing' (IMF, Report to the IMF executive board of the Quota Formula Review Group, Annex, Note 9, 1 May 2000).

<sup>(5)</sup> See, for example, Kenen, Shafer, Wicks and Wyplosz (2004).

<sup>(6)</sup> See, for example, Bini Smaghi (2004).

<sup>(7)</sup> In October 1998, G7 finance ministers and central bank governors commissioned a report by Mr Hans Tietmeyer, then President of the Deutsche Bundesbank, to develop recommendations for enhancing cooperation among the various national and international supervisory bodies and international financial institutions so as to promote stability in the international financial system. The G7 finance ministers and central bank governors endorsed the report in February 1999, including its recommendation to establish a Financial Stability Forum (FSF). The FSF was first convened on 14 April 1999 in Washington.



to provide a new forum for informal dialogue in the framework of the Bretton Woods institutional system in order to broaden the discussions on key economic and financial policy issues among systemically significant economies, and to promote cooperation to achieve stable and sustainable world economic growth<sup>(1)</sup>. In contrast to the G7, the G20 brings together important industrial and emerging-market countries from all regions of the world. Membership of the G20 comprises the finance ministers and central bank governors of the G7 countries (Canada, France, Germany, Italy, Japan, the UK and the US) and 12 other key countries, mainly emerging market countries (Argentina, Australia, Brazil, China, India, Indonesia, Korea, Mexico, Russia, Saudi Arabia, South Africa and Turkey), the European Union (represented by the Council Presidency and the President of the European Central Bank), the Managing Director of the IMF, the Chairman of the International Monetary and Financial Committee (IMFC), the President of the World Bank, and the Chairman of the Development Committee (DC). G20 finance ministers and central bank governors usually meet once a year. Ministers' and governors' deputies (G20 deputies) meet two or three times a year to prepare the ministerial meeting.

Five years since its inauguration, the G20 is firmly established as an important international forum for dialogue and consensus building, widely perceived as providing a

more representative structure and greater legitimacy than the G7 to address global economic challenges<sup>(2)</sup>. Against this background, calls have been made to upgrade the G20 to head-of-State level and to replace the present G7 structure with the G20 so that global economic governance includes the large emerging market economies that are of growing importance, both in terms of population and economic weight<sup>(3)</sup>. However, doubts have also been expressed concerning the ability of the G20 to replace the G7, in particular because of its composition. With 40 ministers and central bank governors around its table, the G20 would be too large to be effective<sup>(4)</sup>. Moreover, some of its members do not play a significant role in the system itself and thus lack the commonality of interest required for developing the solidarity essential to ensure the smooth functioning of the system. Instead, of replacing the G7 with the G20, Kenen et al. have recommended the creation of a Council for International Financial and Economic Cooperation (CIFEC) with five standing and 10 term members. They argue it would have greater legitimacy, accountability and representativeness than the existing G20. However, it is unclear how much more representative the proposed CIFEC would be compared to the existing G20. Moreover, increasing the number of international fora risks adding to confusion and ultimately complicating the decision process.

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<sup>(1)</sup> See G7 statement of 25 September 1999 and G20 communiqué of 15–16 December. The creation of the G20 fulfilled the commitment by G7 leaders at the June 1999 summit at Cologne 'to establish an informal mechanism for dialogue among systemically important countries within the framework of the Bretton Woods institutional system.'

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<sup>(2)</sup> For Kenen et al. (2004) the legitimacy of the G7 has been increasingly questioned and the creation of the G20 was meant to respond to the need for legitimacy.

<sup>(3)</sup> See, for example, Bradford and Linn (2004); Boyer and Truman (2005).

<sup>(4)</sup> See Kenen et al. (2004).

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## 2. Global trade integration and outsourcing

### Summary

The most important conclusion to be drawn from this chapter is that Europe is generally holding its own in extra-EU-15 world markets. While the problems at the intra-EU level are well documented, insufficient attention is focused on the comparatively good performance of EU exporters on the world stage. The EU's overall goods and services performance compares favourably with the USA and Japan, and the EU is world leader in a wide range of medium-technology and capital-intensive goods areas. In terms of specific industries, EU companies are particularly strong in cars, pharmaceuticals and specialised equipment. There are, however, some sources of concern namely with regard to China and south-east Asia and particularly the EU's poor performance on the ICT front. Complacency must therefore be avoided and every effort must be made to continuously strengthen our core comparative advantages.

From an analytical perspective, an interesting feature of the analysis is that world trade is increasingly being driven by rapid increases in two-way trade flows between the developed and developing world. Such two-way flows are a particular feature of global production-sharing in the ICT and car industries, with trade in parts and components for these industries featuring prominently in the top 20 rankings. This supports the point emphasised in Section 2, that the emergence of large glo-

bal production networks in a wide range of high, medium and even low-technology industries has significantly increased the degree of production complementarities between the traditional Triad grouping and the rest of the developed and developing world. While at present the evidence in terms of factor intensities suggests that the developed world has, in general, retained its comparative advantages in the more capital-, skill- and technology-intensive stages of these global production networks, there is some evidence to suggest that China, south-east Asia and the EU-10 groupings are beginning to upgrade their involvement in these networks to more than just the low-skilled, labour-intensive activities.

Finally, from a policy perspective, the product-based analysis of trade patterns in Section 3 suggests that geographical distance/transportation costs are key factors in the outsourcing trends for specific industries such as cars (EU-15 to EU-10 and USA to Americas and Japan to south-east Asia) and less so for the newer ICT-related industries (USA to China and south-east Asia). This changing role for transportation/communication costs in the outsourcing decision process underlines why policy-makers in the developed world are extremely anxious about services outsourcing. If distance is no longer an issue, the adjustment costs could be considerable for those countries unable or unwilling to make the structural reforms necessary to ensure that they continue to gain from services liberalisation.



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# 1. Introduction

Trade integration has been a striking feature of the world economy over recent decades, with the volume of goods presently traded being more than 15 times greater than in 1950 and with its share in GDP tripling. While some commentators insist that the present GDP share for merchandise trade is only at pre-First World War levels, this analogy takes no account of the growing share of the relatively less tradeable services sector in GDP over the intervening period and consequently of the fact that world trade in goods as a share of world industrial production is now at unprecedented levels. In addition, with the increasing tradeability of large parts of the service economy, trade in services is now growing at similar rates to those of goods and consequently at a pace which is substantially higher than that of GDP.

Since 1990, in fact, services and merchandise trade growth has evolved in a broadly similar pattern (with both growing by about 6 % per year on average) and with services consequently retaining its roughly 20 % share of overall international trade over this period. While trends at the aggregate trade level have been characterised by broad stability, there has nevertheless been substantial compositional shifts, with the growth rate of specific categories of goods and services diverging sharply. On the goods side, manufactured products have substantially increased their share of world exports to presently account for close to 60 % of the total (from 50 % in 1985). In terms of services, the 'other services' category which includes computer and information services, financial services, insurance and telecommunications, has witnessed a one third increase in its share of world exports to presently account for roughly 10 % of the total.

These compositional shifts in trading patterns and the growing integration of national economies into the world trading system, particularly manufactured goods and specific service industries, is being driven by a wide range of factors. Trade liberalisation, falling transportation and communication costs, rising income levels, higher productivity growth rates in tradeables compared

with non-tradeables, and a recent acceleration in the international division of labour (i.e. the specialisation of countries according to their comparative advantage) linked with the development of increasingly global production systems, are all driving international trade integration.

Amongst the latter factors, one of the most important since the mid-1980s has undoubtedly been the development of international production sharing, with the latter resulting in ever-growing volumes of intermediate inputs (both goods and services) being exchanged between countries at different stages of the manufacturing process. This growth in intermediate trade (i.e. semi-finished goods/parts and components) or 'outsourcing' reflects the reorganisation of many production processes on a global as opposed to a national basis and is a mirror image of the spectacular growth in FDI flows from less than 5 % of world GDP in 1985 to over 15 % by the late 1990s. With more globalised production systems and the emergence of powerful information and communications technologies, this outsourcing or 'vertical specialisation' (i.e. fragmentation of the production process) phenomenon is increasingly spreading to many areas of the service economy.

While most countries in the developed world in the past have been supportive of this ever-increasing trend towards specialisation at the international level and the consequent rise in the share of trade in world output, this consensus has recently been exposed to sustained questioning by politicians in many countries. This questioning is not so much linked with the emergence of new competitors, since this has been a given for participation in the world trading system, but with the scale and nature of the challenge. The traditional comparative advantages of the developed world in the skill and technology content of their products would appear to be under more sustained pressure from a number of sources. These sources include the emergence of a group of new, large, global trading economies, most notably China, with an abundance of cheap labour, substantial reductions in international trad-

ing costs (in particular in the transport and communications areas), and the increasing ability of multinationals via their overseas subsidiaries to 'slice up the value-added chain' at the international level through the use of sophisticated technologies and management systems.

Given the above, the key question to be answered in the present study is whether the logic behind the international division of labour still holds in circumstances when new competitors emerge which hold a broad array of comparative advantages in a wide range of industrial sectors (i.e. China) and in high value-added service industries (i.e. India). Are the gains from trade and international specialisation still a win-win game for the

developed world when faced with an intensification of competition from low-wage economies and from the increasing ability of multinationals to make effective use of this vast labour pool? The present paper will address these questions by focusing on the following key issues.

- Firstly, how vulnerable is the EU to the emergence of new global trading powers and to the shift in global comparative advantages?
- Secondly, what is the extent of the outsourcing phenomenon and of the involvement of China/the EU in global production structures?

## 2. An assessment of the vulnerability of EU industry in this emerging ‘global factory’

Given the changing nature of global trading patterns, the rapid shifts in the revealed specialisations of different countries and the emergence of a number of large new trading powers, a key issue to be addressed in the present study is the extent to which the EU is responding to these developments. Is the EU displaying an ability to hold its own in this more challenging external environment or is the recent marked lack of dynamism in terms of intra-EU trade spilling over in terms of its world performance? In carrying out such an analysis, the present section focuses on goods trade and will firstly examine the EU's position in overall world markets; secondly it will analyse its performance in particular high-technology/skill-intensive categories of trade; and finally will assess its performance in those specific product areas which have been driving world trade growth since the early 1990s.

### 2.1. What is happening in terms of overall world markets?

World trade has grown at an annual average rate of around 8½ % over the period 1992–2003. While overall EU-15 trade has been running at considerably lower rates, this relatively poor performance essentially reflects a lack of buoyancy in intra-EU-15 trade flows rather than problems at the extra-EU level, where growth rates are close to those of the world average. Consequently, at the extra-EU-15 level, which is the area of focus for the present analysis, the EU-15 countries have been largely holding their own. As indicated in Graph 1, following a difficult period in the second half of the 1990s, EU-15 exporters started to regain market share after 2000, with the result that, by 2003, its world market share was nearly a percentage point higher than that achieved back in 1992. This performance must also be seen in the light of the strong deterioration in the relative positions of the other Triad coun-

tries, namely the USA and Japan, with the world market shares of both of the latter falling by around 2½ % points over the period in question. Consequently, not only has the EU maintained its overall share of world trade, it has also consolidated its position as the number one global trading power, with the EU's 1992 advantage compared with the USA nearly doubling over the intervening period to 2003.

With regard to the other world areas, the south-east Asia (excluding China) region has performed broadly in line with that of the EU, with its world market share growing by about 1 % over the period as a whole. Bigger gainers include China (+ 4 % points); the EU's new Member States (+ 2 % points); and, to a lesser extent, the Americas and the EU's neighbours, each with market share gains of about 1½ % points. While India is beginning to show some improvement in its world market position, the gains are still quite limited, at least on the goods side. In addition, India, with a goods market share of less than 1 %, has undoubtedly a long way to go before becoming a major global trading power.

Export market shares are of course only one indicator of the health of the external sector. An assessment of developments on the import side and in terms of overall trade balances is also necessary. On the imports side, Table 1 shows that the EU, south-east Asia and Japan experienced declines of between ½ and 1¼ % points in their world shares. All other areas witnessed gains. While in most cases such gains reflected the stage of development of the particular area or the fact that intermediate imports were growing fast to feed buoyant export sectors, this was not the case for the US which was the only one of the nine groups which experienced sharply increasing import shares at the same time as its export performance was deteriorating.

Graph 1: World <sup>(1)</sup> export market shares for the different countries/country groupings



<sup>(1)</sup> World excluding intra-EU-15 trade.  
Source: UN Comtrade.

Table 5

World <sup>(1)</sup> export and import market shares and trade balances, 1992–2003

Area	1992			2003		
	Share of world <sup>(1)</sup> exports	Share of world <sup>(1)</sup> imports	Trade balance (% of GDP of area)	Share of world <sup>(1)</sup> exports	Share of world <sup>(1)</sup> imports	Trade balance (% of GDP of area)
EU-15	15.0	16.5	-0.9	15.9	15.8	-0.4
EU-10	1.0	1.1	-2.8	2.8	3.1	-6.6
EU neighbours	6.2	5.7	0.7	7.6	6.9	1.7
USA	12.6	15.1	-5.3	10.2	17.7	-5.3
Americas (excluding USA)	7.6	7.3	0.2	9.0	7.7	2.5
Japan	9.5	6.4	2.8	6.7	5.2	2.1
China	2.4	2.2	1.0	6.2	5.6	1.6
South-east Asia (excluding China)	12.1	12.5	-2.1	13.3	11.9	3.1
India	0.6	0.7	-1.5	0.9	1.0	-2.2

<sup>(1)</sup> Extra-EU-15 for EU-15.

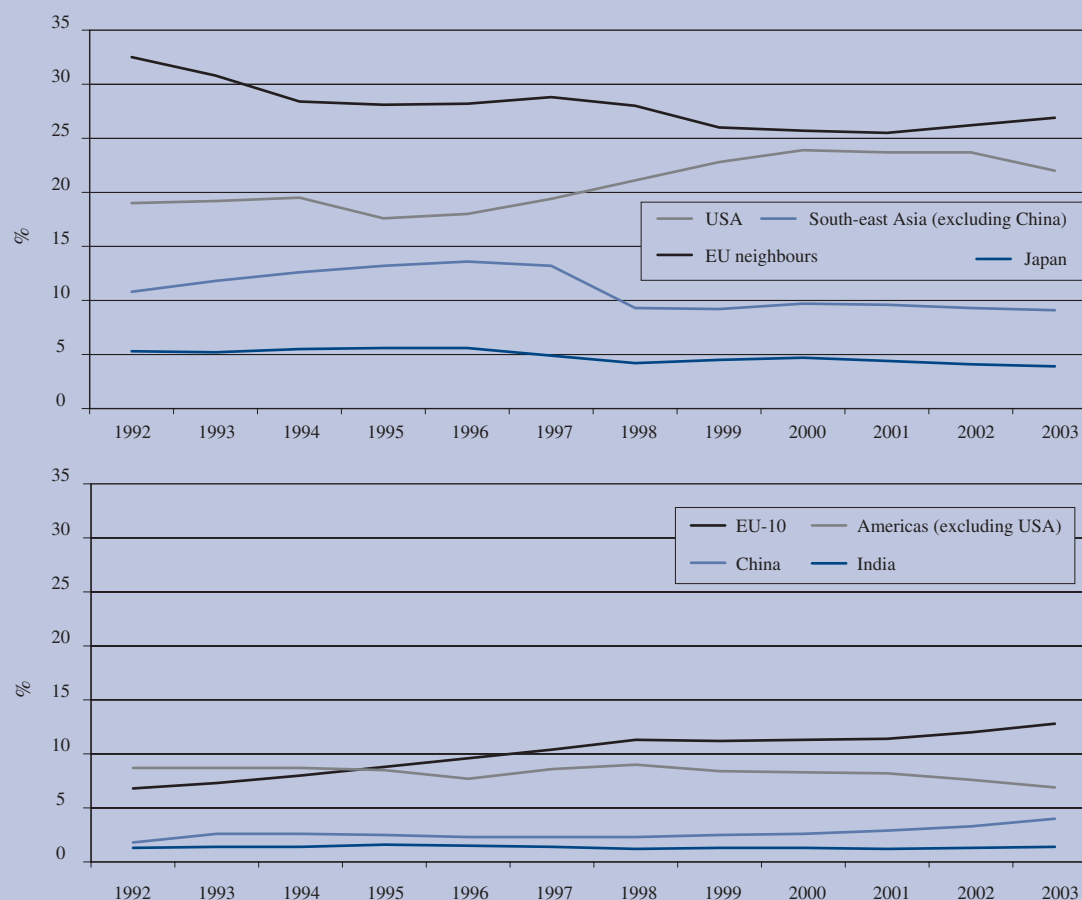
Source: UN Comtrade.

In terms of developments at the overall trade balance level, Table 1 shows that the EU has remained in broad balance with the rest of the world over the 1992–97 and 1998–2003 periods, with its position improving over time. The rest of the world is characterised by either large deficits or surpluses. On the surplus side, the EU neighbours and the Americas (excluding the US) zones have seen large improvements in their trading positions over the decade, with surpluses of 1.7 % and 2.5 % respectively in 2003. The other big trading surpluses are registered in Asia where Japan, China and the rest of south-east Asia all had large surpluses ranging from 1½ % of GDP in China to 3 % for south-east Asia. In terms of deficits, India, the EU’s new Member States and the USA have consistently shown deficits over the

period, with the EU-10 and the US having external deficits in excess of 5 % of GDP.

While the EU has evidently not experienced large shifts in its overall export market share or in its trade balance position since the early 1990s, there have nevertheless been large changes in terms of the geographical focus of its trade and consequently in its market positions vis-à-vis its main trading partners. In Graph 2, one can see that, since 1992, the USA, the EU-10 and China have become increasingly important export markets for the EU. These upward shifts have been counterbalanced by a sharp decline in our exports to the EU neighbours region and by declines in the shares going to south-east Asia, Japan and the Americas.

**Graph 2: Shifts in the geographical focus of EU-15 trade with extra-EU-15**



Source: UN Comtrade.

Changes to the EU-15's overall market positions (Graph 3) indicate large and rising deficits with Asia compensated by surpluses with most of the rest of the world. All three areas of Asia have opened up significant trade gaps with the EU, with the Chinese trade deficit of nearly ½ % of GDP at similar levels to that of Japan, with which we have had a persistently large deficit since the early 1990s. In addition, the EU's small surplus with the rest of south-east Asia in the 1992–97 period has now been replaced with a deficit of about 0.3 % of GDP. These negative developments at the bilateral level are, to a large extent, being offset at the aggregate level by the buoyancy of the US market where the EU has seen a sharp turnaround in its trading position. The new Member States, as well as the EU neighbours/Americas group of countries, also provide the EU with small but relatively stable trading surpluses.

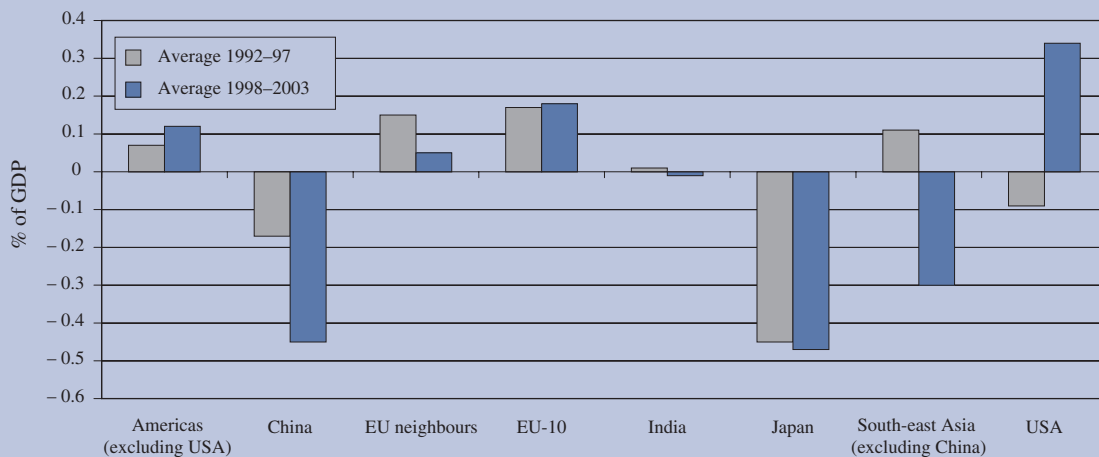
## 2.2. Is Europe holding its own in the high-technology/high-skill-intensive areas of world trade?

While the EU-15 is managing to maintain its share of overall world markets, there are nevertheless concerns regarding its trading position within Asia, where the EU has large and growing trading deficits. The persistent nature of these deficits points to the possibility of structural deficiencies at the skill/technology levels (focus of

the present section) or specific weaknesses in particularly dynamic product areas (2.3).

In this context, Table 2 gives a breakdown of world trade based on classifications which focus on either the technology level of products or on the intensity with which they use different factors of production. The technology breakdown has been developed by the OECD and groups manufacturing industries according to their skill/technology content on the basis of the ISIC Rev 3 classification of industrial activities. Total manufacturing is classified into one of four categories: high-technology, medium-high-technology, medium-low-technology or low-technology. In addition, using the OECD's own definition of the ICT sector, it provides a further breakdown of the high-technology grouping into its ICT and non-ICT components (see Annex 2 for a description of the classification). The factor intensity breakdown is taken from Yilmaz (2002), based on earlier work by Hufbauer and Chilas (1974). This SITC-based classification splits overall goods trade into categories which reflect the intensity with which the various factors of production are used. There are five categories: raw material-intensive goods, labour-intensive goods, capital-intensive goods, easy-to-imitate research-intensive goods, and difficult-to-imitate research-intensive goods. The SITC codes used in each of the five categories are given in Annex 3.

Graph 3: EU-15 trade balances



Source: UN Comtrade.

### 2.2.1. Global overview

When one splits world trade into the various skill and factor intensity categories described earlier, the most striking feature of both breakdowns is the sharp increase in the technology/research content of trade over time. In terms of skill intensities, one sees that high-technology products now account for over 22 % of world trade compared with 18 % back in 1992. This growth in the skill content of trade would appear to be totally due to the ICT sector since its share has risen from 13 % to 18 % over the same period. While the medium-high and medium-low-technology groupings have broadly maintained their relative positions, there has been a sharp decline in the share of low-technology goods. The main trends emerging from the skill-based breakdown of manufacturing trade is confirmed by the factor intensity breakdown. This classification also points to a significant increase in the share of goods which use R & D intensively, with both the ‘easy-to-imitate’ and ‘difficult-to-imitate’ research goods categories increasing their share of overall world trade over the period. All other areas have seen declines in their respective performances, with the most significant declines occurring in the raw material-intensive and labour-intensive categories.

### 2.2.2. Assessment of EU’s performance

One of the key questions posed at the outset was whether the EU is managing to retain its world position in high-technology products. Graph 4 shows the EU-15’s export market shares in the different skill and factor intensity categories. In terms of skill intensity, it is very clear that the EU does particularly well in the medium-high-technology grouping, with a world export market share in excess of 20 % which is substantially higher than its overall market share of 15–16 %. It is also a big world player in the medium-low-technology sector, although its share in this category is tending to decline over time. Its relatively poor showing in the high-technology category to a large extent reflects its low market share in ICT-related industries. As can be seen from the graph, it is somewhat surprising to find that, for an economically advanced region such as the EU, its world market share for low-tech products is similar in size to that of its high-tech exports. Turning to the factor intensity breakdown, the EU, as one would expect, does well in the ‘difficult-to-imitate research’ goods category and very poorly in the raw material-intensive industries. With regard to the other categories, the shares for easy-to-imitate research goods, capital-intensive and labour-intensive goods roughly equate to the EU’s overall share of world export markets.

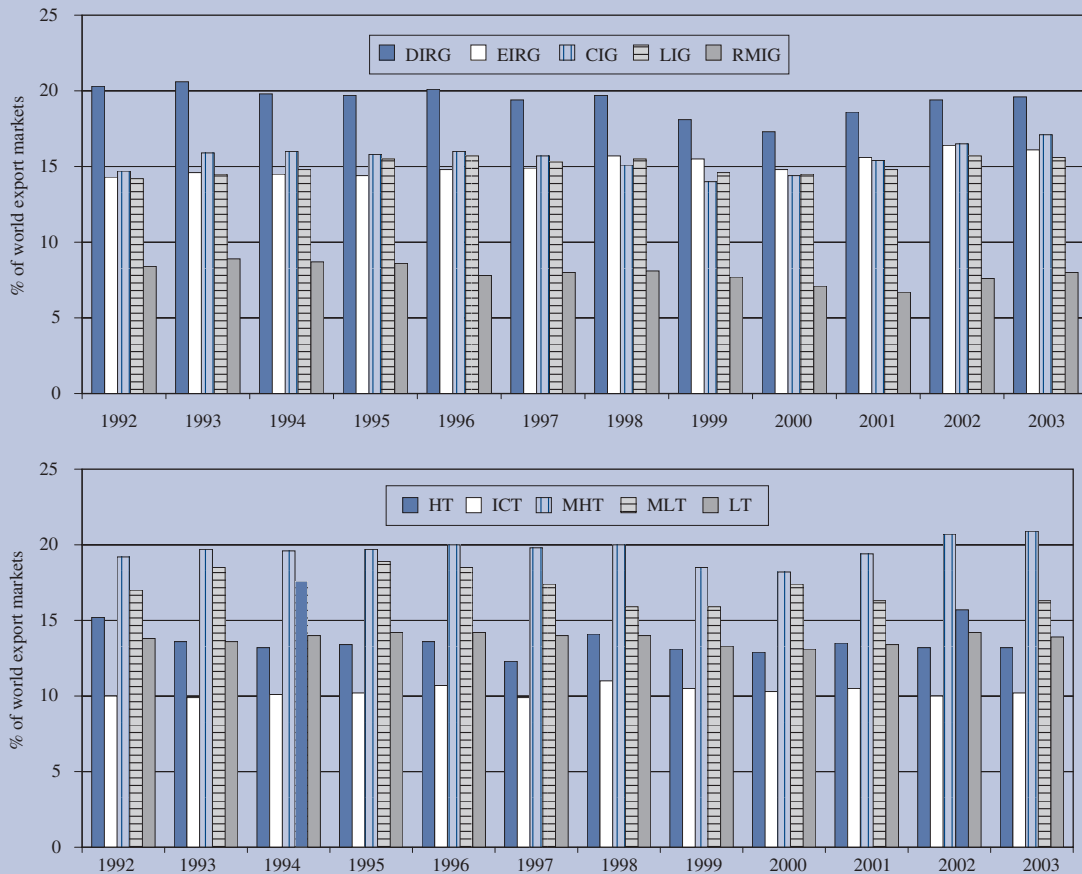
Table 6

#### Global overview: breakdown of total world trade <sup>(1)</sup> by skill and factor intensity, 1992–2003

Skill intensity	% breakdown for manufacturing imports	
	1992	2003
High-technology	18.0	22.4
(of which ICT)	(12.8)	(17.9)
Medium-high-technology	36.8	37.6
Medium-low-technology	18.8	18.8
Low-technology	26.5	21.2
<b>Total</b>	<b>100</b>	<b>100</b>
Factor intensity	% breakdown of total imports	
	1992	2003
Raw material-intensive goods	22.6	20.6
Labour-intensive goods	20.5	17.4
Capital-intensive goods	18.0	17.5
Easy-to-imitate research goods	14.3	18.3
Difficult-to-imitate research goods	24.6	26.2
<b>Total</b>	<b>100</b>	<b>100</b>

<sup>(1)</sup> Imports are used for the breakdown given the generally more reliable nature of the underlying, duty-based, data sources.

Graph 4: Breakdown of EU-15 trade by skill and factor intensity



NB: World excluding intra-EU-15 trade.  
Sources: UN Comtrade, Commission services.

### 2.2.3. Comparison of EU with rest of world

When one compares the EU performance with that of the other country groupings, as is done in Table 3 on the basis of export market shares, a number of interesting features emerge.

- Firstly, the EU is world leader in the medium-high and medium-low-technology sectors, but are only ranked third in the world (behind the US and south-east Asia (excluding China) in the high-technology area. In terms of factor intensities, the EU is the largest world player in the difficult-to-imitate research goods and capital-intensive goods sectors.
- In the overall world market for high-technology goods, the US and south-east Asia are dominant.

While this dominance to a large extent reflects their particular focus on the ICT sector, their involvement in other high-technology areas is also playing a role.

- For China and the EU-10 groupings, both have large and growing shares in the low-technology sectors. China also has a large presence in the high-technology area but, as the factor intensity breakdown shows, this essentially reflects their presence in the labour-intensive stages of the production of high-technology goods, many of which draw on imported technology (via FDI) and on imports of parts and components which have a high skill content. Reflecting the greater focus of the EU-10 countries on the low-technology and medium-low-technology sectors, a relatively



large proportion of their trade is in goods which use labour and capital intensively.

- Japan has the highest concentration in the medium and high-technology sectors of any of the areas covered. Over 80 % of Japan's trade is in these groupings, compared with less than 60 % for the EU. This concentration is also reflected in the factor intensity breakdown, where over 90 % of its trade is in the difficult-to-imitate research, easy-to-imitate research and capital-intensive goods categories, with less than 10 % in the labour-intensive and raw material-intensive categories. This compares with China, where the latter two categories account for over 60 % of all trade. Given these figures, the widespread belief that China poses a serious threat to the more developed economies in the high-technology segments of world markets is clearly not supported on the basis of present trends, although specialisation patterns can change quickly as we will see in Section 2.3.
- Finally, regarding the rest of the world, India displays remarkable stability in its shares for the different skill and factor intensity categories. For the EU neighbours and the Americas (excluding US) groupings, the most striking feature is their world dominance in the raw material-intensive goods section which includes oil.

#### **2.2.4. Indicators of overall comparative advantage: 'structural' trade balances**

While an analysis of export market shares provides interesting insights concerning changes in world trade patterns and shifts in the relative competitiveness of countries, their use in calculating measures of revealed comparative advantage (RCA) is more problematic. Traditional measures of comparative advantage, based on the Balassa method, are normally calculated using the export market shares of individual products and product groupings relative to developments at the world level. These RCAs have been used for decades to measure the specialisation patterns of countries as indicated by their allocation of resources to specific industries. However, ECFIN's calculation of these measures for the analysis in the present paper resulted in RCAs which were counter-intuitive for a large number of the country groupings. These rather strange results could in fact be linked to the internationalisation of the production process to be discussed in Section 2 and specifically to the growing importance of two-way trade flows at the world level.

These flows are being driven by the foreign direct investment activities of multinationals and are reflected in rising levels of intermediate trade at the intra-industry and intra-firm levels.

Given the problems encountered in calculating 'traditional' RCAs, it was decided instead to focus on RCA measures which take account of developments at the net level (i.e. exports less imports) since such an approach is increasingly being used in the literature. From ECFIN's perspective, focusing on the trade balance has the potential to increase our understanding of the large shifts in specialisation which are taking place at the world level. In our view, an analysis at the trade balance level is becoming increasingly important as the outsourcing phenomenon gathers pace. The growing fragmentation of international value-added chains is leading to a growth in intermediate imports, with imports of parts and components and semi-finished goods being used to maintain the export market shares of many countries. The maintenance of export market shares via a strategy of large-scale delocalisation of the input supply chain often leads to deterioration in a country's overall trade balance. In these circumstances, focusing solely on the export side would be insufficient to reflect the true underlying position of the country in question.

In practical terms, while the actual trade balance can provide a useful indicator of the specialisation patterns for the specific areas, to calculate an accurate measure of a country's comparative advantage one must first adjust the actual balance to take account of the effects of the business cycle. This is done using a methodology which has been developed by CEPII. In essence, this indicator gives the contribution of different products or product groupings to the cyclically adjusted trade balance of the particular country or country grouping (see Annex 4 for a description of the approach used).

#### **2.2.5. 'Structural' trade balances for the EU and a comparison with the rest of the world**

Graph 5 gives the 'structural' trade balances as calculated by the CEPII approach for the different skill and factor intensities described earlier for extra-EU-15 trade. These figures can be interpreted as indicators of the comparative advantage of the EU in terms of the specialisation patterns of its respective industries. Given the EU's import patterns, the RCAs based on trade balances do not differ dramatically from RCAs which are calculated using export market shares and consequently there are no significant surprises compared with the conclusions

Table 7

**Breakdown of trade by skill intensity: comparison based on world <sup>(1)</sup> export market shares**

	High-technology (HT)		ICT (part of high-technology)		Medium-high-technology (MHT)		Medium-low-technology (MLT)		Low-technology (LT)	
	1992-97	1998-2003	1992-97	1998-2003	1992-97	1998-2003	1992-97	1998-2003	1992-97	1998-2003
EU-15	13.4	13.1	(10.3)	(10.4)	19.8	19.9	18.5	17.3	14.1	14.0
EU-10	0.5	0.8	(0.6)	(1.0)	1.4	1.9	2.5	2.4	2.4	2.6
EU neighbours	2.4	2.5	(1.5)	(1.6)	4.3	4.5	7.1	10.3	4.8	5.6
USA	18.7	19.9	(16.2)	(16.6)	13.2	13.9	9.6	9.9	8.4	8.4
Americas (excluding USA)	4.0	4.7	(4.2)	(4.9)	7.6	8.3	9.1	9.4	9.1	9.8
Japan	14.8	11.8	(16.3)	(12.8)	13.2	11.6	8.1	7.2	1.7	1.6
China	2.1	2.8	(2.2)	(3.0)	1.4	1.7	2.3	2.8	6.4	7.4
South-east Asia (excluding China)	22.9	22.8	(26.8)	(26.8)	7.3	7.2	11.4	11.9	18.4	17.4
India	0.1	0.1	(0.1)	(0.1)	0.3	0.3	0.4	0.4	1.8	1.9

**Breakdown of trade by factor intensity: comparison based on world <sup>(1)</sup> export market shares**

	Difficult-to-imitate research goods (DIRG)		Easy-to-imitate research goods (EIRG)		Capital-intensive goods (CIG)		Labour-intensive goods (LIG)		Raw material-intensive goods (RMIG)	
	1992-97	1998-2003	1992-97	1998-2003	1992-97	1998-2003	1992-97	1998-2003	1992-97	1998-2003
EU-15	19.8	19.7	14.5	15.1	15.9	15.6	15.4	15.4	8.4	8.0
EU-10	1.3	1.5	0.8	1.1	1.9	2.2	2.4	2.7	1.8	1.8
EU neighbours	3.9	3.9	4.2	4.4	3.8	5.5	5.2	5.7	16.6	18.8
USA	16.4	18.1	14.1	14.5	9.7	9.9	8.0	8.4	10.4	9.6
Americas (excluding USA)	4.5	5.2	4.7	5.2	11.9	12.5	5.7	6.4	17.9	18.5
Japan	14.8	12.4	11.7	9.6	12.9	11.6	3.0	2.7	0.7	0.6
China	1.5	1.9	2.7	3.3	1.4	1.4	7.7	8.5	2.3	2.3
South-east Asia (excluding China)	13.2	13.5	18.4	17.8	6.2	6.3	18.8	17.8	14.2	14.3
India	0.1	0.1	0.3	0.3	0.4	0.4	1.8	1.8	0.9	0.8

<sup>(1)</sup> Extra-EU-15 for EU-15.

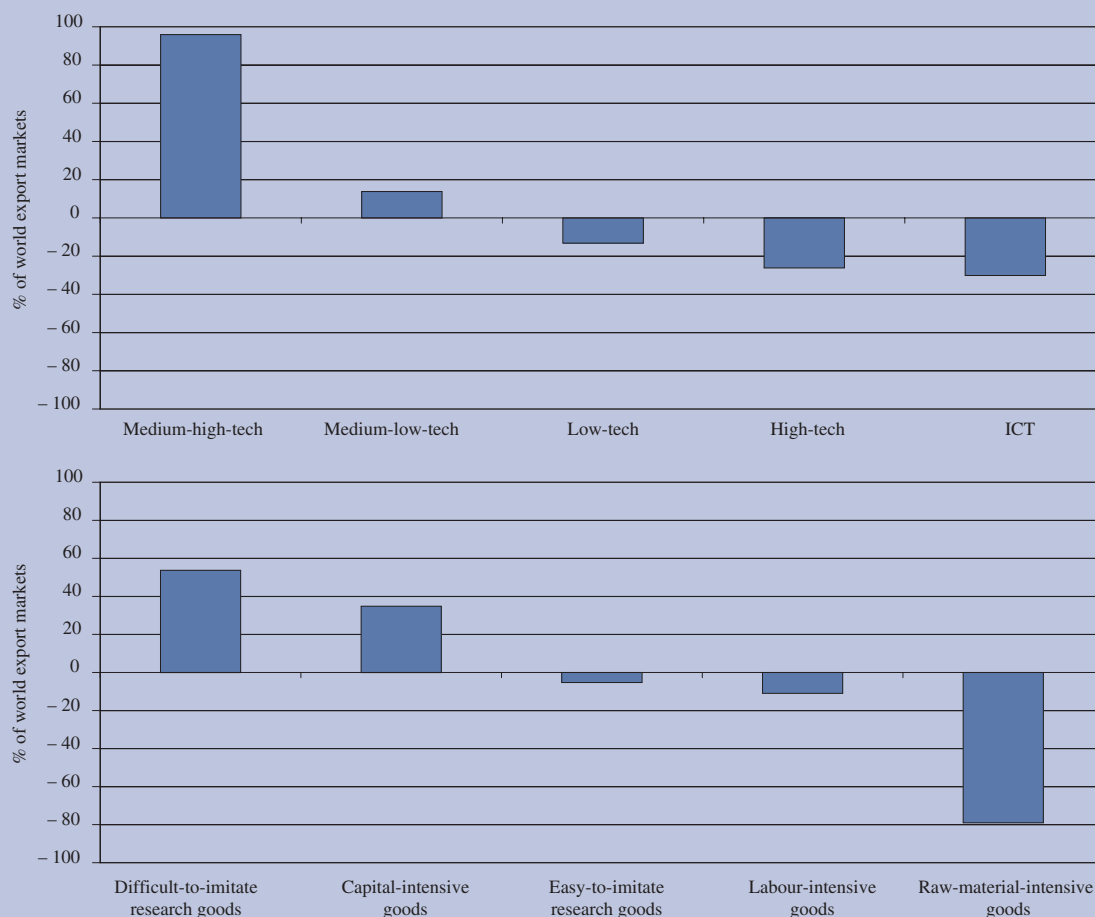
Sources: UN Comtrade, Commission services.

of the previous section. Graph 5 in fact confirms the strong medium-high-technology specialisation shown earlier for the EU, with a significant proportion of its internal resources being directed towards a range of medium-technology sectors which use R & D and capital intensively.

Table 4 goes on to compare the RCAs for the EU with those of the other world areas. While the absolute figures cannot be compared across countries (since the cyclically adjusted trade balance is an indicator of how individual countries allocate resources to their own specific indus-

tries), the RCA measures given in the table do allow one to compare the specialisation patterns of the different skill and factor intensity categories in a given country compared with another. While the conclusions from such an analysis are often similar to those discussed earlier regarding export market shares, this is not always the case as one would expect given the additional informational content provided by the structural balance indicator. Differences exist for particular world areas either because of large amounts of two-way trade flows or because of significant divergences between their actual and structural trade balance positions as in the case of the USA.

Graph 5: EU-15 comparative advantages in the different skill and factor intensity categories



Sources: UN Comtrade, Commission services.

Table 8

**RCAs for skill and factor intensity categories**

	Skill intensity					Factor intensity				
	HT	ICT	MHT	MLT	LT	DIRG	EIRG	CIG	LIG	RMIG
EU-15	-26.1	-30.1	95.9	13.8	-13.1	53.7	-5.2	34.8	-10.9	-79.0
EU-10	-19.0	-13.1	-20.1	23.3	44.0	-15.3	-23.1	14.9	33.6	-14.5
EU neighbours	-22.8	-20.7	-69.0	-0.4	-26.0	-44.6	-21.4	-34.2	-24.0	126.8
USA	39.6	8.8	21.3	-6.9	-33.5	77.5	2.6	-27.9	-39.4	-14.0
Americas (excluding USA)	-31.3	-25.6	-63.5	1.4	30.5	-72.0	-30.5	18.0	-8.5	92.9
Japan	56.7	53.8	159.9	12.7	-114.4	122.5	26.4	85.0	-51.5	-189.8
China	-18.0	-8.1	-94.9	-15.8	135.7	-117.2	14.4	-25.4	145.5	-25.6
South-east Asia (excluding China)	16.2	25.3	-49.0	-3.9	42.7	-43.8	18.6	-15.0	32.3	6.5

Sources: UN Comtrade, Commission services.

### 2.3. What are the 20 most dynamic individual product groupings and is there evidence of a worldwide shift in the comparative advantage of the EU in these areas?

While breakdowns of trade into specific skill or factor intensity groupings are enlightening, it is important to supplement this with an overview at the product level. At the three-digit SITC level, there are 266 product groupings. It is not feasible of course to provide an analysis of each of these groupings and consequently one must rank them using particular criteria. For this specific exercise, it was decided to rank the 266 products on the basis of their overall contribution to the non-fuel export growth rate. This ranking involves taking both the export growth rate for each product as well as its overall share in total non-fuel exports to calculate its respective contribution. The top 20 products which emerge from this ranking exercise are shown in Table 5.

Table 5 indicates that semiconductors was the single most important non-fuel export product grouping over the period 1994–2003. This reflects both its very high rate of growth (13.6 %) as well as its large weight in non-fuel world exports (it has a 4.4 % overall share). This single industry contributed nearly 8 % to the overall growth of non-fuel exports over the period 1994–2003, well in excess of the next most important industry, passenger cars. The table shows that the top 20 products (out of the total of 266) contributed over 50 % of the overall export growth rate. This growing degree of concentration of world trade flows on such a small group of ‘super’ products is a relatively new phenomenon. These products grew, on average, by about 2 % points more than the total and collectively have a weight of close to 40 % in total non-fuel exports. One very clear message from this table is the importance of the ICT industry as a major driving force behind the growth in exports since the early 1990s. Four of the top five product groupings belong to ICT, with these four products on their own contributing over 20 % of the total growth in non-fuel exports over the 12-year period covered.

Table 5 also gives a breakdown of these products into their skill and factor intensities as well as their ‘final use’. Regarding ‘final use’, intermediate and capital goods are particularly well represented in the top 20 grouping which is what one would expect given the trends described in Section 3. Both trade categories have

increased their share of overall world trade since the early 1990s, with parallel upward trends in these categories of trade linked with the growth in externally-sourced capital formation (i.e. FDI) and with the outsourcing phenomenon. Intermediate goods accounted for 60 % of the growth in the top 20 as a group compared with a share of just 54 % for overall non-fuel exports. Capital goods displayed an even higher degree of dynamism, with a share of the top 20 which is almost double their contribution to overall non-fuel exports. By contrast, the consumption goods category is poorly represented, with just 12 % of the growth rate of the top 20 attributable to this particular type of goods.

The skill intensity breakdown (Table 5) shows the clear upskilling which is taking place in world trading patterns, with all of the top 12 products belonging to the high-tech or medium-high-tech sectors. This dominance is reflected in the overall weightings for the top 20 group as a whole which shows that high-tech plus medium-high-tech accounted for 86 % of the growth rate of the top 20 (compared with just 55 % for total non-fuel exports). Medium-low-tech and low-tech accounted for 5 % and 9 % respectively compared with 19 % and 26 % for total non-fuel exports. Given the skewed nature of the skill intensity breakdown, it is not surprising to find that research-intensive goods totally dominate the top 20 rankings, with both difficult-to-imitate and easy-to-imitate research goods accounting for 13 of the top 20 product groupings. Two capital-intensive industry groupings (cars and parts and accessories for cars) make it into the top 20, with five labour-intensive industries (furniture, paper and paperboard, clothing, base metal manufactures and plastics) included in the bottom half of the table.

#### 2.3.1. How has the EU been performing in the top 20 product groupings?

Table 6 gives the export and import market shares for the EU-15 for all of the 20 products as well as the actual trade balance. On the export side, it shows that the EU is highly specialised in a few key industries, with export market shares far in excess of the EU’s overall world export market share. Six industries are particularly important, with three having shares well in excess of 20 % of the world total (measuring equipment, aircraft and specialised equipment) and three in excess of 30 % (pharmaceuticals, chemicals and engines and motors). The EU has the opposite problem in three ICT industries, namely semiconductors, computers, and parts and accessories for computers, as well as in clothing. While a low world market share in

clothing is what one would expect for a developed group of countries such as the EU, the extremely low shares for the ICT-related industries is very disturbing, with shares for each of the three industries of only 7½–8½ % compared with the 15–16 % overall market share held by the EU for all export industries. When one allows for imports, one sees that the most important EU industries from a trade balance perspective are passenger cars (annual average surplus of EUR 24 billion from exports averaging EUR 50 billion over the 1998–2003 period); pharmaceuticals (surplus EUR 19.5 billion); specialised equipment (surplus EUR 12.3 billion); chemicals (surplus EUR 9.2 billion); and parts and accessories for motor vehicles (surplus EUR 8.8 billion).

### **2.3.2. How does the EU compare with other areas of the world in terms of export market shares for the 20 products?**

Table 7 gives the top three countries/country groupings for the 20 product groupings ranked by their average export market shares over the period 1992–2003. While the additional informational content for the EU is relatively small given the overlap with Table 6, it nevertheless puts the EU's performance into context at the world level. Given its size, it is not surprising to find that the EU is in the top three rankings for 17 of the 20 product groupings, the exception again being the three ICT-related industries. What is more interesting is that the EU is number one in the world in nine of the 20 groupings (extra-EU markets). By comparison, the USA is number one in just three categories (parts and accessories for motor vehicles; aircraft and measuring equipment). Japan is also number one in three areas (passenger cars, electrical machinery and piston engines). The top spot in the remaining five areas all go to south-east Asia (semiconductors, telecommunications equipment, computers, parts and accessories for computers, and clothing).

In order to give a more dynamic perspective to the picture presented in Tables 6 and 7, Graph 6 gives an overview of the top six world product groupings and of the respective market shares of the EU, USA, Japan, south-east Asia and China. Some of the key conclusions from Graph 6 include the following.

- Firstly, the extraordinary degree of specialisation which has emerged across the world with some particular countries/country groupings having extremely large market shares in some product areas whilst being virtually non-existent in others. This is particularly striking in the case of the pharmaceuti-

cals industry where the EU has maintained a market share of 30–35 % over the period, whilst none of its competitors have world market shares in excess of 10 % — in fact most of them have less than 5 %. Other product areas also provide some striking examples of the law of comparative advantage at work at the world level, with clusters of activity developing in particular geographical areas due to the existence of sources of 'deep' comparative advantage linked to a wide range of national and industry-specific characteristics.

- Secondly, looking at the six industries as a whole, the EU's market share is, in general, remarkably stable, although again its weaknesses in the ICT-related areas are explicitly exposed. Its overall performance is, however, very respectable when compared with the USA and Japan, both of which have seen declines in their market shares in virtually all of the six industries.
- Thirdly, the challenge posed by China and the south-east Asia region is very clearly shown in the graphs. Both areas are showing large gains in market shares, with south-east Asia exceptionally dominant in the ICT goods sector, with shares in excess of 40 % in semiconductors (EU = less than 10 %); telecommunications and computers (> 25 %); and computer parts (> 30 %). China's rise to prominence is reflected in having shares of the global telecommunications, computer and computer parts markets which are double, and in some cases triple, their overall world market share of 6 %.
- Finally, given the speed with which south-east Asia and China have come to dominate the production of these new ICT-related products, serious consideration must be given to the possibility of their progressive movement into other medium-high-tech areas such as cars and pharmaceuticals, the only two of the top six industries where they are remarkably small players. However, at this particular time, this threat should not be overly dramatised given that there is little evidence of a serious challenge from China in either of these two areas (e.g. China's car industry is not even visible in Graph 6) and south-east Asia still only has a market share of 5 % in cars and less than 2 % in pharmaceuticals. While China and south-east Asia are still small players in these industries, complacency would nevertheless be a seriously unwise strategy for Europe given the vital importance of these two specific industries to the EU's economy.

Table 9

Analysis of 266 external trade product groupings: 20 largest contributors to world (1) non-fuel export growth, 1994–2003 (2)

Rank	Product group	Breakdown by final use, skill and factor intensity					1994–2003	
		Final use	Skill intensity	Factor intensity	Non-fuel export growth rate	Share in non-fuel world exports	Contribution to non-fuel export growth	
1	Semiconductors	Intermediate	High-tech	Research (DIRG)	13.6	4.4	7.8	
2	Passenger cars	Consumption	Medium-high-tech	Capital	8.4	5.6	6.0	
3	Telecommunications equipment	Intermediate + capital	High-tech	Research (EIRG)	12.5	3.3	5.4	
4	Computers	Capital	High-tech	Research (EIRG)	10.0	3.3	4.3	
5	Parts and accessories for computers	Intermediate	High-tech	Research (EIRG)	10.8	2.5	3.5	
6	Pharmaceuticals	Intermediate + consumption	Medium-high-tech	Research (EIRG)	17.6	1.5	3.4	
7	Parts and accessories for motor vehicles	Intermediate	Medium-high-tech	Capital	7.7	2.6	2.6	
8	Electrical circuits	Intermediate	Medium-high-tech/high-tech	Research (DIRG)	10.0	1.5	2.0	
9	Electrical machinery	Intermediate + consumption + capital	Medium-high-tech/high-tech	Research (DIRG)	8.9	1.7	1.9	
10	Aircraft	Intermediate + consumption + capital	High-tech	Research (DIRG)	6.6	1.9	1.7	
11	Measuring equipment	Intermediate + capital	High-tech	Research (DIRG)	8.5	1.2	1.4	
12	Chemicals	Intermediate	Medium-high-tech	Research (EIRG)	12.9	0.8	1.3	
13	Furniture	Intermediate + consumption + capital	Low-tech	Labour	9.3	1.1	1.3	
14	Piston engines	Intermediate + consumption + capital	Medium-high-tech	Research (DIRG)	8.1	1.2	1.3	
15	Paper and paperboard	Intermediate	Low-tech	Labour	6.9	1.3	1.2	
16	Specialised equipment	Intermediate + capital	Medium-high-tech	Research (DIRG)	7.3	1.2	1.1	
17	Clothing	Consumption	Low-tech	Labour	7.9	1.1	1.1	
18	Base metal manufactures	Intermediate + consumption + capital	Medium-low-tech	Labour	8.8	1.0	1.1	
19	Plastics	Intermediate + consumption	Medium-low-tech	Labour	8.7	1.0	1.1	
20	Engines and motors	Intermediate	High-tech/medium-high-tech	Research (DIRG)	10.0	0.8	1.0	
	Total of top 20	Intermediate (60 %) Consumption (12 %) Capital (28 %)	High-tech (46 %) Medium-high-tech (40 %) Medium-low-tech (5 %) Low-tech (9 %)		9.6	39.1	50.4	
	Total world non-fuel exports	Intermediate (57 %) Consumption (21 %) Capital (19 %)	High-tech (21 %) Medium-high-tech (36 %) Medium-low-tech (18 %) Low-tech (22 %)		7.7	100	100	

(1) Excluding intra-EU-15 trade.

(2) Given the poor availability of data for China in the early years of their participation in the UN system, 1994–2003 data were used to establish the ranking of the top 20 contributors.

Sources: UN Comtrade, Commission services.

Table 10

EU-15 trade in top 20 contributors to world <sup>(1)</sup> non-fuel export growth, 1992–2003

World rank	Product group	1992–97 period averages			1998–2003 period averages		
		% share of world <sup>(1)</sup> exports of product	% share of world <sup>(1)</sup> imports of product	Trade balance in billion EUR (% of GDP)	% share of world <sup>(1)</sup> exports of product	% share of world <sup>(1)</sup> imports of product	Trade balance in billion EUR (% of GDP)
1	Semiconductors	8.0	13.0	– 6.3(– 0.09)	8.2	11.1	– 8.8(– 0.10)
2	Passenger cars	15.5	8.1	14.0 (0.21)	16.2	9.1	23.5 (0.27)
3	Telecommunications equipment	16.5	15.2	2.7 (0.04)	16.5	14.3	5.0 (0.06)
4	Computers	7.1	22.9	– 16.3(– 0.25)	7.5	19.9	– 25.9(– 0.30)
5	Parts and accessories for computers	8.5	21.4	– 8.2(– 0.12)	8.5	19.9	– 15.1(– 0.18)
6	Pharmaceuticals	33.0	11.1	7.6 (0.12)	32.7	11.7	19.5 (0.22)
7	Parts and accessories for motor vehicles	14.0	6.1	7.3 (0.11)	14.1	8.0	8.8 (0.10)
8	Electrical circuits	17.9	12.5	2.7 (0.04)	17.1	13.0	3.6 (0.04)
9	Electrical machinery	13.4	17.7	– 2.0(– 0.03)	12.8	17.3	– 4.6(– 0.05)
10	Aircraft	26.0	21.1	5.2 (0.08)	25.6	27.1	3.9 (0.05)
11	Measuring equipment	22.1	19.0	1.1 (0.02)	21.9	18.0	2.3 (0.03)
12	Chemicals	27.2	17.2	1.6 (0.02)	34.7	13.6	9.2 (0.10)
13	Furniture	17.1	13.6	1.4 (0.02)	15.7	17.1	– 1.4(– 0.01)
14	Piston engines	14.5	10.7	1.8 (0.03)	15.0	14.2	0.4 (0.0)
15	Paper and paperboard	16.1	7.2	4.2 (0.06)	17.4	7.4	6.9 (0.08)
16	Specialised equipment	30.7	7.9	9.8 (0.15)	28.3	9.0	12.3 (0.14)
17	Clothing	9.8	24.5	– 6.0(– 0.09)	8.8	25.6	– 12.3(– 0.14)
18	Base metal manufactures	16.0	10.8	1.8 (0.03)	16.6	12.2	2.3 (0.03)
19	Plastics	13.1	11.3	0.7 (0.01)	13.3	11.8	0.7 (0.01)
20	Engines and motors (714)	34.9	35.2	0.2 (0.0)	34.9	37.1	0.4 (0.0)
	Total of top 20	15.8	14.2	23.3 (0.35)	16.1	14.6	31.0 (0.35)
	Total non-fuel trade	16.0	14.4	59.5 (0.89)	15.9	14.8	46.7 (0.53)

<sup>(1)</sup> Excluding intra-EU-15 trade.

Sources: UN Comtrade, Commission services.

### 2.3.3. What are the RCAs for the 20 products for the different countries/country groupings?

Since, as explained earlier, it is perhaps unwise to base measures of revealed comparative advantage (RCAs) solely on the export performance of the different countries/country groupings, RCAs based on the trade balances of the 20 products are given in Table 8. For the aggregate top 20 grouping, the EU, US and Japan hold strong comparative advantages in this grouping of products which is not surprising given the dominance of medium and high-technology goods in the aggregate as a whole. The EU-10 and south-east Asia regions are in broad structural balance for the overall 20 products, whereas the EU neighbours and Americas groupings, as well as China, have structural deficits.

In the specific case of the EU, it has structural deficits in only five of the 20 products, three of them ICT-related industries, plus electrical machinery and clothing. Out-

side these product groupings, the EU displays a wide range of comparative advantages, with a particular focus on cars, parts and accessories for motor vehicles, pharmaceuticals, specialised equipment and, to a lesser extent, telecommunications, aircraft, chemicals, and paper and paperboard. While these specialisations reflect the average over the 1992–2003 period, Graph 7 shows that we have either improved or broadly maintained our position in many of these areas over the last 10–12 years.

For the EU-10, it too has a strong comparative advantage in cars but is also very focused on low-technology sectors such as furniture and clothing. The EU neighbours grouping shows very few specialisations in the top 20 product areas, with a small comparative advantage in clothing and chemicals but disadvantages in the remaining 18 areas. The US has, to a considerable extent, focused its resources on semiconductors, aircraft, measuring equipment and parts and accessories for motor vehicles. Although the US specialises in

Table 11

Top three countries/country groupings in each product grouping, 1992–2003

World rank	Product group	World <sup>(1)</sup> export market share, 1992–2003		
		First	Second	Third
1	Semiconductors	South-east Asia (excluding China)	USA	Japan
2	Passenger cars	Japan	EU-15	Americas (excluding USA)
3	Telecommunications equipment	South-east Asia (excluding China)	EU-15	USA
4	Computers	South-east Asia (excluding China)	USA	Japan
5	Parts and accessories for computers	South-east Asia (excluding China)	USA	Japan
6	Pharmaceuticals	EU-15	USA	EU neighbours
7	Parts and accessories for motor vehicles	USA	EU-15	Japan
8	Electrical circuits	EU-15	Japan	South-east Asia (excluding China)
9	Electrical machinery	Japan	EU-15	USA
10	Aircraft	USA	EU-15	Americas (excluding USA)
11	Measuring equipment	USA	EU-15	Japan
12	Chemicals	EU-15	USA	EU neighbours
13	Furniture	EU-15	Americas (excluding USA)	South-east Asia (excluding China)
14	Piston engines	Japan	USA	EU-15
15	Paper and paperboard	EU-15	Americas (excluding USA)	USA
16	Specialised equipment	EU-15	Japan	USA
17	Clothing	South-east Asia (excluding China)	China	EU-15
18	Base metal manufactures	EU-15	USA	Americas (excluding USA)
19	Plastics	EU-15	South-east Asia (excluding China)	USA
20	Engines and motors	EU-15	USA	Americas (excluding USA)
	Top 20	EU-15	USA	South-east Asia (excluding China)
	Total non-fuel exports	EU-15	South-east Asia (excluding China)	USA
	Total exports	EU-15	South-east Asia (excluding China)	USA

<sup>(1)</sup> Excluding intra-EU-15 trade.

Sources: UN Comtrade, Commission services.

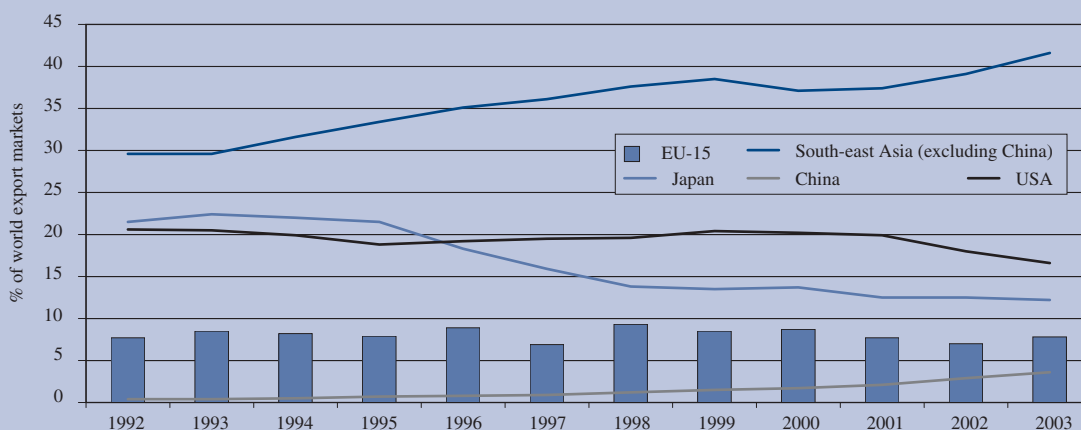
motor vehicle parts, it has a large comparative disadvantage in the assembly of motor vehicles, with the exact opposite pattern emerging for the car industry in the Americas, with the latter group of countries displaying structural trade deficits in car parts and trade surpluses in cars. These trends are clearly interlinked with strong car-related FDI investments by US multinationals in Mexico and Brazil undoubtedly playing a large role.

Japan shows very strong specialisation patterns, with significant resources being directed towards a range of medium–high-technology and skill-intensive sectors such as cars, semiconductors, electrical machinery, telecommunications and specialised machinery. Its areas of disadvantage include aircraft, pharmaceuticals and a range of low-tech areas such as furniture and clothing. While China has an overall structural deficit for the 20 products as a whole, there are sharp differences in the

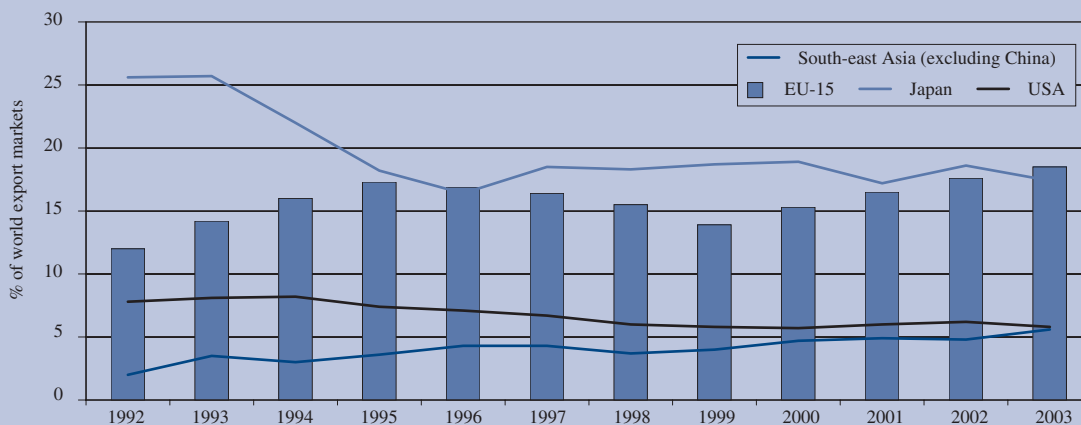


Graph 6: Trade in the top six product groups in non-fuel, world (1) export growth

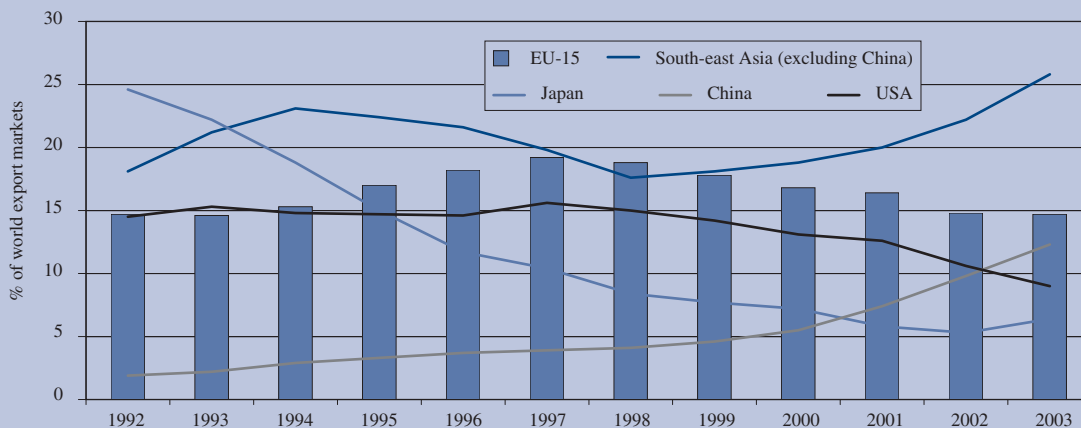
Semiconductors



Passenger cars

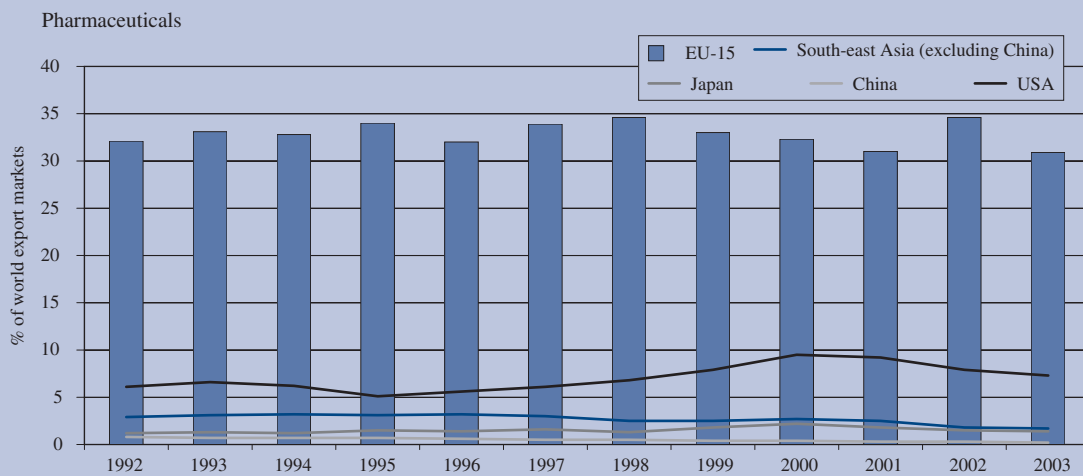
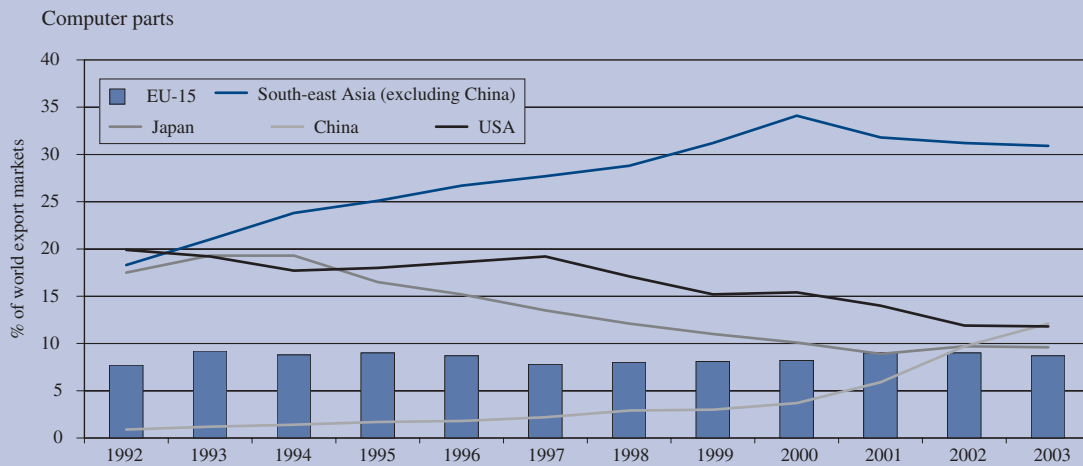
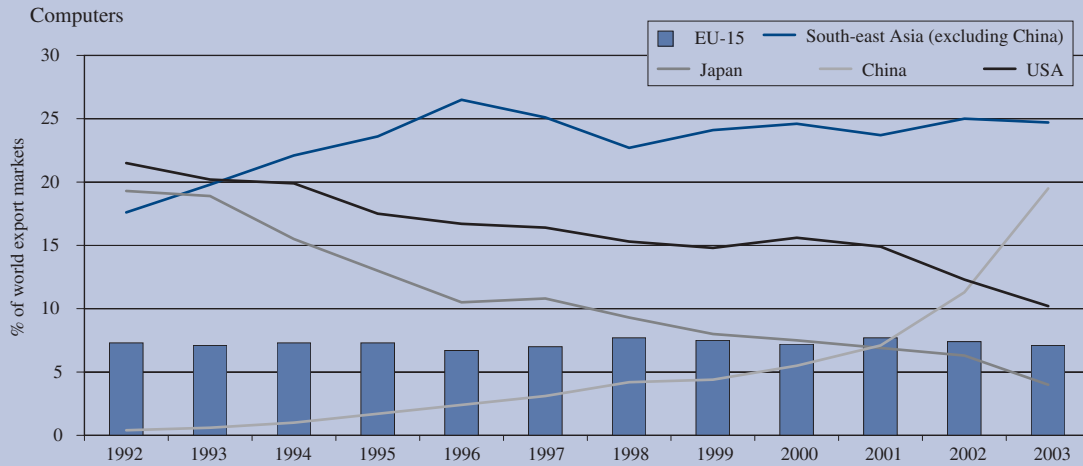


Telecommunications



(Continued on the next page)

Graph 6 (continued)



(<sup>1</sup>) Excluding intra-EU-15 trade.  
Source: UN Comtrade.

performances of its individual industries. For example, China has a strong comparative advantage in computers, but this is more than offset by negative RCAs for semi-conductors and, to a lesser extent, for computer parts and components. This data further confirms China as essentially an assembly point for the mainly labour-intensive stages of the global computer industry. China also has large structural trade deficits in aircraft and specialised equipment. Against this though, it is strong in a range of low-technology sectors such as furniture and especially clothing. Finally, the south-east Asia (excluding China) region has a similar pattern of specialisation to that of China, with computers being the single most important positive for the region as a whole.

#### 2.4. A strong export performance of the EU in upmarket products

A recent CEPII report, commissioned by the Directorate-General for Trade <sup>(1)</sup>, on the situation and prospects for

EU industry in the evolving international division of labour shows that, if the EU industry's position on world markets is still good, it is due to its strong export performance in upmarket products. Upmarket products now account for about half of European exports and a third of world demand.

This holds true not only for consumer goods, but for the whole range of EU specialisation including intermediary goods, machines and transport equipment. It actually reflects a new form of 'vertical', qualitative, intra-sectoral international division of labour according to the level of product range, which is different from the classical 'horizontal' intersectoral specialisation. While the EU globally seems to have lost its comparative advantages on basic consumer goods, the CEPII analysis confirms that this is the case for low and medium-range products, but not for top-of-the-range ones, where the EU has maintained a very strong global position. This contrasts markedly with the situation of the USA, which experiences a deficit across all ranges.

<sup>(1)</sup> CEPII (2004), *European industry's place in the international division of labour: situation and prospects*.

Globally, the EU is in second place in the world just behind Japan but ahead of the USA. Upmarket products

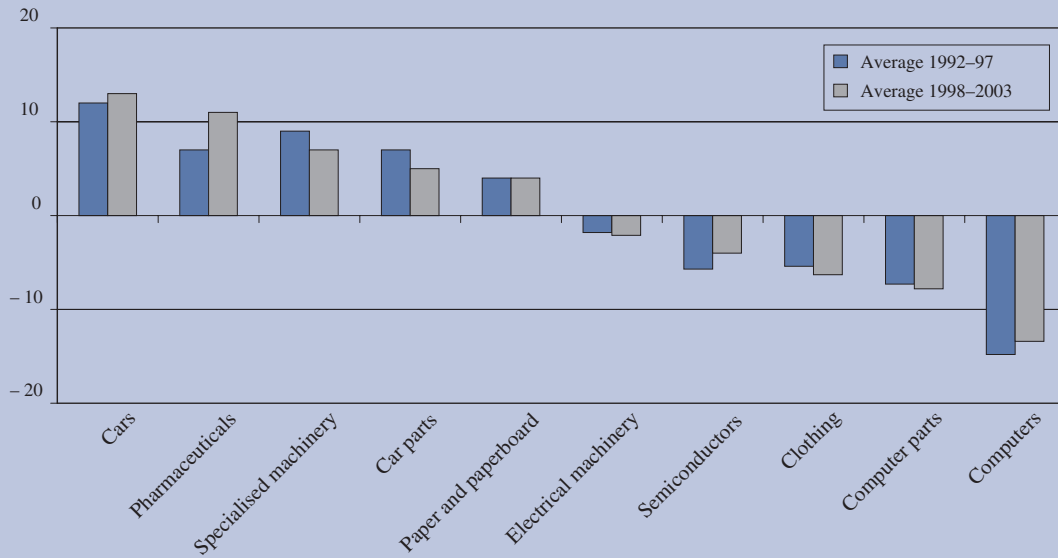
Table 12

#### RCAs for the top 20 product groupings

	EU-15	EU-10	EU neighbours	USA	Americas	Japan	China	South-east Asia
Semiconductors	-4.8	-3.1	-2.1	11.5	-10.7	18.8	-24.6	-2.2
Passenger cars	12.8	7.4	-18.6	-29.1	17.9	50.8	-4.0	-0.1
Telecommunications equipment	2.9	-4.0	-5.5	2.0	-4.0	9.0	-5.0	1.8
Computers	-14.1	-3.3	-6.7	-3.5	-5.6	1.4	10.3	13.3
Parts and accessories for computers	-7.5	-2.2	-3.0	1.6	-0.8	8.0	-0.3	5.7
Pharmaceuticals	8.9	-4.8	-2.2	-0.1	-3.8	-2.5	-0.4	-1.6
Parts and accessories for motor vehicles	5.9	-0.3	-4.5	7.0	-12.7	16.8	-2.8	-2.5
Electrical circuits	2.4	-1.5	-2.2	1.9	-5.1	8.8	-4.0	-2.6
Electrical machinery	-1.9	2.1	-2.3	1.3	-3.5	11.5	0.5	-2.1
Aircraft	3.8	-0.6	-6.1	23.9	1.3	-4.4	-8.3	-5.2
Measuring equipment	1.3	-2.9	-0.7	7.4	-4.4	2.6	-5.3	-4.0
Chemicals	3.3	0.4	1.2	-2.1	-3.4	-1.3	0.3	-0.6
Furniture	0.4	13.7	-2.8	-4.0	2.1	-4.2	7.2	1.4
Piston engines	1.1	2.8	-1.9	1.3	-4.0	11.7	-2.1	-2.2
Paper and paperboard	3.9	-1.8	-2.9	-0.7	5.2	-0.4	-6.7	-1.5
Specialised equipment	7.9	-4.2	-2.4	3.4	-4.6	8.9	-18.5	-5.8
Clothing	-5.9	2.9	2.5	-6.3	0.2	-8.2	20.7	4.3
Base metal manufactures	1.5	2.3	-1.7	0.9	-4.0	0.3	3.1	-1.4
Plastics	0.6	-1.5	-1.6	0.6	-3.5	-1.3	6.3	0.3
Engines and motors	0.5	0.1	-0.8	4.9	-0.5	-1.6	-0.7	-1.4
Total of top 20	22.9	1.4	-64.5	21.8	-43.9	124.7	-34.4	-6.1

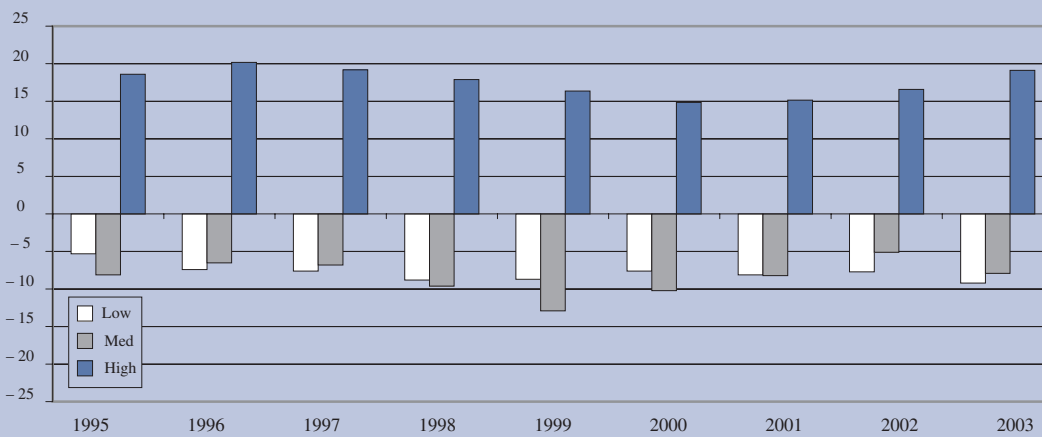
Sources: UN Comtrade, Commission services.

Graph 7: EU-15 RCAs for specific product groupings



Sources: UN Comtrade, Commission services.

Graph 8: EU-15 market position for consumer goods by range <sup>(1)</sup> (as % of world market)



<sup>(1)</sup> The analysis of market positions compares the imports and the exports of an economy at a specific production stage. This approach is suited to a situation in which the widespread fragmentation of international value-added chains is constantly increasing imports (components, semi-finished products, etc.) in order to defend export market share: a country which maintains its share of export markets through a strategy of large-scale delocalisation of its supply of inputs could see its market position in the sector concerned worsen. This approach also enables an exporter's power in a given sector or branch of the world market to be measured.

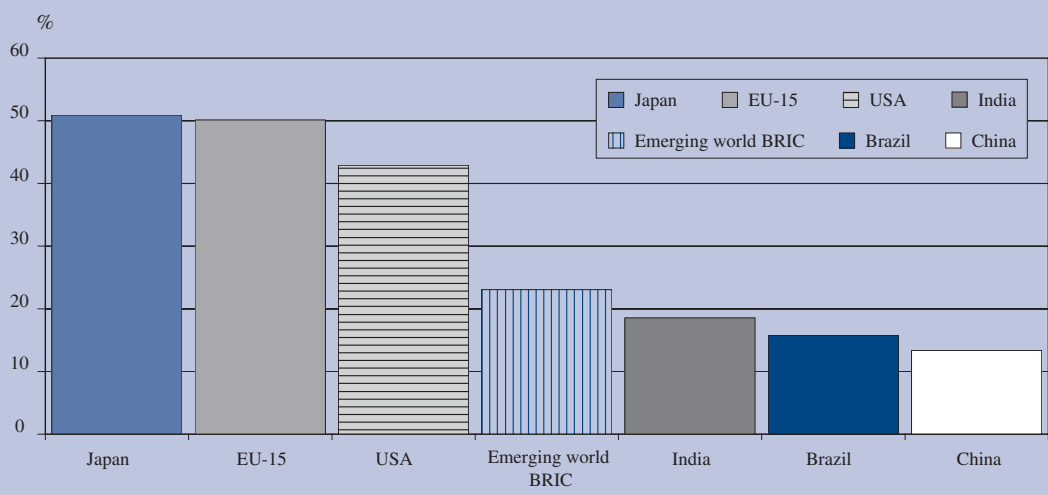
Source: Trade DG.

account for 52 % of Japanese exports and 48 % of European exports, but for only 41 % of US exports. In contrast, they still account for less than 15 % of Chinese exports.

This shows the EU capacity not only to produce but also to sell expensive upmarket products, which can be sold

at a higher price than those of its competitors due to a set of non-price factors such as innovative feature, quality, reputation, continuity over time or related services. However, consolidating the EU's position in upmarket products requires a continuous upgrade of the level of qualification of its workforce and improvement of its innovative performance.

**Graph 9: Proportion of exports accounted for by upmarket products (%)**



Source: Trade DG.

### 3. Growth of intermediate trade, global production structures and the phenomenon of goods and services outsourcing

Trade in intermediate products is a key feature of economic globalisation. It constitutes a specific form of the international division of labour which is quickly substituting for more traditional forms of internationalisation which are based on importing raw materials and exporting finished goods. The globalisation of markets allied with technological progress has enabled the decomposition of the production process of a given product into multiple, successive, upstream–downstream stages, regularly spread across a number of different countries. Upstream intermediate goods which are often highly standardised (due to the importance of reaping economies of scale) are produced on a massive scale by an ever decreasing group of highly specialised producers. These standardised parts and components are then fed into the downstream stages of the production process and assembled in various ways to produce final products which are differentiated by quality or variety in order to meet the demands of specific consumers/markets. This internationalisation of the production process at the regional/global levels is generating rising levels of intra-industry and intra-firm trade, with a country's exports of a given industry increasingly dependent on imports of intermediate goods which are either produced by the same industry or by a subsidiary of the same multinational.

This section will look at this phenomenon by firstly providing an overview of world trade in intermediate goods; secondly by examining in detail the specific example of China and its similarities with the EU-10 grouping; and finally by giving an overview of services outsourcing. For the purpose of the present analysis, the world is split into the following 10 countries/country groupings: namely the EU-15, EU-10, USA, Japan, China, India,

EU neighbours<sup>(1)</sup>, Americas (excluding USA)<sup>(2)</sup>, south-east Asia (excluding China)<sup>(3)</sup> and the rest of the world<sup>(4)</sup>.

#### 3.1. Overview of trade by stage of production at the world level

Recent decades have witnessed an increasing trend towards the reorganisation of the value-added chain of companies in the direction of worldwide structures. This increasing international division of production processes has been especially evident in many segments of the ICT and automobile industries and, as mentioned earlier, has been a key driver of recent trade integration at the global level. While an analysis of trade in intermediate products is a widely used approach for measuring the scale and nature of this production 'outsourcing'<sup>(5)</sup>, there are a number of methods to choose from in carrying out such an analysis. For example, business surveys and input–output tables can be used to measure trade in intermediate goods but both approaches have limitations mainly in terms of cross-country comparability and irregular updating. In the case of input–output tables, this latter issue is particularly problematic since such updates often

<sup>(1)</sup> Includes north Africa, the Middle East, non-EU central and eastern Europe, Turkey, countries of the former USSR, Switzerland, Norway and Iceland.

<sup>(2)</sup> All of North and South America and the Caribbean (excluding the USA).

<sup>(3)</sup> All of south-east Asia (excluding China) plus Australia and New Zealand.

<sup>(4)</sup> All other countries not elsewhere specified.

<sup>(5)</sup> The term 'outsourcing' is used here to encompass the phenomenon of external outsourcing (i.e. contracting out of a range of economic activities to external suppliers) and also the notion of 'off-shoring' where firms locate parts of their activities abroad by setting up subsidiaries. For a more thorough analysis of 'relocalisation' see Chapter 4 in this part of the report.

occur only at intervals of several years. A third approach, and the one used for the present study, is to measure the importance of the international division of production processes by focusing on the final use of the products produced. This can be done by using the UN's broad economic categories classification (BEC).

The BEC classifies products from the standard international trade classification (SITC) firstly on the basis of their nature (i.e. whether they are primary or processed products) and secondly according to their final use (i.e. whether they are intermediate, consumer or capital goods). In addition to classifying each product by stage of production (i.e. intermediate or final) the BEC has the additional advantage of classifying the products by industry. The BEC in fact was specifically designed to convert external trade data into 'end-use' categories which are meaningful in national accounts terms <sup>(1)</sup>. In this way, the BEC can provide a good overview of how imported goods are used within a particular economy i.e. whether they are used mainly for capital formation (capital goods); for industrial production (intermediate goods) or for final consumption purposes (consumption goods). Consequently, the BEC classification is an important tool to be exploited in any analysis of outsourcing. It is particularly useful when assessing the extent to which a specific country's apparent specialisation in the final goods part of a specific industry (e.g. computers) is founded on earlier imports of intermediate inputs from the same industry (e.g. semi-conductors). While BEC data is available from 1988 for a large number of countries around the world, the time period used for the present analysis is 1992–2003 since 1992 marked the first year that China entered the system.

Table 9 below, based on the BEC classification, provides a breakdown of world imports by stage of production, with the data indicating that intermediate goods and capital goods are both taking an increasing share of world imports at the expense of consumption goods and the residual/unclassified grouping. While part of the increase in capital goods trade reflects the strong investment needs of emerging economies, part of it also reflects FDI flows. In this sense, FDI and outsourcing are inextricably linked, with parallel increases in capital goods and intermediate goods likely to be a feature of the coming decades if present FDI trends persist.

Given the extent of the internationalisation of production structures over recent years, as reflected in rapidly rising FDI flows at the global level, it is perhaps a little surprising that the overall share for intermediates has not

<sup>(1)</sup> The BEC breakdown by final use is in fact broadly equivalent to the three basic classes of goods used in national accounts (SNA) namely intermediate, capital and consumer goods. The BEC classification therefore makes a valuable link between the external trade data and the 'end-use' categories of goods which are commonly used in compiling national accounts statistics.

Table 13

**Breakdown of world imports by stage of production**

	Breakdown of imports	
	1992	2003
Intermediate goods	52.9	54.1
Consumption goods	19.9	19.4
Capital goods	14.9	16.6
Rest of trade/unclassified	12.3	9.9
Total	100	100

Sources: UN Comtrade, Commission services.

increased by more. While this is true, the changes at the global level are far from uniform, with the small increase at the overall world level masking very different trends for specific countries/country groupings. For example, the Triad group (i.e. the EU, USA and Japan) have all experienced significant declines in their shares of intermediate imports over the last 10 years, with Japan the most affected with a decline of over four percentage points.

This downward movement for the Triad has been compensated by large increases in the neighbouring regions of the Triad, with the hinterland of Japan gaining the most but this is also a feature of the EU-15/EU-10 relationship and to a lesser extent for the USA and the Americas.

These trends show international production sharing is now very much a global phenomenon, with Graph 10 indicating that China is a particularly important part of this process, as reflected in the spectacular rise in its share of intermediates from 57.7 % of total imports in 1992 to 71.9 % in 2003. This trend is also marked in the case of the EU-10 grouping (an increase from 56 % to 59 %) and in the south-east Asia region (61–64 %).

In addition, one should stress that the intermediate goods category is large and includes a wide variety of goods ranging from basic commodities from the primary sectors of the economy to the sophisticated components being used in leading edge industrial products. Consequently, it is important to distinguish clearly between these different types of intermediate goods in order to get a clearer picture of what is happening in terms of outsourcing. This is done in Table 10.

As one can see, there has been a significant compositional shift within the overall intermediate category, away from primary and semi-finished goods towards parts and components. This growth in the imports of parts and components is being driven by a number of key industries such as ICT and cars, with specific SITC product groupings such as semiconductors, parts and accessories for comput-

Graph 10: Imports of intermediate goods as a share of total imports



NB: World excluding intra-EU-15 trade.  
Sources: UN Comtrade, Commission services.

ers, parts and accessories for motor vehicles and electrical circuits amongst the top 10 key drivers of worldwide trade since the early 1990s (see Section 2).

### 3.2. China's role in the international production chain — Are there similarities with the EU-10 Member States?

An analysis of trade by stages of production can be used to underline the comparative advantages of the different countries/country groupings in the international division of labour. The previous section has established that, whilst

Table 14

#### Further breakdown of world imports of intermediate goods

	Breakdown of imports	
	1992	2003
Primary goods	20.2	19.5
Parts and components	28.1	34.1
Semi-finished goods	51.7	46.4
<b>Total intermediate goods</b>	<b>100</b>	<b>100</b>

Source: UN Comtrade, Commission services.



the overall shift in trade patterns towards intermediates has been relatively small at the global level, it has been much more marked in particular geographical areas such as China and the EU-10 countries (to a lesser extent) and in particular types of intermediates (such as parts and components) and industries (ICT and cars). The present section will deepen this analysis by looking at the specific example of China and of its respective comparative advantages in the different stages of production of traded goods. This analysis is intended to highlight the role which China plays in the splitting of the international value-added chain and of the role which FDI has played in enabling such a process of vertical specialisation. To emphasise the strong regional element to this process as well as the clear complementarities between developed and developing economies, parallels are also drawn between the experience of China and that of the EU-10 group of countries.

Table 11 below gives a breakdown of Chinese exports and imports by stage of production. On the imports side, it shows a sharp increase in the share of intermediate goods in total imports, with this increase being mainly driven by a more than doubling in the import share of parts and components. This increase is clearly linked with the dramatic growth in FDI flows into China over recent years as foreign firms invested heavily to avail of the large supplies of relatively cheap labour. These FDI flows are rapidly changing the structure of Chinese trade, away from a model based on the importation of raw materials and the exportation of final goods to one based on specialisa-

tion in different stages of the production of specific product groupings.

Table 11 indicates China's role in the international division of labour. China's comparative advantage lies in the downstream stages of production (i.e. final goods), with the upstream stages (i.e. intermediate goods) displaying large structural deficits. With China's position changing in this way from comparative advantage to disadvantage depending on the stage of production, vertical specialisation is clearly a hallmark of the Chinese development model. Within the international division of labour, China specialises in the processing and assembly of a wide range of intermediate goods, most notably parts and components and semi-finished goods but also more recently a range of basic materials. The large structural deficits in all areas of intermediate trade and surpluses in both categories of final goods, that is, consumption and capital goods, suggests China is essentially an assembly country, a position which is similar to a large number of other low-wage south-east Asian economies.

While the overall nature of China's role in the internationalisation of production structures is relatively clear from Table 11, what is less clear is the bilateral dimension. Graphs 11a to 11c give a breakdown of Chinese trade by main trading partners as well as by stage of production. The graphs make a number of important points:

- Firstly, while China has deficits in its trade in intermediate goods with all areas of the world, in terms of

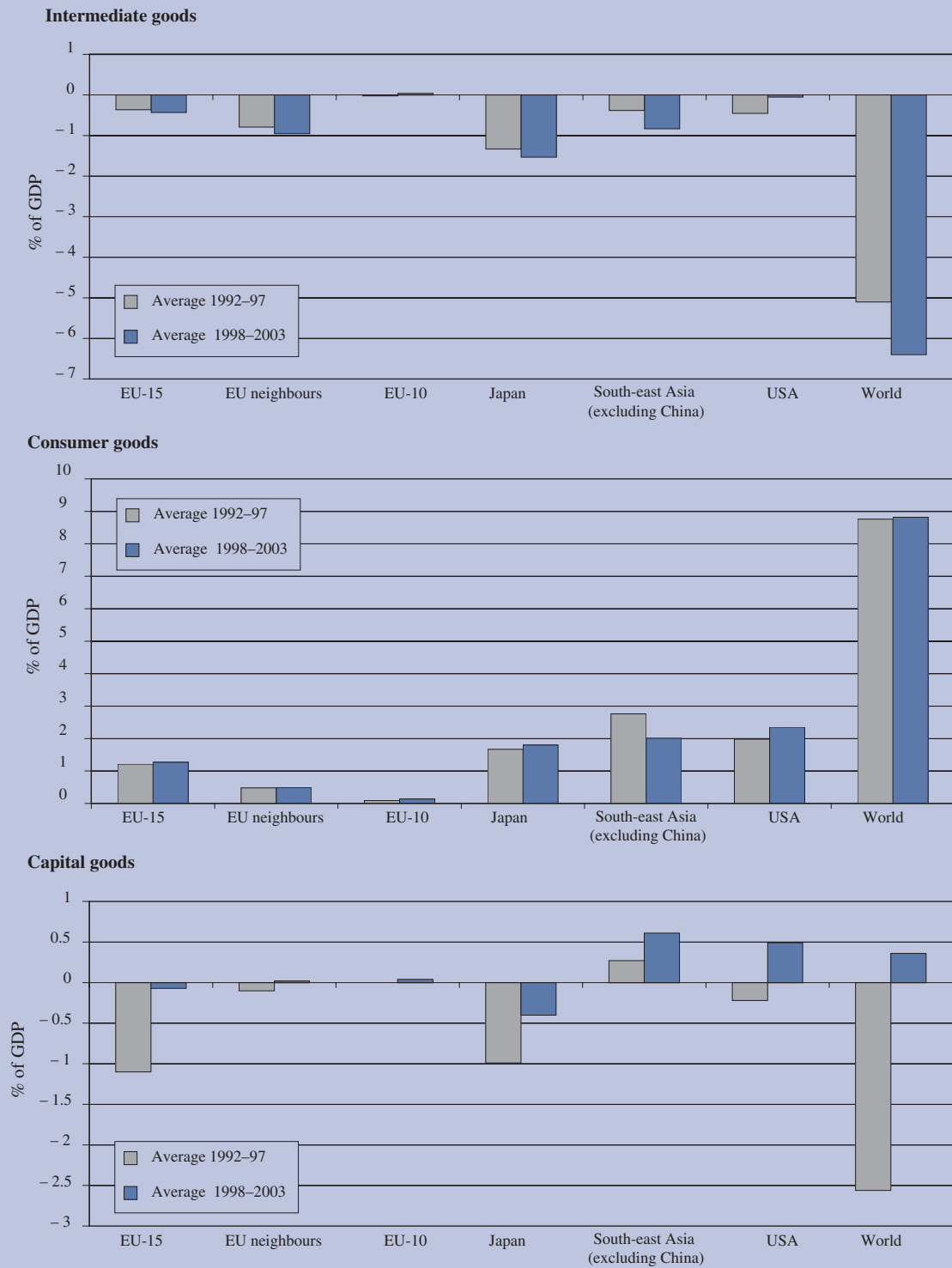
Table 15

### Chinese trade pattern and comparative advantage by stage of production

	% breakdown of imports <sup>(1)</sup>		% breakdown of exports <sup>(1)</sup>		Actual trade balance (% of GDP)	
	1992	2003	1992	2003	1992	2003
Intermediate goods	57.7	71.9	29.5	38.1	- 5.1	- 8.0
(Primary goods)	(8.1)	(11.8)	(7.6)	(2.6)	(0.1)	(- 2.3)
(Parts and components)	(11.3)	(28.3)	(3.1)	(15.9)	(- 1.8)	(- 2.9)
(Semi-finished goods)	(38.7)	(31.9)	(18.3)	(19.6)	(- 4.0)	(- 2.8)
Final goods	23.9	25.3	46.5	60.8	4.9	10.0
(Consumption)	(3.6)	(3.5)	(40.1)	(36.6)	(7.5)	(9.0)
(Capital)	(20.2)	(21.8)	(6.4)	(24.2)	(- 2.6)	(1.0)
Total	100	100	100	100	1.0	1.6

<sup>(1)</sup> Individual components do not add up to 100 since 'unclassified' goods are not included in the table. In addition, some of the records for China in 1992 are incomplete, with the result that the sub-totals do not always sum up to the total for that specific year.

Graph 11: China's overall trade by main trading partners (trade balances as % of GDP)



Sources: UN Comtrade, Commission services.

parts and components and semi-finished goods, there is a relatively heavy concentration of such trade with Japan and other south-east Asian countries. This pattern would suggest that production sharing is characterised by a strong regional dimension.

- Secondly, China has trade surpluses in consumer goods with all of its main trading partners but, as with intermediate goods, there is evidence of geographical asymmetries. China has large trade surpluses, of the order of 2 % of GDP, with Japan, south-east Asia and the US, with a surplus of around 1 % with the EU-15 and much smaller surpluses in the case of the EU neighbours and EU-10 regions.
- Thirdly, the recent shift towards structural surpluses in capital goods suggests that China is beginning to move up the value-added chain. Such a move should be of concern to the Triad group since they traditionally have had a comparative advantage in the production of such goods. Graph 11c highlights the challenge for the more developed economies from the upgrading of China's export capacities towards more high-skilled and technology-intensive capital goods. In the case of the EU, the strong surplus in its trade with China in such products has been wiped out over recent years. Japan's surplus has been more than halved and the USA has gone from surplus to deficit over the course of the period as a whole. Regarding the USA, interpreting the factors driving the shift to deficits in such goods is difficult since part of it undoubtedly reflects

China's specialisation in the labour-intensive stages of the production of such goods. This is a feature of a range of US-dominated high-technology product areas, most notably in the ICT sector, with the USA supplying the capital- and skill-intensive parts and components from its south-east Asian production sites as well as the imported technology, and with China doing the final processing and assembling.

- Finally, the analysis for China highlights the gains which can be derived from trade in intermediate goods. This vertical specialisation model has been driven by both strong production complementarities between China and other developed Asian economies and by large amounts of vertical FDI flows sourced from all around the globe. Both these inter-linked trends have resulted in a large shift, over a relatively short period of time, in China's role in the global production chain and in its range of comparative advantages.

### 3.2.1. Are there similarities with the situation applying to the EU-10 countries?

While differences clearly exist between the evolution of China and the EU-10 group of countries since the early 1990s, there are also considerable similarities. As with China, the structure of EU-10 trade by stage of production indicates that intermediate goods are by far the largest component of trade and that their importance is growing over time (Table 12). This suggests that, like China,

Table 16

#### EU-10 trade pattern and comparative advantage by stage of production

	% breakdown of imports <sup>(1)</sup>		% breakdown of exports <sup>(1)</sup>		Actual trade balance (% of GDP)	
	1992	2003	1992	2003	1992	2003
Intermediate goods	56.4	59.0	52.7	54.3	- 2.2	- 5.7
(Primary goods)	(13.6)	(8.2)	(10.1)	(3.2)	(- 1.0)	(- 2.5)
(Parts and components)	(10.4)	(19.5)	(11.3)	(22.9)	(- 0.2)	(0.0)
(Semi-finished goods)	(32.3)	(31.3)	(31.3)	(28.2)	(- 1.1)	(- 3.3)
Final goods	35.9	34.5	40.0	36.5	- 0.3	- 1.4
(Consumption)	(18.4)	(15.9)	(31.5)	(21.0)	(1.7)	(1.0)
(Capital)	(17.5)	(18.6)	(8.5)	(15.5)	(- 2.0)	(- 2.4)
Total	100	100	100	100	- 2.8	- 6.6

<sup>(1)</sup> Individual components do not add up to 100 since 'unclassified' goods are not included in the table.

Sources: UN Comtrade, Commission services.

the EU-10 countries are increasing their degree of participation in the international division of the production process, with the actual trade deficit in intermediate goods as a percent of GDP rising from 2.2 % in 1992 to 5.7 % in 2003. In terms of industrial specialisations, the EU-10 grouping is characterised by comparative advantages in consumption goods and in parts and components, with comparative disadvantages in semi-finished goods, basic materials and capital goods.

Graphs 12a to 12c underline the striking regional dimension of the EU-10's main trading partners. This is much more pronounced compared with the pattern described earlier for China. In all stages of production, the EU-15 or the EU neighbours group dominate the overall trends. This pattern of trade confirms the point made in relation to China that production sharing has a strong geographical dimension, with a similar complementarity in Europe between the EU-10, EU-15 and EU neighbour groupings as already demonstrated between China, south-east Asia and Japan.

Finally, Graphs 12a–12c also point to the growing challenge to the EU-10 countries from China in all stages of production, with the EU-10 grouping registering a deterioration in intermediates, consumption and capital goods over recent years. This growing vulnerability of the EU-10 group to competition from China is not that surprising, given that both their specialisations lie in areas of trade which have similar skill and factor intensities.

This latter point has been discussed in some detail in Section 2 where it is shown that China has strengths in the labour-intensive stages of the production process of a wide range of low-technology sectors and in the labour-intensive stages of the production of ICT-related goods. The EU-10 group is also specialised in the production of low-technology, labour-intensive goods as well as in some capital-intensive, medium-technology industries such as motor vehicles.

### 3.3. Services outsourcing

With the growing tradability of large parts of the service economy, fears have been widely expressed regarding the ongoing viability of a range of labour-intensive services sectors in the developed world. Are these fears well founded, based on an assessment of trends since the early 1990s, and is the EU-15 a net gainer or loser from the 'outsourcing' which has taken place?

Before proceeding to an assessment of the basic data, a number of important distinctions compared with the goods outsourcing analysis need to be pointed out. Firstly, unlike for goods outsourcing, internationally consistent bilateral service flows are not available. Secondly, it is also not possible to break down services trade for the various country groupings (such as EU-15) into their intra- and extra-area components. This is an important distinction since one is primarily interested, given the focus on globalisation, on the EU's performance in extra-EU-15 markets. Finally, the level of detail is substantially less compared with trade in goods, with total services trade only being broken down into 11 broad categories<sup>(1)</sup> compared with the 266 product groupings used in the analysis in Section 2. In addition, while data is available for total service exports (i.e. insourcing) and imports (i.e. outsourcing) for all of the 184 countries, the degree of additional detail varies enormously across countries, with, for example, data for all 11 categories of services only being available for a small sample of the 184 countries surveyed. IMF balance of payments statistics are used for the analysis, with the data taken from the IFS (International Financial Statistics) databank.

#### 3.3.1. Overall trade in services

Graph 13 shows that global trade in services has been growing rapidly over the period 1992–2003, especially since the mid-1990s. In fact, services have been growing at rates similar to that of goods (i.e. an annual average growth rate of around 10 %) and consequently much faster than GDP. As a percent of GDP, services trade rose from 3.8 % of world GDP in 1992 to 5.9 % in 2002 before declining slightly to 5.7 % in 2003. Regarding the three-way breakdown of services trade shown in the graph, while tourism and transportation have both only been growing at rates similar to GDP over this period, the big growth area has been in the 'other services' category, which includes a wide variety of business-related services. The remainder of this section focuses on this very dynamic 'other services' category since it is here that one finds the type of services which are most relevant for the outsourcing debate.

'Other services' category. Many areas of the world, such as the EU-15, EU neighbours, India and south-east Asia

<sup>(1)</sup> Total services trade is broken down into transportation, travel and tourism and other services. 'Other services' is, in turn, broken down into nine sub-components (communications, construction, insurance, financial, computer and information, royalties and licence fees, other business services, personal and cultural, and government).

(excluding China) have seen substantial increases in their exports of 'other services' as a share of GDP over the period 1992–2003. Other areas such as the USA, Americas (excluding US), China and Japan experienced a more modest expansion, with the EU-10 grouping seeing an overall reduction in this category of services exports (although one must be careful in interpreting the data due to problems for a number of the EU-10 countries in the first half of the 1990s). Drawing conclusions on the basis of trends in services exports is not of course appropriate since exports are only one part of the equation. When one also takes into account imports of 'other services', one gets a clearer picture of the winners and losers from this upsurge in services trade. Giving greater prominence to the net position is also appropriate since this measure generally cancels out many of the inconsistencies which can plague the individual series for exports and imports of services.

On the basis of the net balance, Graph 14 shows that the big winners over the period as a whole have been the USA, the EU-15 and India. All other areas of the world have deficits in their 'other services' trade. In terms of the change over the periods 1991–97 versus 1998–2003, it is the EU and India which have clearly benefited the most, especially the latter.

Graph 15 indicates that the second half of the 1990s is when the take-off in services trade occurred, with both services outsourcing and insourcing increasing dramatically over the period to 2001 before stabilising somewhat in 2002–03<sup>(1)</sup>. While the EU's net position has shown a consistent surplus over the period 1992–2003, India has experienced a significant turnaround in its position over the period, transforming a deficit of 0.3 % of GDP in 1992 into a surplus of 1.2 % in 2002.

*Decomposition of 'other services' category:* Given that the 'other services' category is driving overall services trade growth, a further breakdown is important to try to isolate the types of services which are contributing to this overall upward movement. Table 13 gives a breakdown of the shares of all the different types of services in overall services trade for the EU, India and the world as a whole. It confirms the declining shares of transportation and tourism and the rising importance of 'other services'. Within the 'other services' category, it shows, at the global level, that although most sub-categories have increased their share of overall services trade, it is

financial services and computing and information services which have been particularly dynamic. A broadly similar pattern emerges for EU-15, with the global gains in the shares of financial and computer services been replicated at the EU level. One difference, however, is the increasing importance of 'other business services' in the EU, with this category not showing a pronounced shift at the world level.

Regarding India, unfortunately the breakdown of the 'other services' category is only partial, with only four headings available (insurance, royalties and fees, other business services and government). Due to this lack of data, it is not surprising to find that the residual 'other business services' is the big growth area. Its share of total services trade (average of exports and imports) has increased from less than 30 % of the total over the period 1992–97 to over 55 % for 1998–2002.

As with the earlier analysis for total services, the most important indicator to focus on for the different sub-components is the net position (i.e exports less imports). This is done in Graph 16 for EU-15 and India. Not surprisingly, the graph indicates that the total change in the net position of India is driven by 'other business services' which has moved from a net deficit of –0.1 % of GDP over the period 1992–97 to a surplus of 0.7 % over the most recent period. As for the EU, on the positive side the trade surplus in financial and computer/information services has increased. On the negative side, while the share of 'other business services' has been increasing in EU services trade, this category unfortunately exhibits a large and growing deficit. It is noticeable from Graph 16 that this is the area where India has seen its biggest gain, but again one must be careful in linking the two developments. There is no bilateral breakdown available, and for India, 'other business services' is very much a residual category.

### **3.3.2. Concluding remarks**

The overall picture to emerge from this short analysis of services trade is that the EU is holding its own in the global market and especially in the 'other services' component which is most often associated with the outsourcing phenomenon<sup>(2)</sup>. Over the 1990s, in fact, the EU has managed to increase its surplus in 'other services' based on solid performances from the financial and computer

<sup>(1)</sup> Data are only available up to 2002 for.

<sup>(2)</sup> See also Part III Chapter 3, which takes up the issue of international outsourcing in services in more detail.

services sectors. In financial services, the EU's surplus has grown from EUR 9 to EUR 26 billion over the periods 1992–97 to 1998–2003. For computing, the EU has gone from a deficit of EUR 1 billion in the early 1990s to a surplus of EUR 20 billion in 2003.

One area of concern is the 'other business services' area which is growing in importance for the EU but exhibiting a deteriorating net position. In terms of the overall global market for services, India is clearly the big winner in net terms over the period 1992–2002, with a particularly strong performance from 'other business services' helping to turn a deficit of ¼ % of GDP in 1992 into a surplus of 1¼ % at present.

Finally, with regard to establishing a rough approximation for the overall economic significance of the global 'outsourcing' market, one can combine the 'other services' trade category with intermediate goods imports. Intermediate imports of parts and components plus semi-finished goods have grown from around 6½ % of world GDP in the early 1990s to roughly 8 % at present, with 'other services' trade growing from 1¾ % of GDP to

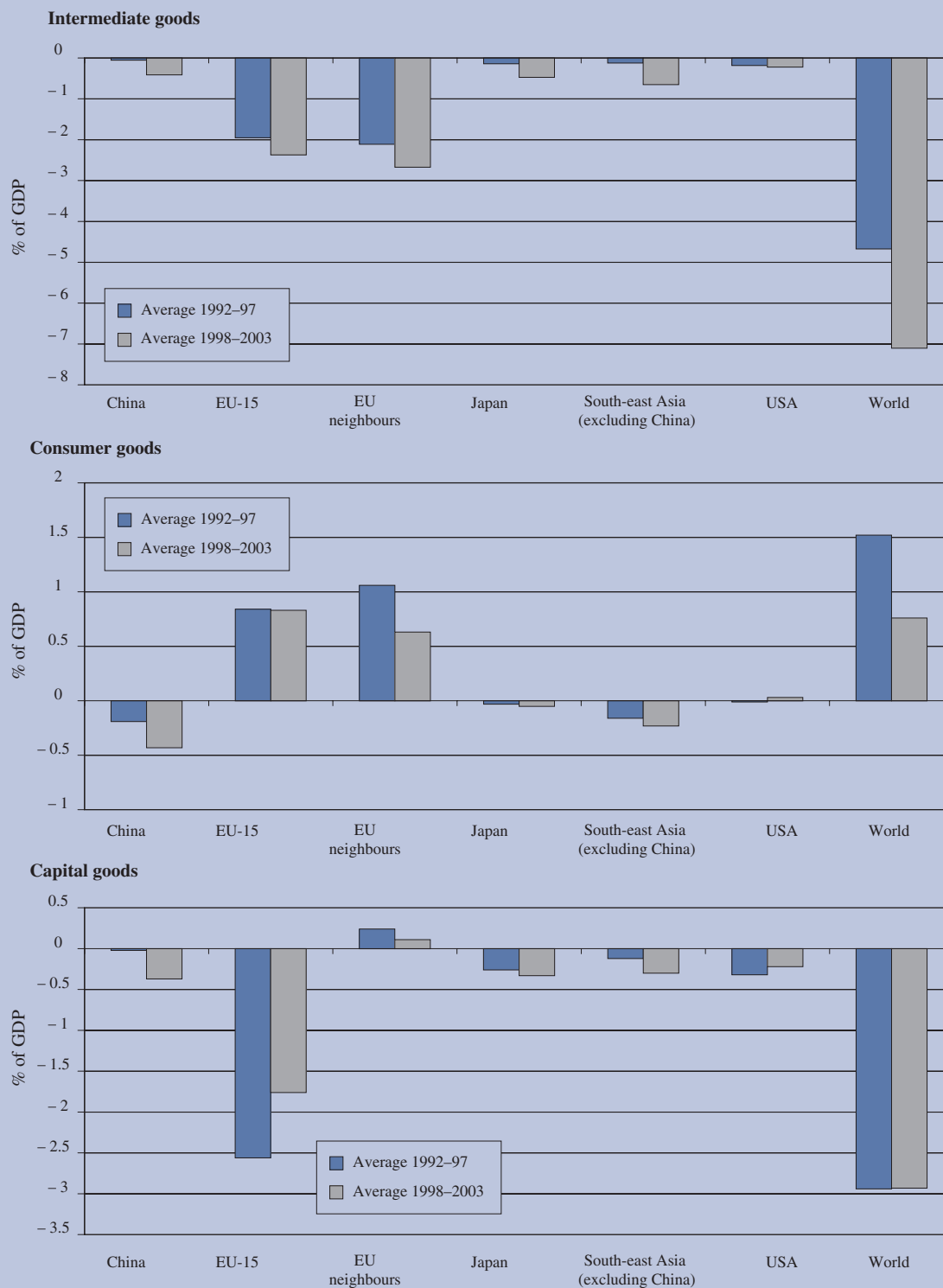
3½ %. In total therefore the global 'outsourcing' market is now equal to about 11½ % of world GDP, up from 8¼ % in 1992, with about 55 % of the increase over the period due to services outsourcing. Applying the same definition to the EU, 'outsourcing' has increased from 12 % of EU-15 GDP in 1992 to 15¼ % in 2003, with the increase of 3¼ percentage points, as with the world total, split equally between increases in imports of intermediate goods and services.

In net terms the EU has a healthy ongoing surplus in its trade in such activities, with an overall positive trade balance of about 1¼ % of GDP in 2003 (¾ % for goods and ½ % for services) compared with a surplus of 1 % in 1992 <sup>(1)</sup>. Consequently, on the basis of this admittedly narrow trade balance definition, the EU is a net gainer from external 'outsourcing'.

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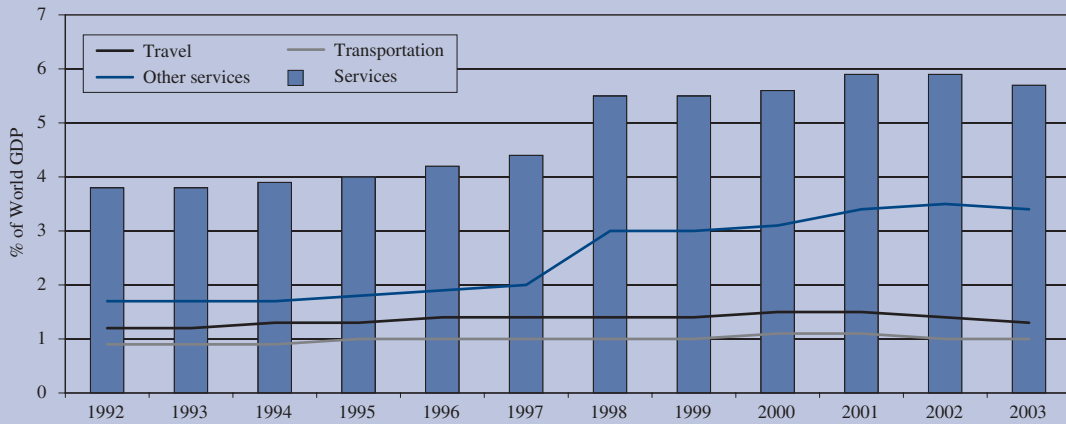
<sup>(1)</sup> These figures refer to both extra- and intra-EU trade since it is not possible to extract the extra-EU position for services. However, for intermediate trade in goods, the EU's surplus at the extra level is also of the order of ¾ % of GDP.

Graph 12: EU-10's overall trade by main trading partners (trade balances as % of GDP)



Sources: UN Comtrade, Commission services.

Graph 13: World trade in services — tourism, transportation and ‘other services’



Sources: IMF Balance of Payments Statistics, Commission services.

Graph 14: Net balance on trade in ‘other services’: 1992–97 vs 1998–2003 (% of GDP)



Sources: IMF Balance of Payments Statistics, Commission services.



*Part I — Characterising trends in international economic integration*  
*2. Global trade integration and outsourcing*

Table 17

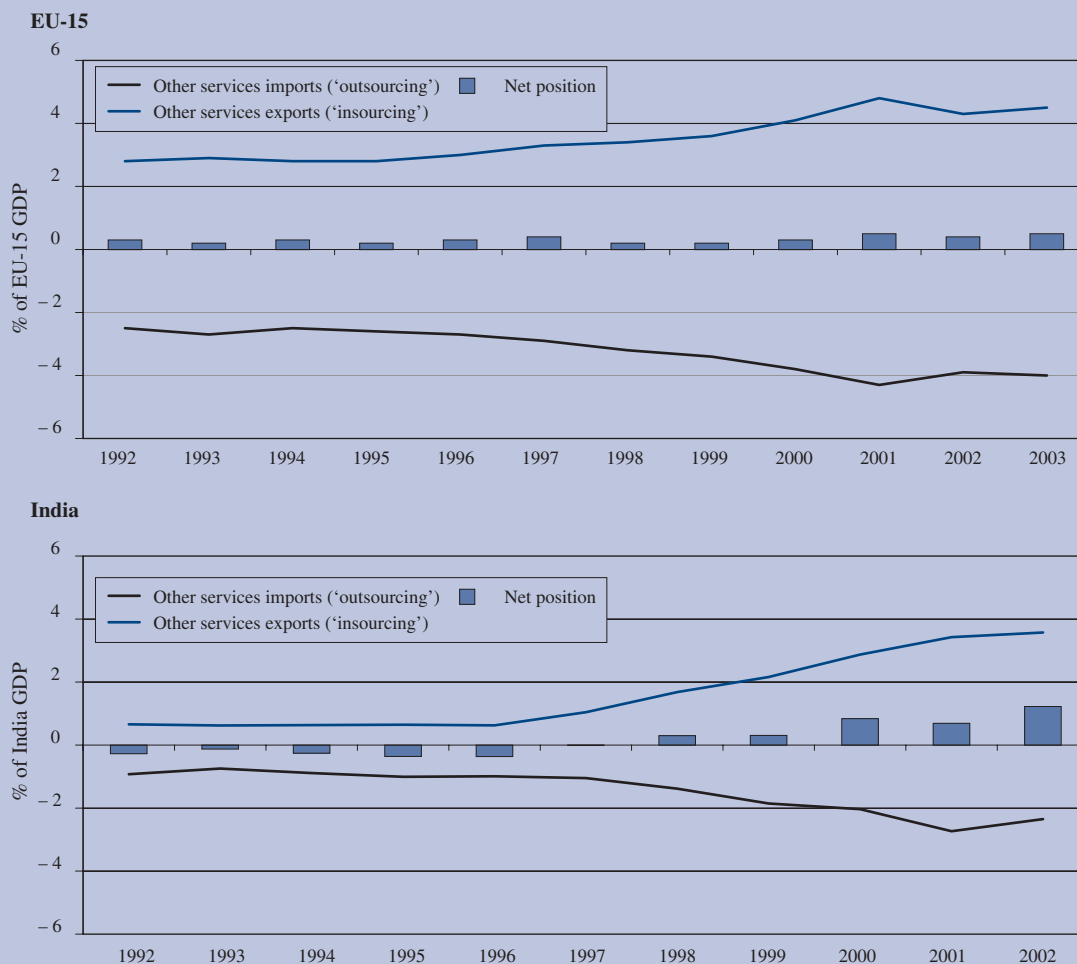
**Percentage shares of different types of services and their evolution over time — world, EU-15 and India <sup>(1)</sup>**

	World		EU-15		India	
	1992–97	1998–2003	1992–97	1998–2003	1992–97	1998–2003
Transportation	25.7	23.9	23.3	21.3	40.9	24.4
Travel	30.9	29.0	31.6	28.6	23.6	14.4
Other services	43.4	47.1	45.1	50.1	35.5	61.3
Of which:						
Communication	1.8	2.2	1.5	2.3	n.a.	n.a.
Construction	2.3	1.9	3.2	2.2	n.a.	n.a.
Insurance	2.6	3.0	2.7	2.5	4.2	2.5
Financial	3.2	4.3	4.8	6.0	n.a.	n.a.
Computer and information	0.8	2.2	1.1	3.2	n.a.	n.a.
Royalties and licence fees	4.3	5.3	3.8	4.2	0.6	1.1
Other business services	23.2	23.6	24.2	26.6	29.4	55.4
Personal and cultural	0.9	1.3	1.1	1.4	n.a.	n.a.
Government	4.2	3.3	2.7	1.7	1.4	2.2

<sup>(1)</sup> Average of export and import shares.

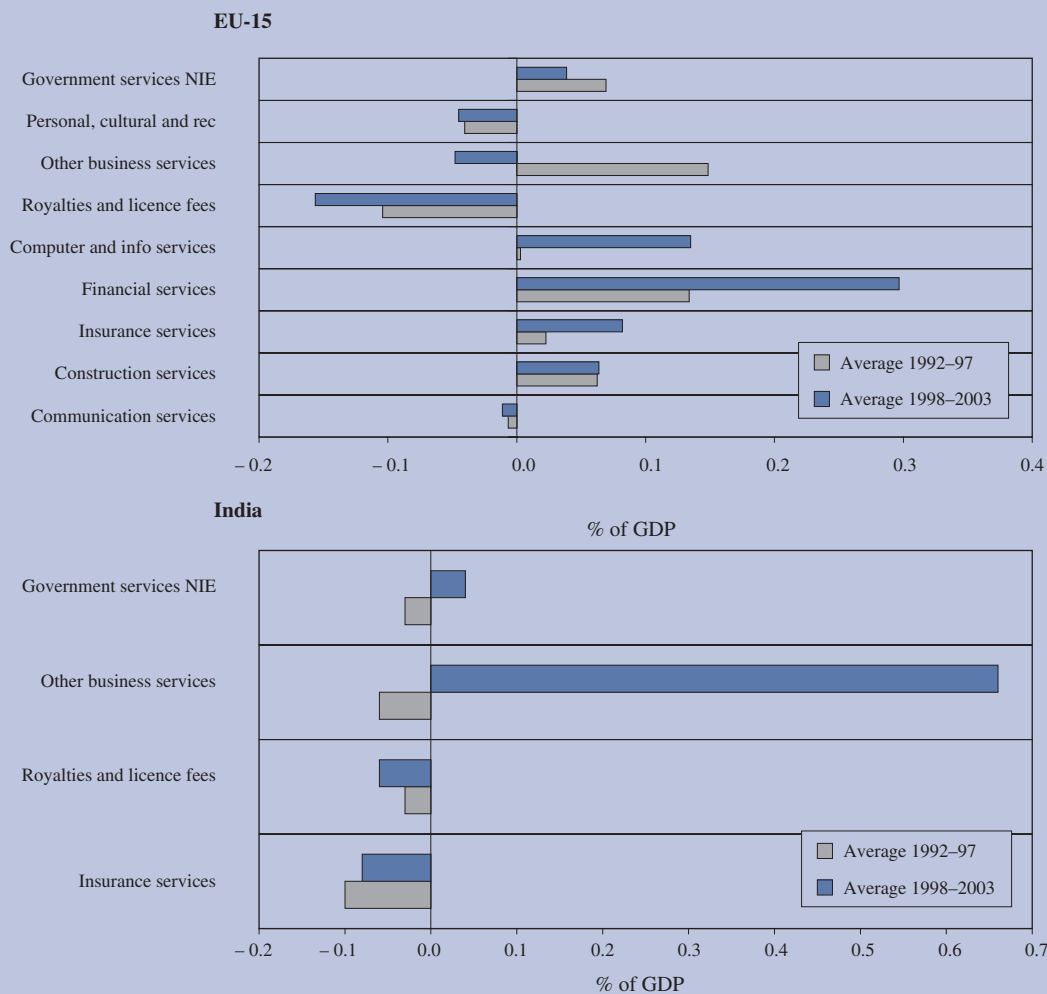
Sources: IMF Balance of Payments Statistics, Commission services.

Graph 15: Other services: exports, imports and net position: EU-15 vs India



Sources: IMF Balance of Payments Statistics, Commission services.

Graph 16: EU-15 breakdown of 'other services': net balance on trade 1992–97 vs 1998–2003



Source: IMF Balance of Payments Statistics, Commission services.

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# Annex I

## Correspondence of the broad economic categories (BEC) classification of imports with the basic classes of goods used in the national accounts

Classification by broad economic categories (19 BEC categories)		Basic classes of goods in the national accounts (SNA)
<b>1</b>	<b>Food and beverages</b>	
11	Primary	
	111 (*) Mainly for industry (1)	Intermediate goods
	112 (*) Mainly for household consumption (2)	Consumption goods
12	Processed	
	121 (*) Mainly for industry (3)	Intermediate goods (semi-finished)
	122 (*) Mainly for household (4)	Consumption goods
<b>2</b>	<b>Industrial supplies n.e.c</b>	
21	Primary (5)	Intermediate goods
22	Processed (6)	Intermediate goods (semi-finished)
<b>3</b>	<b>Fuels and lubricants</b>	
31	Primary (7)	Intermediate goods
32	Processed	
	321 (*) Motor spirit (8)	Intermediate/consumption goods (dual-use goods) (*)
	322 (*) Other (9)	Intermediate goods (semi-finished)
<b>4</b>	<b>Capital goods (except transport and parts and accessories)</b>	
41	Capital goods (ex. transport) (10)	Capital goods
42	Parts and accessories (11)	Intermediate goods (parts and components)
<b>5</b>	<b>Transport equipment and parts and accessories thereof</b>	
51	Passenger motor cars (12)	Capital/consumption goods (dual-use goods) (*)
52	Other	
	521 (*) Industrial (13)	Capital goods
	522 (*) Non-industrial (14)	Consumption goods
53	Parts and accessories (15)	Intermediate goods (parts and components)
<b>6</b>	<b>Consumer goods n.e.c.</b>	
61	Durable (16)	Consumption goods
62	Semi-durable (17)	Consumption goods
63	Non-durable (18)	Consumption goods
<b>7</b>	<b>Goods not elsewhere specified (19)</b> (includes military equipment, postal packages and special transactions)	Mix of national accounts classes (*)

(\*) These three BEC categories are not allocated to specified national accounts classes of end-use. They are dual-use goods categories such as BEC 8 (motor spirit); BEC 12 (passenger motor cars); and BEC 19 (goods NES).

Source: United Nations.

## Annex II

# Classification of manufacturing industries based on technology intensity

	ISIC Rev. 3 codes (*)
High-technology industries	
Aircraft and spacecraft	353
Pharmaceuticals	2423
Office, accounting and computing machinery	30
Radio, TV and communications equipment	32
Medical, precision and optical instruments	33
Medium-high-technology industries	
Electrical machinery and apparatus, n.e.c.	31
Motor vehicles, trailers and semi-trailers	34
Chemicals excluding pharmaceuticals	24 excluding 2423
Railroad equipment and transport equipment, n.e.c.	352 + 359
Machinery and equipment, n.e.c.	29
Medium-low-technology industries	
Building and repairing of ships and boats	351
Rubber and plastics products	25
Coke, refined petroleum products and nuclear fuel	123
Other non-metallic mineral products	26
Basic metals and fabricated metal products	27–28
Low-technology industries	
Manufacturing, n.e.c.; recycling	36–37
Wood, pulp, paper, paper products, printing and publishing	20–22
Food products, beverages and tobacco	15–16
Textiles, textile products, leather and footwear	17–
ICT industries (sub-section of High-technology)	
Office, accounting and computing machinery	30
Insulated wire and cable	313
Electronic valves and tubes and other electronic components	321
Radio, TV and communications equipment	322–323
Measurement instruments	3312
Industrial process equipment	3313
<b>Total manufacturing</b>	<b>15–37</b>

(\*) These ISIC Rev 3 codes are linked with the equivalent SITC Rev 3 for the skill intensity trade analysis given in Section 2 of the paper.

Source: OECD.

# Annex III

## Breakdown of total trade by factor intensity

### Raw material-intensive goods

- SITC 0 Food and live animals
- SITC 2 Crude material, inedible, except fuels (excluding 26)
- SITC 3 Mineral fuels, lubricants and related materials (excluding 35)
- SITC 4 Animal and vegetable oils, fats and waxes SITC 56 fertilisers

### Labour-intensive goods

- SITC 26 Textile fibres (other than wool tops and other combed wool) and their wastes (not manufactured into yarn or fabric)
- SITC 6 Manufactured goods classified chiefly by material (excluding 62, 67, 68)
- SITC 8 Miscellaneous manufactured articles (excluding 88, 87)

### Capital-intensive goods

- SITC 1 Beverages and tobacco
- SITC 35 Electric current
- SITC 53 Dyeing, tanning and colouring materials
- SITC 55 Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations
- SITC 62 Rubber manufactures, n.e.s.
- SITC 67 Iron and steel
- SITC 68 Non-ferrous metals
- SITC 78 Road vehicles (including air-cushion vehicles)

### Easy-to-imitate research-intensive goods

- SITC 51 Organic chemicals
- SITC 52 Inorganic chemicals
- SITC 54 Medicinal and pharmaceutical products
- SITC 58 Plastics in non-primary forms
- SITC 59 Chemical materials and products, n.e.s.
- SITC 75 Office machines and automatic data-processing machines
- SITC 76 Telecommunications and sound-recording and reproducing apparatus and equipment

### Difficult-to-imitate research-intensive goods

- SITC 57 Plastics in primary forms
- SITC 7 Machinery and transport equipment (includes semiconductors/excludes 75, 76, 78)
- SITC 87 Professional, scientific and controlling instruments and apparatus, n.e.s.
- SITC 88 Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks

Source: Yilmaz (2002) based on earlier work by Hufbauer and Chilas (1974).

## Annex IV

# Calculation method for the trade balance-based comparative advantage indicator (CEPII)

(Formula can be used to measure the contribution of individual products/clusters of products to the overall trade balance of the country/country grouping)

According to equation (0), the revealed comparative advantage is standardised by total trade for the exporting country considered.

$$RCA_{icl}^t = \frac{1000}{(X_i^t - M_i^t)} \times \left[ (X_{icl}^t - M_{icl}^t) - (X_i^t - M_i^t) \times \frac{(X_{icl}^t + M_{icl}^t)}{(X_i^t + M_i^t)} \right]$$

with:

$X_i^t$  and  $M_i^t$  respectively country  $i$  total exports and imports in year  $t$ .

$X_{icl}^t$  and  $M_{icl}^t$  respectively country  $i$  total exports and imports of products belonging to the cluster  $cl$  in year  $t$ .

$(X_{icl}^t - M_{icl}^t)$  the observed trade imbalance of country  $i$  for the cluster  $cl$  in year  $t$ .

$\frac{(X_{icl}^t + M_{icl}^t)}{(X_i^t + M_i^t)}$  the weight of cluster  $cl$  in country  $i$  exports in year  $t$ .

$(X_i^t - M_i^t) \times \frac{(X_{icl}^t + M_{icl}^t)}{(X_i^t + M_i^t)}$  the theoretical imbalance of country  $i$  for the cluster  $cl$  in year  $t$ .

Source: CEP99.



# 3. The relocation of production activities: Trends and drivers

## Summary

This chapter analyses the challenges for the EU posed by the shifting of economic activities to overseas sites — the phenomenon that is generally called relocation.

The chapter starts by discussing the concept and drivers of relocation and debates the different methodologies that may be used for the empirical analysis of the phenomenon. The empirical evidence reviewed in the chapter suggests that, despite the recent growth in the involvement of developing economies and of services sectors, outsourcing and off-shoring are still largely concentrated in developed countries and in manufacturing.

In respect to the prospects of future growth of relocation, it is important to be aware that the distinction between tradable and non-tradable goods persists to an important extent. Despite the substantial reductions, trade costs may still limit, to some extent, the activities that can be relocated. Hence the scope of the functions that firms are able to perform beyond the borders of their home country remains limited compared to the total range of goods and

services production. Moreover, many of the host countries will themselves eventually face factor supply constraints, particularly skill shortages, which will reduce their attractiveness for further relocation of certain activities.

Being a rather limited phenomenon, there is no evidence that it poses major problems for the EU at the macroeconomic levels. Moreover, the fears that relocation may trigger a process of deindustrialisation also seem to be exaggerated. Overall, the available evidence suggests that relocation does not constitute a qualitative break relative to the ongoing process of worldwide economic integration. The challenges it raises for the EU are not different from those associated with international trade and globalisation in general. Nonetheless, the phenomenon makes it yet more pressing to face such challenges given that more people, more sectors and more activities (by increasingly extending to services) are now involved. The design of adequate policies aimed at promoting the long-term economic benefits of openness and integration, which relocation is part of, while minimising the social costs that it inevitably entails, is therefore a demanding and ever more necessary task.



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# 1. Introduction

This chapter analyses the challenges for the EU posed by the shifting of economic activities to overseas sites — the phenomenon that is generally called relocation. Current public anxieties over this issue are fuelled by the perception that the phenomenon, which is often associated with job losses, has become more pervasive, both within each sector of the economy (extending progressively to the whole range of activities at the firm level, including R & D activities) and across the different sectors (as no industry, including services, seems to be sheltered from international competition). As public fears over major employment losses mount, relocation has also become an important issue in the policy debate in many EU Member States.

While it is undeniable that greater worldwide dispersion of economic activity poses challenges for individual economies, notably the EU, it is important to put this debate and the analysis of relocation into perspective. It should not be seen in isolation but in the context of other ongoing developments that are shaping the world economy, namely the process of globalisation. In fact, relocation is an intrinsic component of the process of the opening-up to trade and investment of the past decades that has been accompanied by an ever faster technological progress, which has made cheaper and easier the transferring of production activities abroad. In this context, relocation can be considered as a further step in the international division of labour and therefore is expected to

promote further the economic gains associated with economic openness.

Although several chapters of the Annual Review touch upon the phenomenon of relocation, the aim of this chapter is to present an overall dedicated analysis of relocation, taking stock of the available empirical evidence regarding its extent and impact on the EU economy, while highlighting the limitations of the empirical research on the topic. The ultimate objective is to contribute to a better informed and efficient response in terms of policy design to tackle the economic challenges it entails and the public concerns they trigger.

The chapter begins with a discussion about the definition of relocation and the main factors driving the decision of firms to shift activities abroad. Section 3 analyses the difficulties associated with measuring the phenomenon and discusses alternative empirical methodologies. Section 4 provides an overall account of the extent of the phenomenon, including its sectoral and geographical dimension. Section 5 addresses the relationship between relocation, industrial restructuring and promotion of business competitiveness. The challenges and costs that are associated with relocation will be taken up in the chapter on the adjustment challenge in the labour market in Part II of this report. Finally, the chapter concludes and raises some questions about the implications for policy-making.

## 2. Concept and drivers of relocation

### 2.1. Concept

The globalisation of the world economy due to increased trade integration, deregulation of international capital movements and reduced transport and communication costs allied with the accelerating technological progress of recent years have changed the way firms do business. As they adapt to the more competitive economic environment, firms are increasingly led to fragment the production chain and to adopt strategies of optimally locating its various stages across different sites (either abroad or at home). The breaking up of firms' production processes across various countries may be done via two mechanisms, according to the legal ownership of the activities: off-shoring and (international) outsourcing <sup>(1)</sup>.

While the mechanisms used by firms to disperse their activities overseas are well identified, what is in fact meant by the term 'relocation' or 'délocalisation' is more difficult to define, reflecting the loose boundaries

of the concept behind it. A stricter concept of relocation, relocation *stricto sensu*, is associated with the closing/ scaling down of the firm's activities in the home market following the shifting of parts of the production chain abroad. Hence, conceptually the discussion would be limited to the strategies of firms focused on the substitution of domestic stages of production for activities performed in foreign sites <sup>(2)</sup>.

However, often the adopted concept of relocation is much broader and encompasses a wider range of corporate strategies which do not necessarily entail the vertical fragmentation of the production chain and the cross-border exchange of inputs. For example, the strategy of a firm investing in a foreign site to improve access to the local market is considered as relocation by some. Although it does not imply fragmentation of the production process, it implies the substitution of home activities by foreign in the sense that as the firm invests in foreign-based affiliates it creates employment abroad rather than expanding employment at

<sup>(1)</sup> Domestic outsourcing is outside the scope of this study. The term 'outsourcing' will be used only in the sense of international outsourcing. The two strategies 'outsourcing' and 'off-shoring' are the same from the standpoint of the economic implications. Thus, we do not emphasise the distinction between the two in the present chapter.

<sup>(2)</sup> However, in practice these are often difficult to identify empirically as we discuss later.

Table 1

#### Conceptual classification

		Ownership of activities	
		Internal to the firm	External to the firm
Location of activities	Home	<i>Domestic in-house production</i> (firm produces its products domestically without any outside contracts)	<i>Domestic outsourcing</i> (firm uses inputs supplied by another domestically based company)
	Overseas	<i>Off-shoring</i> (firm uses inputs supplied by its foreign-based affiliates)	<i>International outsourcing</i> (firm uses inputs supplied by an unaffiliated foreign-based company)

Source: Commission services

**Box 1: Offshoring and outsourcing**

While the terms ‘outsourcing’ and ‘offshoring’ are often used interchangeably, they represent two different strategies from the point of view of the firm. The choice between the two depends on whether firms wish to retain the ownership of the whole production process or

not. While offshoring allows the firm to own the parts of the production process (international), outsourcing does not. Offshoring involves foreign direct investment (FDI) flows and the emergence of multinational enterprises (MNEs).

home<sup>(1)</sup>. If such wider concepts of relocation are adopted ultimately they could eventually include all forms of internationalisation of firms’ activities.

## 2.2. Drivers

While, in practice, the decision to relocate production activities abroad either via outsourcing or off-shoring is often motivated by a combination of several factors, it is useful to disentangle them in order to allow for a better conceptualisation of the discussion (see EIB, 2004). Economic theories provide insights into the relevant factors that determine location decisions<sup>(2)</sup>.

Traditional neo-classical trade theories suggest that the characteristics of a location/economy — such as the availability of low-cost inputs including labour and natural resources — determines the types of economic activities in which it specialises. On this basis, countries specialise according to comparative advantage. With falling trade barriers and technological advance, such theories are useful in explaining the accelerating trend to shift labour-intensive economic activities (either producing final goods or inputs) to countries where labour is abundant and cheap.

However, these theories fail to account the increasing international trade within firms and do not explain the need for firms to directly set up activities in markets other than their home market. For this, it is necessary to take into account the theories of multinational enterprises (see, for example, Caves, 1996 and Dunning,

1998). Such strategies allow firms to exploit their intrinsic technology-based assets in third markets and to benefit from their location advantages (in terms of local consumption potential or factor availability) while reducing the risk of loss of technological know-how. The diffusion of know-how is reduced as the exploitation of technology-based assets remains within the boundaries of the firm.

Technological assets also play an important role in the context of the new geography economy that suggests that many firms are not attracted to low-cost locations for all of their activities. Production clusters often develop in particular industrial locations over long periods of time. Firms may be drawn by the advantages of co-locating activities with other firms to exploit increasing returns to scale associated with knowledge ‘spillovers’, to have access to a specialised, skilled labour force, and to benefit from specialist suppliers. Early decisions of firms and governments can have long-lasting implications.

In order to create a clearer framework for analysis, from the extensive body of available literature we can divide the factors determining the option of firms to relocate production abroad according to three different types of motivations (which are to a large extent linked to the adopted concept of relocation).

- *Increased efficiency* is the main motivation for firms that opt to fragment vertically the production chain locating its different stages across various countries according to their characteristics while seeking to optimise the overall use of resources. The factors determining firms’ location decision are cost differences and the quality and availability of factors of production (raw materials, physical capital, skilled and unskilled labour and intermediate inputs)<sup>(3)</sup>. In general, it could be said that the higher the dissimi-

<sup>(1)</sup> This type of FDI may indeed imply relocation of activity as far as it substitutes for direct exports from the home country that would take place if the decision to locate abroad had not been made. Notice, however, that in practice it is often difficult to identify what is the strategy adopted by a particular firm as it may indeed result from a combination of various motives.

<sup>(2)</sup> See Krugman et al. (1996) and Midelfart-Knarvik et al. (2000).

larity across countries/locations, the higher the attractiveness of a given location <sup>(1)</sup>.

- *Acquisition and development of strategic assets* is increasingly seen as an important motivation behind the decision to relocate parts of the production process, particularly of high value-added activities like R & D. Here the decision is driven not only by the scientific and technological infrastructure and resources available in foreign locations but also by the presence of other firms and institutions, which may create positive externalities for the investing firms <sup>(2)</sup>. Also, demand factors (closeness to consumers) may play an important role as often R & D activities relocated abroad aim primarily at adapting production to foreign markets. Overall, both demand and supply-related factors seem to be heavily interlinked as motives for locating R & D activities abroad (see OECD, 2004 for an overview).
- *Improved access to foreign markets* is clearly a motivation to relocate production via FDI and the setting up of foreign affiliates. In fact, in the empirical literature on FDI, this is found to be the most important motivation for MNEs <sup>(3)</sup>. Notice, however, that here we are considering a wider

definition of relocation which is not strictly related to the vertical fragmentation of the production process and to the substitution of home-based operations.

The wide array and the different nature of the drivers of firms' location decisions lead to the conclusion that the response of individual businesses to economic openness and technological progress may greatly differ. Globalisation will not necessarily trigger the exodus of all types of economic activities from developed economies like the EU to low-cost economies. Lower trade barriers may, for example, increase the clustering benefits for some activities which are characterised by external economies of scale. Such activities, usually of higher value-added, may in fact become more concentrated as a result of a process of relocation in those economies where, despite high cost levels, there is further scope for the exploitation of agglomeration economies.

Concluding this section, we draw attention to the fact that despite intense public concerns and the ongoing political debate about the issue, there is no universally shared definition of relocation. Such conceptual ambiguities have important consequences. First, depending on the concept of relocation that is adopted, wider or *stricto sensu*, the scope of the phenomenon changes importantly. Second, different definitions of relocation necessarily entail the adoption of different methodologies for the empirical investigation of the extent and impact of the phenomenon, which are associated with distinctive advantages and shortcomings. Generally, while stricter definitions of relocation contribute to focus the political debate avoiding overstating its importance they also make the empirical investigation more difficult due to the lack of data availability and to measurement problems as we will discuss in the following section. On the other hand, the use of broader definitions, although minimising the measurement problems, can contribute to exaggerating the extent of the phenomenon by risking equating it with the more general process of internationalisation of the activities of firms. Throughout the next section, we

<sup>(3)</sup> Empirically, no strong evidence has been found showing that labour costs differentials affect FDI, except in cases where differences are very large (see Cushman, 1987 and Woodward, 1992).

<sup>(1)</sup> Other policy interventions may have an impact in determining the level of attractiveness as they contribute to widening the cost differences across locations. For example, regulation on taxation as well as on labour and environmental standards may have a role to play as determinants of relocation as they impact differently the various activities performed by firms. Moreover, many governments often provide special incentive schemes, such as tax breaks and other financial incentives to promote locational advantages. While, on balance, research shows that the distribution of FDI across countries is more determined by economic fundamentals and the broad policy environment affecting all firms alike, policies specifically targeting FDI can still affect the location choice of MNEs when underlying economic fundamentals are similar across countries (see Blomstrom et al. 2003). For example, empirical studies show mixed evidence on the effect of tax rates on FDI, ranging from significantly positive to significantly negative (see Chakrabarti, 2001). Devereux et al. (1998) demonstrate that effective tax rates do not play a role in the choice whether to engage in FDI, but once the firm has decided to invest abroad, the exact choice of location may be influenced by differences in effective tax rates. Nevertheless, in terms of economic significance, Devereux et al. (1998) underline that agglomeration effects are important determinants of location choices and that policy-related incentives need to be very large to overcome those agglomeration effects.

<sup>(2)</sup> These externalities may result from spillovers of information from other R & D units, access to trained personnel and links with universities or government institutions. Agglomeration effects seem also to be particularly important in technology-intensive sectors (see Head et al., 1996; Mayer et al., 1998). Regions with a relatively high existing stock of FDI are more likely to attract further investments, after controlling for other location-specific characteristics.

<sup>(3)</sup> In practice, it is difficult to discriminate what are the main motivations driving the firms' decisions to relocate. Nowadays, emerging economies have become increasingly attractive to locate production activities by offering simultaneously important pools of low-cost production factors and large and fast-growing domestic consumption markets. In the past, the largest consumption markets did not overlap with the low-cost locations. Such structural change has greatly increased their capacity to pull economic activity away from locations such as the EU.



*Part I — Characterising trends in international economic integration*  
*3. The relocation of production activities: Trends and drivers*

will present an overview of empirical methodologies to assess the importance of relocation, considering stricter and broader concepts of the phenomenon. Finally, we can also conclude from the discussion in this section that the factors and motivations behind the decision to relocate are multiple <sup>(1)</sup>. Moreover the different nature of the factors that may play a role in attracting economic activity also suggests that the

response of individual firms to globalisation can differ greatly across sectors and locations.

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<sup>(1)</sup> For example, the E&Y European Attractiveness Survey 2005 reports, as the predominant motive for relocation, the cost motivation (69 %), but tapping into markets is reported in 40 % of the cases and increasing market shares in 37 %, indicating the intertwining of cost and market-related motives, even for delocalisation decisions.

### 3. Measurement issues

The widespread public perception is that relocation has greatly increased over the past years and that it is likely to grow much more in the future. According to Unctad, off-shoring is in its infancy and the trend to off-shore is just about to approach a pivotal 'tipping point' from which cascades of new off-shoring will spring <sup>(1)</sup>.

Anecdotal evidence on the extent and future prospects of the relocation phenomenon abounds. Unctad's *World investment report 2004* indicates that 70 % of the world's 1 000 largest firms have not relocated activities to emerging economies. In the E&Y European Attractiveness Survey (2005), 32 % of the surveyed companies responded positively on the question on relocation intentions. Deloitte Research estimates that, by 2008, more than 800 000 financial services and high-tech jobs will migrate from western Europe into India, China and eastern Europe (*Business Week Magazine*, April 2004).

Nonetheless, the exact quantification and assessment of the extent and impact of relocation is a difficult empirical endeavour. Measuring the phenomenon is fraught with important shortcomings. In fact, such as there is no universal definition of relocation there is also no commonly agreed measurement methodology. The main problem is that information on how much of the production process firms are shifting to foreign sites is not readily available. To tackle this limitation, generally four main sources of data are used in the literature: trade, FDI, input-output tables and firm-level surveys.

#### Trade data

The lower trading costs due to the reduction of transport costs and trade barriers and the diffusion of information and communication technologies (ICT) have made international specialisation according to comparative advantage increasingly applicable to segments of the produc-

tion process rather than to final products. In this context, relocation is often equated with the possibility of substitution of domestic inputs by foreign-based input suppliers and is therefore closely associated with the international exchange of inputs. Thus, data of trade of intermediate goods can be a good source of information about the phenomenon <sup>(2)</sup>. Furthermore, as ICT increasingly allows intangible inputs to be traded internationally, trade flows in services, namely computer software design and business services including accounting and other back-office operations, are used to compute indicators of relocation <sup>(3)</sup>.

While data on trade in intermediate goods and services may provide a good source of information on relocation <sup>(4)</sup>, particularly if a strict definition of the concept is adopted, they entail important shortcomings. For example, these data often do not allow the distinction between off-shoring and outsourcing to be made. Often trade flows do not identify the origin of the imports and therefore it is not possible to know whether firms are trading with their own affiliates located in foreign sites or whether they are trading with other firms. Moreover, particularly in the case of trade in services, it is not possible to identify how much of these services are actually destined for final consumption. Such imports should be excluded from the analysis if a strict definition of relocation is adopted. These shortcomings could be minimised if intra-firm trade on intermediate goods were available.

<sup>(1)</sup> See Unctad/press/PR/2004/023.

<sup>(2)</sup> However, when broader concepts of relocation are adopted, often total trade with developing countries is used in empirical analyses. In Fontagné et al. (2005) this is considered to capture the 'upper limit of the phenomenon at stake'.

<sup>(3)</sup> These categories of services are often thought to be most likely to encompass outsourcing activities. However, despite the increasing tradability of services, currently only 10 % of services are traded compared to over 50 % of manufactured goods. In the late 1990s, services accounted for only around 20 % of total global exports.

<sup>(4)</sup> Chapter 2 of Part I contains an analysis of trends in trade in intermediary goods, and trade in services.

### FDI data

Other data sources to investigate relocation are FDI flows and stocks. However, while they shed light on the activity of MNEs, there are problems using these data to investigate relocation. First, not all FDI activities can be associated with firms' decisions to fragment the production chain. Therefore an important part of FDI activities are outside the scope of relocation, at least if a strict definition of the concept is adopted<sup>(1)</sup>. Data for vertical FDI would be more closely associated with relocation *stricto sensu* as it is directly related to the international fragmentation of production. However, empirically it is difficult to discriminate between horizontal and vertical FDI<sup>(2)</sup>. Second, not all relocations necessarily imply FDI flows. In the case of international outsourcing, firms choose to contract out parts of the production to independent firms located in another country. This does not imply any type of FDI activity.

### Firm-level surveys

The unavailability of 'perfect indicators' at aggregate levels, particularly for relocation *stricto sensu*, led many studies to rely on firm-level survey evidence. Some surveys provide quantitative information of firms' activities (see Görg et al., 2005) while others like the European Restructuring Monitor (ERM) Survey gathered by the European Monitoring Centre on Change (EMCC) rely on qualitative information about the strategies adopted by firms.

While surveys allow for clearer identification of the strategies adopted by firms, they are not free from important shortcomings, namely with respect to the representativeness of the chosen sample, the extent of the realisation of the expectations that are expressed by firms and the possible effect of selective response. Given these problems, such data may not be suitable to assess the real extent and impact of the phenomenon at aggregate levels.

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<sup>(1)</sup> These statistics cover all the investments undertaken abroad — i.e. joint-venture, greenfield investment and therefore it is not possible to isolate relocation.

<sup>(2)</sup> Horizontal FDI implies that the firms replicate abroad the production process and is associated with market-seeking motives. Vertical FDI implies the fragmentation of the production process over several sites across more than one country.

### Input-output data

Input-output tables are often used to construct aggregate and industry-level indicators of the relative importance of foreign input suppliers (see, for example, Hijzen et al., 2005). When discriminating between imported and domestically produced inputs is not available, input-output data are often combined with trade data to construct proxies to be used as indicators (see Amiti et al., 2005 and Feenstra et al., 1999, 1996).

Based on this methodology, two measures of relocation are often computed: a narrow measure focusing exclusively on the imports of inputs of the same industry, and a wide measure that takes into account all the inputs that each industry purchases from all others<sup>(3)</sup>. The choice between using the narrow or the wide measure depends on the issue to investigate. However, both measures cannot capture the relocation of parts of production led by home firms whose strategy does not include re-importing goods back to the home market but rather supplying their operations in third markets.

To conclude, there are important difficulties in defining appropriate indicators to capture relocation. The choice of data and methodology depends, to a large extent, on the empirical question to investigate. Generally, one can say that, for an accurate evaluation of the extent of the phenomenon, the best source of data would be at the level of the firm covering both trade and FDI activities. However, these data are not widely available especially to allow the possibility of aggregate and cross-country analyses. This leaves us with a growing body of empirical evidence which often rests on very limited data sources. Throughout this chapter, we will present available empirical evidence that draws on all types of data sources, having in mind the limitations that have been identified.

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<sup>(3)</sup> This distinction was introduced in Feenstra et al. (1999). To illustrate with an example, take the sector 'motor vehicles and parts': the narrow measure of outsourcing would include imports from that same industry while the wide measure would also include purchases of raw materials and other services. For example, it would include imports of steel, textiles, etc. These measures are necessarily highly sensitive to the level of aggregation of the industry data used in the analysis.

**Box 2: Firm-level surveys**

Several firm-level surveys in various EU countries can be found elsewhere in the literature:

*EU* The ERM covers restructuring operations of European companies since 2002 and shows that relocation is behind 8.8 % of all restructuring cases and 7.2 % of planned job reductions. In comparison, internal restructuring accounts for 76.8 % of planned job reductions. Additionally these data show that relocations occur mainly in traditional labour-intensive sectors such as textile and in sectors such as electrical and electronic equipment. In the UK, financial services are particularly affected.

*Germany* A 2004 survey led by the German Chamber of Commerce (DIHK) indicates that 25 % of German firms plan to move operations overseas over the next three years.

*Italy* A 2004 survey finds that 13 % of the Italian firms contacted have plans to relocate parts of production; 5 % of the firms said to be planning to move the entire production overseas (Fondazione Nord-Est, 2004).

*The Netherlands* Some 84 % of Dutch firms recently surveyed have not relocated activities in the last 10 years and did not plan to do so in the near future. According to the survey results, relocation had affected only 1.5–3.4 % of employment over the previous three years. Some 52 % of firms would choose the Middle East and eastern Europe to relocate, while 16 % would prefer China and 11 % India. The survey also reveals that 62 % of firms pointed out cost savings as the main factor driving the relocation decision (Berenschot, 2004).

*Finland* Survey evidence shows that local firms plan to expand faster in Russia, eastern Europe and China than in western Europe and the United States. Firms' responses also show that, while the attractiveness of the USA and western Europe rests on market access, in China and eastern Europe it is market growth and cost factors that drive the decision to locate (Pajarinen and Ylä-Anttila, 2004).

## 4. The dimension of the phenomenon

### 4.1. Sectoral distribution: manufacturing vs. services

In general, the empirical evidence confirms the increasing worldwide dispersion of economic activity. The fact that global FDI flows are running in real terms at more than five and a half times the average prevailing in the first half of the 1980s and that trade in intermediates accounts for an increasingly large proportion of total trade gives an idea of the dynamics of the internationalisation of the structures of firms' production activity. Nonetheless, the available evidence also suggests that the relocation phenomenon is still rather limited. For example, trade in intermediates, although increasing, still represents around 30 % of world trade in manufactures. (For more detailed evidence on intermediate goods trade, see Chapter 2 in Part I of this report).

Evidence from different EU economies confirms the claim that relocation, while growing in importance, is still a restricted phenomenon. For example, evidence reported by the French Ministère de l'Économie, des Finances et de l'Industrie shows that, during the period 1993–2003, the share of low-cost countries in the total imports of the manufacturing sector has increased from 9.6 % to 15.5 % <sup>(1)</sup>. Using input-output data for seven EU economies (Austria, Denmark, Finland, Germany, Italy, the Netherlands and Sweden) Falk et al. (2005) find that, between 1995 and 2000, the ratio of imported materials from the same industry to gross output (a narrow measure of outsourcing) increased from 7.7 % to 8.8 % on average (weighted mean across industries and countries). They also show that outsourcing originating from low-wage countries grew by an average rate of 9 % per year over the same period. Strauss-Kahn (2003) finds that the share of imported manufactur-

<sup>(1)</sup> Clothing is the sector where these countries take up a larger share of such imports followed by textiles, furniture and apparel, electronic and electric equipment, electronic components and metals.

ing inputs in total production in France was 14 % in 1993 (up from 9 % in 1977).

Relocation is even more limited in services as the phenomenon seems to be still largely concentrated in material inputs <sup>(2)</sup>. Data collected by the Ministère de l'Économie, des Finances et de l'Industrie shows that, in 2003/04, the international outsourcing of computing services represented only 2–3 % of the total industry of computing services in the country. For the USA, recent evidence shows that, despite having roughly doubled each decade since 1983, the imports of computing and business services as a share of GDP only amounted to 0.4 % of GDP in 2003. For the UK, the ratio was also very low, 1.2 % (see Amiti et al., 2005). Amiti et al. (2005) also used 2001 data on trade in inputs combined with input-output tables to construct industry-level outsourcing intensity ratios, and they found that the average ratio for material inputs was 27 % in the UK and 12 % in the US <sup>(3)</sup>. In contrast, for services inputs the outsourcing ratios are substantially lower: 5.5 % and 0.8 % for the UK and the US respectively.

Nonetheless, outsourcing of services inputs is growing rapidly (at a faster pace than outsourcing of material inputs). Amiti et al. (2005) show that the outsourcing intensity ratio of services inputs has increased from 3.5 % (0.4 %) in 1992 to 5.5 % (0.8 %) in 2001 in the UK (US).

In comparison, manufacturing outsourcing in the UK peaked in 1996 and has been on a downward trend since then. In the USA, it has been steadily rising but at a slower pace than outsourcing of services.

<sup>(2)</sup> This can be partially explained by the fact that many services sectors are still intrinsically non-tradable and require the physical presence of firms in consumption markets.

<sup>(3)</sup> These ratios are defined as the share of imported services on total non-energy inputs and the share of manufactured imported inputs on total non-energy inputs.

Table 2

**Sectoral profile of FDI**

Sectors	World % share of sector in total		Developing economies <sup>(1)</sup> % share of sector in world sector	
	1990	2002	1990	2002
<b>(Inward stocks)</b>				
Electricity, gas and water	1	3	30	38
Construction	2	2	23	53
Trade	25	18	10	23
Hotels and restaurants	3	2	13	29
Transports, storage and communications	3	11	43	29
Finance	40	29	24	23
Business activities	13	26	7	39
Other sectors	13	9	n.a.	n.a.
Total	100	100	17	28

<sup>(1)</sup> Includes countries from central and eastern Europe.

Source: Unctad.

The progress in ICT, which has greatly reduced communication costs and the diminishing trade barriers, drive such dynamism in services relocation. While, until recently, many services providers faced a trade-off between being located where inputs were cheaper and being near to the customer base, the reduction in transaction costs have made possible for a growing range of services to separate production from the site of consumption. Hence, services may now, to a large extent, fragment the production process not differently from how it is done in manufacturing. Moreover, given that many services sectors are labour-intensive, they are highly likely to be inclined to take advantage of the gains of relocating to low-wage countries where it is increasingly easy to find relatively qualified workers. The increasing scope for relocation in services is reflected in the changing sectoral profile of FDI in services. FDI stocks are growing considerably in sectors such as business activities whose production is increasingly tradable and therefore are not exclusively aimed at supplying the local market <sup>(1)</sup>. Developing economies take up increasing shares of FDI in these sectors.

<sup>(1)</sup> They are likely to be producing inputs to be exported to feed the production chain of firms located in other countries.

## 4.2. Geographical breakdown

The discussion about relocation is often associated with the increasing integration of developing economies in the world economy. Given that relocation is part of a process of reciprocal exchange which is often shaped by differences in relative production costs, it is widely believed that the phenomenon is limited to the economic relations between industrialised economies and low-cost developing countries.

However, FDI data clearly suggests that relocation is far from being overwhelmingly a north–south phenomenon, and that the shifting of activities from developed to developing countries is not as intense as is sometimes claimed. In fact, FDI is largely concentrated in developed economies. For example, in 2003, gross FDI flows from the EU-15 to the rest of the world represented just 1.3 % of the EU GDP. The majority of EU FDI flows remain within the borders of the single market. The biggest ‘external’ recipient of FDI from the EU is the USA and not India, China or other emerging markets. In 2002, 12.4 % of total EU FDI outflows went to new Member States, and only 2 % went to China and 0.5 % to India <sup>(2)</sup>.

<sup>(2)</sup> Source: Eurostat.

Trade data for intermediate goods and services corroborate the idea that relocation is not just a one-way phenomenon from north to south. For example, the share of intermediate imports in total imports has been higher in China and south-east Asia than in the EU-15 or the USA (see further evidence of trade in intermediate goods in Chapter 2 of Part I). For services the picture is similar. Amiti et al. (2005) use economy-wide measures of outsourcing in services based on import flows of computing and other business services and show that the biggest outsourcers in absolute terms of computer and information services and other business services are the USA, Germany, Japan, the Netherlands, Italy, France and the UK. The biggest exports of such services (often called services insourcers) are also developed economies, particularly the USA, the UK, Germany, France and the Netherlands. In fact, countries like India and China, which are often portrayed as the major recipients of outsourced activities, rank sixth and 14th. Interestingly, India, China and other developing economies are themselves significant international outsourcers of services.

Nonetheless, the growing importance of developing countries and in particular of large emerging economies like India and China as host sites for relocated activities is undeniable. Between 1990 and 2003, the share of developing economies in global FDI inflows has increased from 18 % to 31 % (see Unctad, 2004). In 2003, China was already the world's largest recipient of FDI flows, accounting for 10 % of total inflows (up from 1.7 % in 1990) <sup>(1)</sup>. This trend is likely to gather further strength in the future. Developing and transition economies figure prominently in future investment plans of MNEs. China and India lead the ranking of the most attractive off-shoring locations in the world (see Graph 1 and A. T. Kearney off-shore location attractiveness ranking for 2004) <sup>(2)</sup>. The growing importance of emerging economies in attracting economic activities is also visible in the services industries. For example, between

1995 and 2000, the exports of business services in the EU and US grew at 6 % and 11 % per year respectively; while countries such as India and Brazil experienced growth rates above 20 % (see Matoo et al., 2004).

Within the context of the EU, the geographical pattern of relocation is also evolving. The process of enlargement, in particular, has triggered an intra-EU relocation phenomenon as EU firms take advantage of the increased choice of sites for locating production to be found in the new Member States while consolidating the enlarged single market. The importance of such intra-EU relocation is illustrated by fact that, since the early 1990s, FDI outflows from the EU-15 to the 10 new Member States have been four times larger than those to China despite the boom in FDI inflows to developing economies. Nonetheless, the share of the new Member States in total EU FDI activity remains rather limited in aggregate terms. In 2003, the total inward FDI stock in the eight largest new Member States represented only 3.3 % of total EU-15 outward FDI stock <sup>(3)</sup>.

Survey evidence of firms' strategies confirms the importance of the new Member States in the location strategy of EU firms <sup>(4)</sup>. Efficiency-seeking motives may be important drivers of inward FDI in manufacturing in the new Member States. For EU-15 firms, these locations offer not only lower relative factor costs and high levels of technical and educational ability, but also 'near-shoring' advantages due to cultural and linguistic similarities, greater ease of ensuring compliance, and geographical proximity, which might be critical for some firms, especially for those requiring frequent contacts with clients. In contrast, the FDI in the services sector, which takes up the majority of FDI in these countries, seems to be more geared to serving local markets <sup>(5)</sup>.

<sup>(1)</sup> The increasing role of developing countries in the world economy as host of production activities is also visible in the trade data. For example, evidence reported by the French Ministère de l'Économie, des Finances et de l'Industrie indicates that, between 1993 and 2003, the value of manufactured goods imported from low-cost countries has increased by 167 %. In contrast, the value of manufactured goods imported from the rest of the world has increased by 72 %. In 2003, imports from low-cost countries represented 3 % of total manufacturing production.

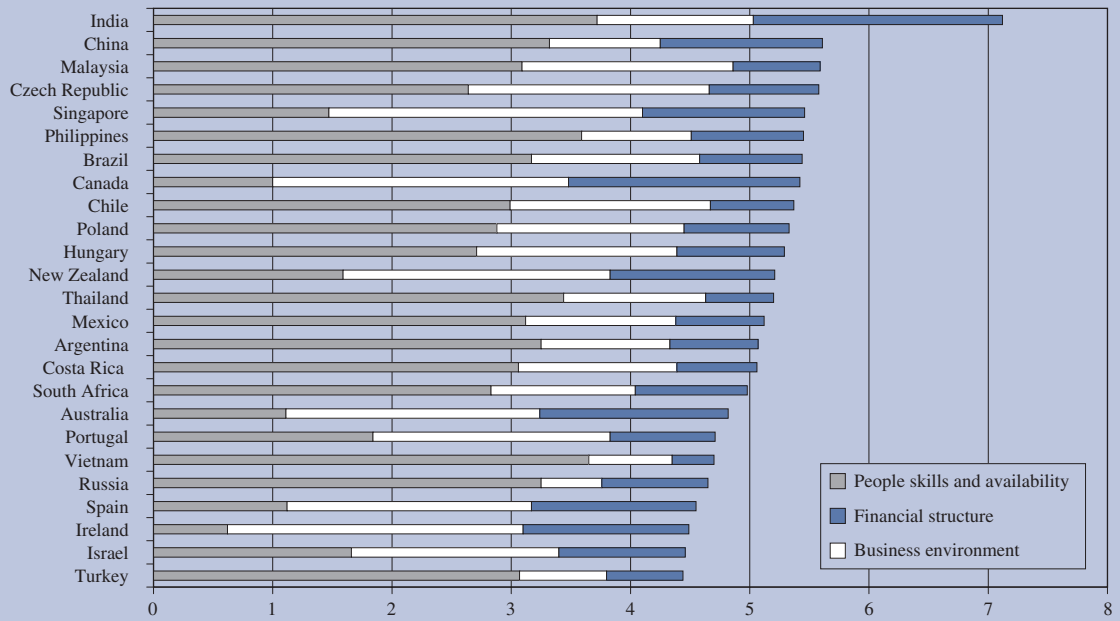
<sup>(2)</sup> While the ongoing trade liberalisation increases the competition between emerging economies to attract economic activities, India and China are likely to eventually specialise in specific segments. For example, India has already become the leader in the field of IT services, which can be associated with the availability of a large supply of skilled workers.

<sup>(3)</sup> These estimates are from Rojec (2005): 'Globalisation and the new Member States', presentation at the Brussels Economic Forum, 21–22 April 2005.

<sup>(4)</sup> In the most recent A. T. Kearney ranking of the most attractive off-shoring locations in the world, the Czech Republic (4th), Poland (10th) and Hungary (11th) ranked among the top 11 off-shoring destinations in the world, see Graph 1. A study by the Dutch Ministry of Economic Affairs shows that 52 % of the companies that have relocated production abroad have chosen sites in central and eastern Europe. Western and southern Europe was chosen by 42 % of the firms, while China and India were said to be the preferred of 16 % and 11 % respectively (see 'Vision of relocation: the nature, extent and effects of relocating business activities', Ministry of Economic Affairs of the Netherlands, January 2005).

<sup>(5)</sup> See Rojec (2005): 'Globalisation and the new Member States', presentation at the Brussels Economic Forum, 21–22 April 2005.

Graph 1: Off-shore location attractiveness ranking, 2004



Source: A. T. Kearney's 2004 'Off-shore location attractiveness index'.



## 5. Relocation: opportunities and challenges

This section provides a summary analysis of the implications of relocation for the EU economy. The approach taken aims to identify both the opportunities and the challenges (and possibly costs) that can be associated with the phenomenon.

The debate about the assessment of the effects of relocation has greatly focused on the extent to which the issue can be treated from the angle of general trade theory. From this point of view, substantial gains can be expected for the countries involved albeit dispersed among different economic agents. Losses on the other hand, although (potentially) temporary in nature, are concentrated in certain segments of society and of the economy.

However, for some observers the phenomenon of relocation nowadays has characteristics that make it ‘qualitatively’ different from traditional trade integration. Such views have gained great visibility and acceptance with the increasing integration in the world economy of large developing countries such as India and China. In fact, such countries are seen as representing a new challenge for developed economies in the sense that they gather ‘unique’ conditions as hosts of growing varieties of economic activities. These countries provide a combination of large pools of cheap labour, a relatively high supply of technical abilities and a huge domestic consumption market with future growth potential <sup>(1)</sup>. This is thought to put developed economies under great pressure in a context where economic activities are increasingly ‘foot-loose’.

Concerns about the potential impact of the integration in world market of such economies are now shared by some economists who argue that, under these circumstances,

trade may lead to non-beneficial outcomes for developed countries <sup>(2)</sup>. The argument is the following: the rapid increase in the number of skilled workers in countries like China and India may put strong downward pressure on skilled wages in developed economies, hampering future economic growth in these countries. Moreover, the build-up of the stock of skilled labour will make these low-cost economies increasingly able to compete in the same sectors where developed economies had — so far — comparative advantage.

In the case of the EU, this scenario may seem particularly worrying in the light of recent trade data showing that, while the EU trade balance in high-tech sectors is improving, its comparative advantage remains grounded in sectors with low to intermediate labour skills (see Chapter 2 of Part I) <sup>(3)</sup>. Such sectors are more likely to be vulnerable to competition from China and India and EU firms may find it advantageous to relocate production to remain competitive due to the large cost differentials. In this light, countries like India and China pose challenges that may be thought of as being different from those associated with earlier waves of trade integration as they have the potential to erode the basis of the EU comparative advantage. This may lead eventually to reduction in trade flows which could decrease economic growth. Moreover, large-scale production in low-cost economies in the industries that constitute the bulk of the exporting sector of developed countries would decrease the prices of these goods worldwide hurting the terms of trade of developed countries.

For many economists, this scenario — while possible in theory — is not very likely. It would require that new competitors develop skills in all areas where the EU has a comparative advantage and at the same time that the EU failed to develop new areas of comparative advan-

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<sup>(1)</sup> For example, the annual output and quality of science and engineering graduates from India and China is nowadays comparable to that of the developed countries (see BEPA report ‘EU competitiveness and industrial location’).

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<sup>(2)</sup> Samuelson et al. (2004).

<sup>(3)</sup> In fact, the role of MNEs is particularly important in the process of technology transfer to these economies.

tage. But, given the very different departing situations in terms of skills and technological infrastructure, this is very unlikely <sup>(1)</sup>. Moreover, even if the technological catching-up of China and other large developing countries led to a reduced factor-difference driven trade, further gains would still come from intra-industry trade.

Overall, relocation is a natural element of a dynamic and open market economy and the balance between the potential positive and negative impact depends on the economic context of each trading partner. The following sub-sections examine in more detail the possible opportunities and challenges that relocation can bring to the EU and provide an overview of the already available empirical evidence.

### 5.1. Opportunities

Being the result of a global shift in the geographical patterns of production activities, relocation gives new impetus to the international division of labour which, according to the economic theory, should be mutually beneficial for all parties involved. For the host countries to the 'relocated' activities, the gains in terms of increased production, employment and exports revenues are obvious. Additionally, for both home and host countries, there are gains to be had as they specialise and therefore shift the factors of production to the sectors where their comparative advantage lies <sup>(2)</sup>. Following the necessary adjustment of their production structure, gains will emerge from the improvement in the allocation of resources in the economy. As a result, income levels will increase and so will welfare. Consumers, wherever they are located, benefit from lower prices and higher quality. Furthermore, as economic growth accelerates overseas and trading partners grow richer, there will be more business opportunities and the conditions are created for a multiplier effect to boost further growth in employment and jobs in the home economy. Further gains from trade are boosted by increases in competition, realisation of economies of scale and technology spillovers (see Bhagwati et al., 1998).

While aggregate gains of economic openness are difficult to estimate, such an exercise becomes considerably

more problematic for relocation in particular. Hence, we opted to present evidence from micro-level data, which can contribute to shedding new light on the mechanisms through which relocation may impact on the wider economy.

#### Catalyst for industrial restructuring?

One of main benefits from relocation is the process of reallocation of resources driven by comparative advantage that is expected to be triggered in both countries involved, the home and the host country of the relocating firms. Such a phenomenon is associated with a process of industrial restructuring <sup>(3)</sup>.

From the point of view of host countries, there is evidence of such restructuring taking place. A good example is the case of the new Member States, where firms from the former EU-15 are responsible for around 80 % of total inward FDI <sup>(4)</sup>. There is evidence that, in these economies, foreign off-shoring via the setting-up of local affiliates is increasingly changing the industrial structure. The stock of FDI in GDP is quite substantial, ranging from around 20 % in Slovenia and Poland to almost 80 % in Estonia. Moreover, in terms of value-added in manufacturing, FDI amounts from 23.1 % in Slovenia to as high as 64.9 % in Hungary <sup>(5)</sup>.

Additionally, the presence of subsidiaries of foreign MNEs may also be associated with indirect gains if technological spillovers occur, which will eventually benefit domestically owned firms. Such indirect effects may result from processes of learning by watching. They can also arise via the mobility of MNE-trained workers <sup>(6)</sup>. Damijan (2005) examines spillovers from FDI in a group of 10 central and east European economies using a large data set of 8 000 firms for the period 1995–99. The results confirm the occurrence of positive direct impact on the productivity performance of affiliates of foreign MNEs. With respect to indirect or spillover effects, the

<sup>(1)</sup> See Bhagwati et al. (2004).

<sup>(2)</sup> Such advantages may arise either because a country is technologically advanced compared to others (Ricardian trade models) or because it is particularly abundant in one factor of production relative to other countries (Heckscher-Ohlin trade models).

<sup>(3)</sup> However, as survey evidence suggests, not all restructuring cases in Europe are necessarily associated with episodes of relocations. For example, according to the European Monitoring Centre on Change (EMCC), among the European corporate restructuring cases that were monitored since 2002, 65 % corresponded to the restructuring of the firms' internal operations. Only about 8.8 % of the reported restructurings involved any kind of relocation that implied the closure of activity at home in exchange of activity overseas.

<sup>(4)</sup> These estimates are from Rojec (2005): 'Globalisation and the new Member States', presentation at the Brussels Economic Forum, 21–22 April 2005.

<sup>(5)</sup> These estimates are from Rojec (2005): 'Globalisation and the new Member States', presentation at the Brussels Economic Forum, 21–22 April 2005.

<sup>(6)</sup> For a more detailed overview of the host country effects of FDI see Lipsey (2002).

evidence shows that local firms establishing backward and forward linkages with foreign MNEs benefit more from the presence of foreign firms than domestic competitors who fail to do so. Nonetheless, overall, the direct effects on the multinationals' own affiliates seem to be by far the main channel through which FDI contributes to enhancing the performance of the economic structure of the new Member States.

For the home countries of the 'relocating' firms, namely the EU-15, welfare gains associated with industrial restructuring come from efficiency upgrades in the use of resources as the production sector adjusts to match the comparative advantage in the more skill-intensive activities. In the process, resources will be shifted from lower to higher value-added activities as production moves towards higher quality/more technologically sophisticated segments within and across sectors <sup>(1)</sup>. Furthermore, in the case of declining industries having difficulties maintaining competitiveness, relocation may allow firms to hold on to the higher value-added stages of the production chain, preventing the whole industry from disappearing. The contraction of some particular industries may, in fact, be associated with an intra-industry reorganisation process as firms refocus their domestic activities on the areas of production where their competitive advantage lies. In practice, by doing so, firms partly internalise the specialisation gains of the trading partner as they are given the opportunity to gain access to their inputs at the lower costs. In this sense, relocation contributes to smoothing the sectoral adjustment driven by comparative advantage that trade integration entails.

Recently, evidence has emerged on the impact of relocation at firm level, which is an issue that has been relatively under-explored in the literature so far. A priori, the increase in the skill intensity of production should have a productivity-enhancing effect at the level of the firm. In addition, the cost savings that companies experience associated with the further exploitation of economies of scale may also be substantial <sup>(2)</sup>. Ultimately, the international competitiveness of firms would improve and, as a result, their share in world markets would increase and eventually more jobs would be created.

In general, the empirical results on the impact of relocation on firm performance are not conclusive as they greatly depend on a number of factors: the type of inputs (services or materials) being outsourced, and the characteristics of the firms, etc. Görg et al. (2005) investigate the impact of outsourcing, defined as imports of intermediate inputs, on productivity performance using plant-level data for Irish manufacturing from 1990 to 1998 <sup>(3)</sup>. The results confirm the claim that establishments that outsource inputs internationally benefit from productivity gains. However, the characteristics of the firms that choose to relocate production abroad matters. While plants that are linked to international production networks, i.e. foreign-owned plants as well as domestic firms that are engaged in exporting activities benefit, no such productivity-enhancing effects are found for non-exporting establishments. Furthermore, the effects are different for outsourcing of materials and for outsourcing of services inputs. In contrast, with outsourcing of material inputs, services outsourcing does not lead to short-run productivity benefits. The authors justify these findings with the model developed by Grossman et al. (2005) <sup>(4)</sup> and argue that the firms that already export or are affiliated to a multinational business may face lower costs in searching suitable suppliers when they decide to outsource abroad <sup>(5)</sup>. Arguably, in the services sectors, it may be more difficult to search the market than in manufacturing.

## 5.2. Challenges

From the previous discussion it is clear that, for the benefits from relocation to materialise, there is a necessary process of adjustment of each partner's industrial structure to match their comparative advantage profile. Such a process of industrial restructuring involves costs. Inevitably some sectors as well as occupations are likely to expand while others will contract. Within the EU, given the diverse profile of comparative advantage of the various economies and their different ability to move towards new areas of specialisation, the adjustment costs are likely to differ greatly across Member States.

<sup>(1)</sup> Assuming that relocation takes place between developed and industrialising economies. The effect on the home country would be the opposite if the more skill-intensive parts of production were outsourced.

<sup>(2)</sup> Outsourcing could reduce the final cost base for US firms by 30–35 % (see McKinsey Global Institute, 2003).

<sup>(3)</sup> In an earlier study, Görg et al. (2005b) show that international outsourcing of services had a positive impact on productivity levels in the electronics industry in Ireland between 1990 and 1995.

<sup>(4)</sup> This paper explores the importance of search costs and the degree of 'thickness' of supplier markets on the decision to outsource production in international markets. It is argued that search costs for suitable suppliers in international markets are lower in markets where there are a larger number of potential suppliers ('thicker markets').

<sup>(5)</sup> Another possible explanation may be that firms belonging to MNEs benefit from scale economies and purchase inputs abroad at lower prices.

There are recurrent concerns that the ongoing process of overseas relocation of activities may trigger a process of deindustrialisation, that is, the decline share of manufacturing in total employment, in the EU economy. Such fears tend to grow stronger during periods of slow economic growth and have been recently exacerbated by the evidence suggesting that outsourcing and off-shoring increasingly extend to all parts of the value chain including those of higher value-added which constitute the core of the industrial structure of developed economies.

However, to analyse this issue, a long-term perspective must be adopted. In fact, for decades developed economies have undergone what can be called a process of relative deindustrialisation: an increase in global manufacturing output and a simultaneous decrease in the sector's employment <sup>(1)</sup>. As suggested in Drezner (2004), the decrease in the number of jobs in manufacturing could be a combination of technological progress with a related structural transformation of maturing economies away from industry towards services. This reflects the rapid growth in productivity in manufacturing and the high income elasticity of demand for services which are characterised by relatively low productivity growth. The high productivity growth in manufacturing has contributed to raising real incomes and to making manufactured goods relatively cheaper than services goods. Thus, inevitably, the share of manufacturing in national income and employment has followed a declining trend. Ultimately, and notwithstanding short-term adjustment difficulties, job losses in manufacturing will coexist with jobs growth in services <sup>(2)</sup>. Nonetheless, this is conceptually different from a process of absolute deindustrialisation that would be the result of a massive relocation of economic activity towards other countries in response to the deterioration of the EU international competitiveness. Such a phenomenon is not occurring. Firstly, as discussed previously, the phenomenon of relocation, although growing, is still rather limited <sup>(3)</sup><sup>(4)</sup>. Secondly,

the relocation of industrial activities is, in fact, the reflection of the adjustment of the EU economy to the changing profile of comparative advantages.

However, the exact role played by relocation in the ongoing process of relative deindustrialisation is less clear cut. Conceptually, the link between the two phenomena is intricate. First, as relocation allows firms to move production to overseas sites where costs are lower it contributes to accelerating the trend for decreasing international prices for manufacturing goods. Hence, by further increasing the gap between the prices of such goods and of services, relocation will feed the process of relative deindustrialisation as described earlier. Second, given that technological progress is not exogenous, it can be argued that relocation, being so far concentrated in manufacturing, promotes further technological advances in these sectors boosting further the productivity gap vis-à-vis services. This will also contribute to accelerating relative deindustrialisation. Nonetheless, the available evidence suggests that the impact of relocation on the process of deindustrialisation is weaker than is sometimes perceived. Boulhol et al. (2005) explore this issue empirically and find that net trade with off-shoring (low-wage) countries is associated with an average reduction of around two percentage points in the manufacturing employment share between 1970 and 2002 in the OECD countries considered in the sample <sup>(5)</sup>. This contribution is found to vary considerably across countries and represents a fifth of the deindustrialisation over the period.

What seems to be more important in terms of the impact of relocation in developed economies are the economic and social implications of the changing profile of the home-based production activities. The ongoing restructuring of the industrial sector is associated with the growing share in national output of certain sectors and certain activities within sectors and the contraction of others, which are losing competitiveness. Such a process involves important challenges for the EU economy and society.

One important challenge is associated with the fact that, increasingly, relocation extends to all parts of the value-added chain including a growing range of services sectors <sup>(6)</sup>. In face of an ever-expanding number of viable

<sup>(1)</sup> This is true even for the developing economies.

<sup>(2)</sup> This process may also be fuelled by an increase of domestic outsourcing of services led by manufacturing firms as they concentrate on their core industrial activities.

<sup>(3)</sup> Recall that the share of imported manufactured goods from the host countries continues to be only a small fraction of total expenditure in the EU. Domestically produced goods, but primarily services, will continue to dominate domestic expenditure and support employment growth.

<sup>(4)</sup> Recent evidence of relocation of R & D facilities is often feeding concerns about the EU ability to retain even the knowledge-based activities, where a priori its comparative advantage lies. However, such evidence must be put into context. For example, recent data for Germany reported by the industry confederation (DIHK) shows that, in 2001, German firms invested EUR 11.9 billion abroad in R & D activities. However, in the same year, foreign firms invested EUR 10.4 billion in the German R & D sector.

<sup>(5)</sup> Austria, Belgium, Canada, Denmark, Finland, France, Italy, Japan, South Korea, the Netherlands, Norway, Portugal, Spain, Sweden, the UK and the USA.

<sup>(6)</sup> Some high skills activities such as R & D, particularly those focused on the adaptation to local markets, tend to follow the production activities, see Chapter 1 of Part III.

location options, technological developments and shorter product life cycles and the likely limits to the fragmentation of any given industry's activities, there are concerns that the EU may not be able to sustain comparative advantage in a sufficiently broad range of activities and will thus eventually fail to prevent industries from relocating entirely. Moreover, recent evidence shows that, while the EU trade balance in high-tech sectors is improving, the EU comparative advantage remains centred in sectors which are intensive in intermediate labour skills <sup>(1)</sup>. While specialisation in traditional cost-based industries and activities is clearly not a viable option for the EU, such results point out that the competitiveness of the EU in high-skilled labour-intensive sectors is not yet secured. In this light, the challenge for the EU is to remain competitive for the location of sustainable chains of high value-added production activities.

The policy-making standpoint that has been adopted so far rejects a protectionist approach and puts emphasis on the promotion of the factors that will promote the EU comparative advantage in high-tech sectors, in particular by investing to improve the quality of the workforce and the physical and technological infrastructure to foster innovation activities <sup>(2)</sup>. In particular, it is important to create the conditions to allow a deeper specialisation in

activities that are difficult to replicate elsewhere associated with the promotion of 'deep' comparative advantages. Such activities are based on the complementarities between different specialised skills and occupations, which draw on firm-specific technological assets and/or on agglomeration economies in certain spatial clusters of industries. The task of fostering such competitive assets is becoming increasingly pressing as low-cost locations gradually improve their technological infrastructure and become attractive to the development of more complex activities <sup>(3)</sup>. Also, the share of Chinese exports led by foreign MNEs with high-technology contents is increasing, which can be seen as evidence that, for foreign MNEs, China is increasingly attractive as a production platform for higher-valued activities.

Obviously, the impact on employment is another important challenge that relocation poses to the EU economy. As relocation pushes further the international division of labour and the economic specialisation according to the comparative advantage profile of each economy, it necessarily impacts on labour markets, leading in particular to a shift in the composition of employment structures across sectors and skill levels. This issue will be taken up in Chapter 2 of Part II of this report.

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<sup>(1)</sup> See Chapter 2 in Part I.

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<sup>(2)</sup> See, for example, 'Fostering structural change: an industrial policy for an enlarged Europe' (COM(2004) 274).

<sup>(3)</sup> See also Chapter 1 of Part III on internationalisation of R & D and OECD (2004a).

## 6. Conclusions

The empirical evidence reviewed in this chapter suggests that, despite the recent growth in the involvement of developing economies and of services sectors, outsourcing and off-shoring are still largely concentrated in developed countries and in manufacturing. In respect to the prospects of future growth of relocation, it is important to be aware that the distinction between tradable and non-tradable goods persists to some extent. Despite the substantial reductions, trade costs may still limit, the activities that can be relocated. Hence, the scope of the functions that firms are able to perform beyond the borders of their home country remains limited compared to the total range of goods and services production. Moreover, many of the host countries will themselves eventually face factor supply constraints, particularly skill shortages, which will reduce their attractiveness for further relocation of certain activities.

Given that relocation is so far a rather limited phenomenon, there is no evidence that it poses major problems for the EU at the macroeconomic level, particularly in respect to employment levels. Moreover, the fears that relocation may trigger a process of deindustrialisation also seem to be exaggerated. However, the concerns about employment losses and the hollowing out of the manufacturing sectors echo the fears of public opinion in developed economies, namely the EU. In the present political context, it is important to acknowledge the benefits the EU can achieve from the overseas relocation of parts of the production process. Such benefits are often difficult to identify in the short and medium run, but may play an important role in consolidating and promoting

the long-run competitiveness of the EU economy. This may be particularly important for some manufacturing and services sectors where competitiveness cannot be sustained via local production. Evidence of benefits at the micro-level is emerging, which should provide policy-makers with further insights on the potential gains that can be reaped from the process. In particular, there is now evidence suggesting firms benefit in terms of productivity gains from strategies of reorganising the production chain across different countries. What we also need to acknowledge is that the benefits from relocation and globalisation in general will only occur if we lay down the conditions to allow the process of structural adjustment to fully occur so that the reallocation of factors from declining sectors to sectors where the economy has a comparative advantage and where the factors can be put to more efficient use takes place.

To conclude, overall the available evidence suggests that relocation does not constitute a qualitative break relative to the ongoing process of worldwide economic integration. The challenges it raises for the EU are not different from those associated with international trade and globalisation in general. Nonetheless, the phenomenon makes it yet more pressing to face such challenges, given that more people, more sectors and more activities (by increasingly extending to services) are now involved. The design of adequate policies aimed at promoting the long-term economic benefits of openness and integration, which relocation is part of, while minimising the social costs that it inevitably entails, is therefore a demanding and ever-more necessary task.

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# 4. Labour migration

## Summary

Labour mobility improves the allocation of workers to firms, ‘greasing the wheels of labour markets’. Immigrant workers may ease labour shortages in areas in which natives do not want to work and, as they are often more responsive than local workers to labour market conditions, they may smoothen the adjustment of labour markets to regional differences or shocks. Moreover, the increase in human capital from immigration contributes to long-term growth, in addition to the purely quantitative impact of increases in the labour force. Indeed, attracting foreign talent is likely to become an ever-more important challenge.

Net migration into the EU-15 has risen again in recent years, partly due to labour demand pressures in certain sectors and regions, and new destination countries have emerged, in particular in southern Europe. Some EU-10 Member States have recently become countries of positive net migration too. With an overall level of around 4.5 per 1 000, relative net migration levels into the EU-25 appear to be at present roughly on par with those into the US. Illegal immigration must be assumed to be high as well, judged by the experience from regularisation programmes conducted in several Member States. In general, the EU appears to be significantly less successful than the US in efficiently absorbing migrants into its labour markets, having to cope with a larger share of low-skilled immigrants. Indeed, the EU lags far behind the US in attracting highly educated immigrants. While this clearly poses a challenge for migration policy, the

evidence also suggests that micro planning to match immigration to skill shortages is unlikely to be very successful and could even restrict internal mobility and labour market adjustment.

Do migrant workers steal the jobs and depress the wages of natives? From an empirical perspective, past immigration has had no obvious impact on native unemployment. The estimated effects on domestic wages are not very conclusive either. However, the impact on wages and employment can be more negative for some groups of native workers, in particular the low-skilled, due to substitution effects. With the EU enlargement in 2004, part of past immigration from central and eastern European countries (CEECs) has become internal mobility. The evidence so far and available projections for the future do not suggest massive east–west net flows of labour, even if the movement of workers becomes completely unrestricted.

Finally, while net migration flows can partially offset demographic developments, immigration could not on its own solve the problems linked to ageing. Population ageing affects migrants themselves, as they get older and their fertility patterns tend to resemble those in their host country. Thus even somewhat higher net immigration would not dispense policy-makers from implementing the EU’s internal structural reform agenda to cope with the impact of ageing populations. Moreover, the impact of immigration will obviously depend on the integration of immigrant workers into the EU labour market.



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# 1. Introduction

Migration is an issue of growing importance for the EU economy for a number of reasons. Firstly, net migration into the EU-15 has risen again in recent years, partly due to labour demand pressures in certain sectors and regions; and new destination countries have emerged, in particular in southern Europe. Some EU-10 Member States have recently become countries of positive net migration too. Secondly, the EU enlargement on 1 May 2004 means that part of past immigration from countries of central and eastern Europe (CEECs) becomes internal mobility. Even if this does not entail massive east–west net flows of labour, as suggested by the evidence so far and available projections for the future, it could bring increased cross-border flows of workers within the enlarged EU. Thirdly, the projected decline in the working-age population of the EU-25 over the coming decades and its impact on potential economic growth and the sustainability of public finances has renewed the debate over the potential role that immigration could play in alleviating the pressures from ageing and declining populations.

The European Council, at its meeting in Tampere in October 1999, agreed that ‘the (...) issues of asylum and migration call for the development of a common EU policy’. It also recognised the assessment of the economic and demographic developments within the Union, as well as the situation in the countries of origin, as a basis for decisions on ‘the approximation of national legislations on the conditions for admission and residence of third-country nationals’. In November 2000, the Commission published a communication on a Community immigration policy<sup>(1)</sup> in which it recognised that immigration has an important role to play in increasing Europe’s growth potential and realising the goals of the Lisbon strategy more generally. In addition, it notes a growing recognition that the ‘zero’ immigration policies of the past 30 years are no longer appropriate. The Commission believes that channels for legal immigration to the Union should now be made available for labour

migrants. In its communication of June 2003 on immigration, integration and employment<sup>(2)</sup>, the Commission explored the role of immigration in the context of demographic ageing and outlined policy orientations and priorities to promote the integration of immigrants. The Thessaloniki European Council of June 2003 welcomed this communication and, as a follow-up, the Commission adopted its first annual report on migration and integration in June 2004, where it announces its intention to work towards the definition of common basic principles for integration at EU level. The Commission has commissioned a number of recent studies on this topic<sup>(3)</sup> and reported on the labour market situation of immigrants in 2003 and 2004<sup>(4)</sup>. Early in 2005, the Commission adopted a Green Paper launching a wide consultation on how to manage economic migration at EU level. The Green Paper asks which rules should be proposed and adopted at EU level concerning the conditions of entry and residence of third-country nationals for economic reasons. The Commission was requested by the Council to present a concrete policy plan on legal migration by the end of 2005<sup>(5)</sup>.

In the context of this discussion, this chapter explores the economic aspects of immigration in closer detail. It begins with an overview of recent trends and explores the rise in migration into the EU, the source of inflows, their composition and the labour market situation of immigrants in the EU. It then draws on economic theory and evidence to tackle selected issues in the debate on immigration, including the overall economic impact of immigration, the effect on domestic wages, employment and public finances, the likely impact of enlargement and the link between immigration and ageing populations.

<sup>(2)</sup> COM(2003) 336 final.

<sup>(3)</sup> See the studies commissioned by the European Commission Directorate-General for Employment, Social Affairs and Equal Opportunities, in particular, Münz (2004), Münz and Fassmann (2004), Boswell et al. (2004).

<sup>(4)</sup> See European Commission (2003) and European Commission (2004).

<sup>(5)</sup> The recent developments reinforce the need for a common and integrated approach to address the international flows of people, taking into account both migration and development policies.

<sup>(1)</sup> COM(2000) 757.

## 2. Trends in migration

### 2.1. Net migration flows

For more than two centuries, most countries of western Europe have been countries of emigration. Since, the 1950s, they have gradually become countries of destination for international migrants. Several phases in migration in Europe can be identified since the 1950s. Some countries established programmes to recruit foreign workers in the 1950s and 1960s to cope with the increasing labour demand during the economic boom. First they turned to other European countries such as Italy, Portugal and Spain and then to former colonies or neighbouring countries: north Africa in the case of France; the Caribbean and the Indian subcontinent for the UK; and Yugoslavia and Turkey for Germany. After the 1973 oil price shock, policies favouring labour migration were stopped. Nevertheless, net migration inflows<sup>(1)</sup> continued during the 1970s, averaging 240 000 persons per year, mostly due to family unification.

After a brief period of net outflows during the recession of the early 1980s, net migration flows into the EU rose again and peaked in 1992–93, as the fall of the ‘iron curtain’ and a number of wars and ethnic conflicts pushed upwards the number of people seeking asylum. Net inflows dropped significantly between 1993 and 1997, partly due to tighter controls over migratory flows in the main receiving countries, but they resumed their growth at the end of the 1990s. Overall, the average annual net entries more than tripled from around 250 000 people per year during the 1980s to more than 800 000 people per year during the 1990s. The 1990s is a phase marked by high irregular migration.

The rising trend in net inflows that started at the end of the 1990s continued until 2003 (detailed figures for 2004 are not yet available). Net inflows have doubled from 993 000 people in 2000 to over 2 million in 2003. Some of this increase, however, not only reflects new entries of migrants, but also large-scale regularisation programmes which made parts of the migrant population residing illegally in the EU visible in official statistics.

Germany, France<sup>(2)</sup> and the UK traditionally recorded the largest number of arrivals in the EU, but there has been a recent rise of migration flows to Italy, Spain and Ireland. Spain recorded the highest net inflows in the EU-25 in 2000, after recording net outflows during the 1960s and most of the 1970s and 1980s.

During the period 1990–96, more than half of net migration flows into the EU concentrated in Germany and 10 % in the UK, on average. The share of Germany as a recipient of net flows fell to 15 % over the period 1997–2003, while Spain received close to 30 % of net inflows, the UK 17 % and Italy 12 %.

Net migration flows do not show the size of inward and outward movements due to temporary and return migration that can be large. Therefore, net migration flows tend to be much smaller than gross flows. For example, Germany records a comparatively large number of arrivals, but the high number of outflows keeps net migration, relative to total population, comparable to that of some other countries. Sinn et al. (2001) estimate that only 40 % of immigrants were still living in Germany 10 years after their arrival and less than 35 % after 25 years<sup>(3)</sup>. In Sweden, over a quarter of immigrants are estimated to leave within five years of their arrival (Edin, LaLonde and Aslund, 2000).

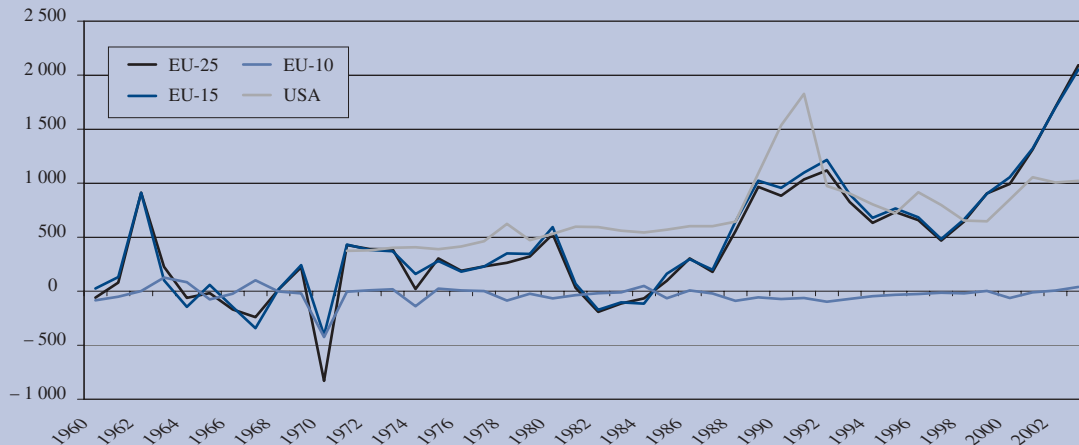
<sup>(1)</sup> Net migration is measured as the difference between the total population on 1 January and 31 December for a given calendar year, minus the difference between births and deaths (or natural increase). The approach is different from that of subtracting recorded emigration flows from immigration flows.

<sup>(2)</sup> No data on immigration flows are available for France, but data on foreign population stocks are available (Eurostat).

<sup>(3)</sup> It should be noted that these figures exclude ‘ethnic Germans’ and asylum-seekers.



Graph 1: Net migration, EU-15 and USA (in 1 000s)



NB: EU-15 — 1998 Immigration Law, Italy. This introduced a clear right to family reunification and sponsored migration for employment search, both policies acting as alternative conduits to illegal migration. Law 4/2000, Spain. This established a continuous legalisation process, rights for illegal migrants, and duties of State agencies in dealing with applications (timeframe to respond, grounds for refusal, etc.).

2001 Immigration Law, Portugal. This introduced major innovations, including multiple and flexible visa arrangements, a continuous legalisation process, and clear duties of State agencies.

USA: The 2.7 million foreign nationals legalised under the Immigration Reform and Control Act (IRCA) of 1986 accounted for almost 57 % of the total LPR flow between 1989 and 1991.

Sources: Eurostat, US Census/Office of Immigration Statistics.

During the period 1995–99, the average number of migrants <sup>(1)</sup> arriving to the EU (including EU citizens) was just over 0.6 % of the resident population per year, slightly less than over the earlier years of the decade (0.7 %). On average over the second half of the 1990s, 18 % of persons moving into EU countries were citizens of other Member States, 27 % were nationals returning from abroad and 54 % were citizens of non-EU countries <sup>(2)</sup>, but there are large differences between countries. Immigration of non-EU nationals accounted for

slightly under 0.5 % of the resident population a year, on average over the period.

The proportion of foreigners in the total population has increased in most countries over the past decade and shows wide cross-country differences. It is the highest in Luxembourg, close to 10 % in Austria, Germany and Belgium and close to 6 % in France and Spain. Due to recent high inflows, the share of foreign population has risen sharply in Spain, Italy, Portugal and Ireland.

The foreign population accounts for around 5 % of total population in the EU, a markedly low proportion as compared to 20 % of foreign-born population in Australia and Canada and 10 % in the USA <sup>(3)</sup>. Recently, over 300 000 people per year have acquired the citizenship of an EU-15 Member State. In France, Belgium, the Netherlands and the UK, the share of foreigners in the total population has not varied much during the 1990s, despite high inflows of foreign-born, partly reflecting a relatively high number of naturalisations. Information on the

<sup>(1)</sup> There is significant lack of comparability in migration statistics. An immigrant can be defined as a person obtaining the right of permanent residence, of limited duration residence or who registers in a population register and intends to stay for more than a specified period (three months or a year). Often, foreign students who enrol on a population register are counted as immigrants. One implication when estimating the number of immigrants based on foreign citizens, as opposed to foreign-born, is that naturalised citizens may cease to be counted as immigrants and become difficult to distinguish from the majority of native citizens. Differences across countries on the scope and limits of foreign citizens and their native-born children and grandchildren to become naturalised citizens have also to be taken into account. Furthermore, the statistics on net immigrant flows most likely underestimate the level of migration due to movements of illegal or clandestine immigrants. Illegal immigration flows are obviously not included in official statistics and can only be estimated. Finally, emigration flows are not well recorded and there are no data on the number of immigrants who stop working, retire, are naturalised or return to their country of origin.

<sup>(2)</sup> Eurostat (2003).

<sup>(3)</sup> The proportion of foreign-born population is lower in the USA than in Australia and Canada, however, due to a past history of immigration, around 34 % of the US population belongs to an ethnic minority (OECD, 2002).

Table 1

Member States' migration rate

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Belgium	2.6	1.8	1.7	0.2	1.5	1.0	1.1	1.6	1.3	3.5	3.9	3.4
Denmark	2.2	2.2	2.0	5.5	3.3	2.3	2.1	1.8	1.9	2.2	1.8	1.3
Germany	9.6	5.7	3.9	4.9	3.4	1.1	0.6	2.5	2.0	3.3	2.7	1.7
Greece	9.2	8.3	7.5	7.3	6.6	5.7	5.1	4.1	2.7	3.5	3.5	3.2
Spain	1.4	1.5	1.4	1.5	1.9	2.1	3.8	5.7	9.4	10.5	15.7	17.8
France	0.6	0.3	-0.1	-0.2	-0.3	-0.2	-0.1	0.7	0.8	1.0	1.1	0.9
Ireland	0.5	-1.0	-0.8	1.7	4.4	4.8	4.4	6.5	8.3	10.1	8.3	7.8
Italy	0.5	0.4	0.5	0.6	1.0	1.0	1.1	0.8	1.0	0.8	6.1	10.4
Luxembourg	10.5	9.8	9.4	10.5	8.4	8.6	8.9	10.2	8.0	7.5	5.8	4.7
Netherlands	2.8	2.9	1.3	1.0	1.4	2.0	2.8	2.8	3.6	3.5	1.7	0.4
Austria	9.1	4.2	0.4	0.3	0.5	0.2	1.1	2.5	2.1	5.4	4.3	4.7
Portugal	-0.5	0.8	1.7	2.2	2.6	2.9	3.2	3.7	4.6	6.3	6.8	6.1
Finland	1.8	1.8	0.7	0.8	0.8	0.9	0.9	0.7	0.5	1.2	1.0	1.1
Sweden	2.3	3.7	5.8	1.3	0.7	0.7	1.2	1.5	2.8	3.2	3.5	3.2
United Kingdom	0.8	1.6	1.5	2.0	1.8	1.5	3.7	2.8	2.9	3.1	2.1	4.4
EU-15	3.3	2.4	1.8	2.1	1.8	1.3	1.8	2.4	2.8	3.5	4.5	5.4
EU-25	2.5	1.9	1.4	1.6	1.5	1.0	1.4	2.0	2.2	2.9	3.7	4.6

Source: Eurostat.

foreign-born population would give a more accurate picture of extent of migration than the size of the foreign population. Combining available information on foreign-born population from the labour force survey with that produced by the United Nations Population Division as well as national data, Münz and Fassmann (2004) estimate the number of foreign-born at 32.4 million in 2002 in the EU-15, or 8.6 % of total population.

**2.2. Immigration in the EU: source and destination countries**

The proportion of other EU-15 citizens in recent immigrant flows is very high in Luxembourg (close to 70 %), Belgium (40 %) and Ireland (30 %) (1). In the remaining countries, less than 25 % of foreigners originate from other EU-15 countries. Returning nationals account for at least 15 % of inflows, reaching 35 % in Ireland and over 40 % in Denmark and Finland. Non-EU-15 nationals account for between 25 % and 70 % of immigration flows.

A breakdown of the foreign resident population of the EU in 2002 shows that the proportion of nationals from

other EU countries exceeds 70 % in Belgium, Ireland and Luxembourg and 35 % in most other countries. EU-15 citizens account for 25 % of foreigners in Finland and less than 5 % in Greece.

Citizens from current EU-10 Member States and other countries in central and eastern Europe (2) make over 60 % of foreign residents in Greece, Austria and Finland. They account for around 20 % in Denmark, Germany, Spain, Austria, Portugal and Sweden and for less than 8 % in Belgium, France, the Netherlands and the UK.

In most countries, the foreign population originates from traditional immigration sources, with cross-country differences indicating historical ties. In 2002–03, excluding nationals from other EU Member States, the largest groups of foreigners in Germany originate from Turkey and in the UK from south-east Asia. In France and Belgium, the bigger groups of foreign citizens come from northern Africa. In the Netherlands, they originate from Turkey and Africa. The most significant groups in size in Sweden and Finland come from central and eastern Europe and the former Soviet Union. In Spain and Portugal, the biggest group of foreign citizens originate

(1) Data from the New Cronos database.

(2) The data include citizens of candidate countries, the Balkans, Russia, Belarus, Ukraine, Caucasus and central Asia.

Table 2

Foreign population

	Thousands		% of total population		% of foreign labour force in total labour force
	1990 <sup>(1)</sup>	2002 <sup>(2)</sup>	1990 <sup>(1)</sup>	2002 <sup>(2)</sup>	2003 <sup>(2)</sup>
Belgium	881	850	8.9	8.2	7.7
Denmark	151	265	2.9	4.9	3.5
Germany	5 343	7 336	6.7	8.9	9.0
Greece	226	762	2.2	7.0	9.5
Spain	398	1 324	1.0	3.2	3.7
France	3 597	3 263	6.3	5.4	5.2
Ireland	81	188	2.3	4.8	6.5
Italy	490	1 512	0.9	2.6	3.8
Luxembourg	106	171	27.9	38.3	45.0
Netherlands	642	700	4.3	4.3	3.8
Austria	518	708	6.6	8.8	9.2
Portugal	101	413	1.0	4.0	2.7
Finland	21	104	0.4	2.0	1.6
Sweden	456	474	5.3	5.3	4.6
UK	2 416	2 681	4.3	4.5	5.1
Total EU-15	15 426	20 751	5.1	5.4	8.0

<sup>(1)</sup> Austria and Germany: data for 1991.

<sup>(2)</sup> Danish 2002 data, Greek data refer to foreigners who entered Greece for employment purposes.

Source: OECD/Sopemi (2005).

from Latin America and Africa, respectively. In Italy, they come from Africa. Nationals from the USA, Canada and Australia account for about 15 % of the foreign population in Ireland and the UK.

However, inflows have also become more diversified, with increasing flows of immigrants from new sources in central and eastern Europe, Asia, Africa and central and Latin America. Some groups have emerged recently, such as central and eastern Europeans in Germany, Africans in the UK and Spain and Asians in the Nordic countries and Italy. There has also been a dispersion of flows of immigrants from the same country of origin into different destination countries. For example, nationals from the former Yugoslavia are long-term residents in Germany and Austria and, more recently, in Italy and Sweden. Nationals from Morocco first arrived in France, then Belgium and the Netherlands and more recently to Spain and Italy.

### 2.3. Composition of flows

There are four broad types of migration flows: (i) labour migration, including short- and long-term migrants and

seasonal workers <sup>(1)</sup> (students form a special sub-group, where it is unclear what proportion of them will enter the labour force of their host country during or after their studies); (ii) family-linked migration, both accompanying family members and family unification; (iii) asylum-seekers who, once they are granted asylum, are classified as refugees; (iv) illegal immigrants, who may enter the country illegally, stay after the expiration date in their visa or apply for asylum and stay in the country despite not having been granted refugee status. The distinction between these categories remains somewhat blurred, however, because there are a number of different factors driving migration decisions. Moreover, policy changes such as amendments to the conditions of entry and residence of foreigners, naturalisation decisions and regularisation of illegal immigrants affect the flows of entries and their composition. For example, the closing of labour migration and family reunification channels will put pressure on other forms of immigration, increasing the arrivals of asylum-seekers and illegal immigrants. A

<sup>(1)</sup> In traditional settlement countries (Australia, Canada, New Zealand and the USA), people who are granted temporary residence may not figure in the statistics (OECD, 2005).

tightening-up of measures aimed at asylum applicants may also lead to increased illegal immigration.

About half of permanent or long-term immigration flows into the EU arise from family reunification <sup>(1)</sup>. In France and Sweden, family-linked immigration, which is rising, accounted for 75 % and 60 % of permanent inflows in 2002, respectively <sup>(2)</sup>. Inflows of workers have increased in most countries since the second half of the 1990s. Their growth was fastest in Denmark, the UK and Sweden, where they rose by over 20 %, reflecting the strong economic growth and the shortage of skilled and highly skilled workers in some sectors, especially in the information technology sector. In 2002, labour migration accounted for around 20 % of immigration flows in Denmark and France, but the percentage of workers in total inflows was around 50 % in the UK and Portugal (OECD, 2005).

The asylum-seeker flow increased continuously after 1989, more markedly in Germany, France, the Netherlands, the Nordic countries and the UK. The UK, France and Germany receive the highest number of applications. Since 2001–02, a reversal was observed and inflows declined in all EU-15 countries except Greece. The top source countries of asylum-seekers in the EU, since 1995, are Serbia and Montenegro, Iraq, Turkey, Afghanistan. Since 2003, the Russian Federation has accounted for the largest group with over 30 600 applications filed in EU-15 countries. However, many asylum-seekers are not given refugee status: in the UK for example, two thirds of applications are refused. Refugees account for 40 % of total immigration flows in Sweden and 20 % in Denmark, but about 10 % in France and the UK (OECD, 2005).

In Europe, estimates based on the responses to regularisation programmes and other assessment efforts have produced ratios between legal and illegal immigration in the range of 1:0.3 up to 1:1. Moreover, short-term temporary gross flows (both in and out) of clandestine immigrants may be even higher. Thus, there can be little doubt that significant stocks of 'illegal foreign residents' may have built up over time which, in particular when clustered locally, add to serious concerns. According to estimates reported by Ghosh, the proportion of irregular flows in total immigration is higher in western Europe, at a third of total flows, than in the USA, where it accounts for a quarter of total yearly flows <sup>(3)</sup>.

The composition of non-EU nationals by gender, age and education level varies across countries and also within countries from that of nationals. In France, Belgium and, to a lesser extent, Sweden and the Netherlands, the age structure of foreigners is relatively close to that of nationals, except that the share of 65 and older age groups is still lower for foreigners than for nationals. In southern European countries and Finland, which are more recent receiving countries and in the UK, the proportion of working age people is higher for foreigners than for nationals and older age groups are under-represented in the foreign population as compared to the national population.

Female migration inflows are associated with family reunification, but comparatively high percentages of women in the foreign population are found in the UK and the Nordic countries, where the relative proportion of refugees and asylum-seekers is high and employment-related movements often involve women, especially in the health-care sector. Whereas women used to be under-represented in the immigrant population, the proportion of immigrant women in the total foreign-born population in 2004 is higher than that of men in most EU-15 countries. The distribution of foreign-born by education attainment tends to concentrate in lower education levels, whereas for nationals the proportion with upper secondary attainment is generally the highest. The proportion of foreign-born with tertiary education level tends to be similar or higher than that of native-born. The proportion of foreign-born with low education attainment is higher than for native-born, except in Spain, Greece, Portugal, Ireland and the UK. This partly reflects past labour demand for low-skilled workers in the manufacturing sector. The share of foreign-born with tertiary education is higher than for nationals, with the exceptions of Germany, the Netherlands and Finland. Labour demand in the receiving country has an impact on the skill level of immigrants, which leaves some scope for selective immigration policies. However, the skill levels of immigrants also depend on their country of origin, via positive or negative selection <sup>(4)</sup> and on the composition of flows.

<sup>(1)</sup> Brücker (2001). This is also the case in the US, where family migration accounted for close to 70 % of permanent migration in 2002 (OECD, 2005).

<sup>(2)</sup> OECD (2002).

<sup>(3)</sup> Ghosh (2000).

<sup>(4)</sup> Borjas (1989) argues that migration will increase with skill level, i.e. migrants will be positively selected, if the return to skills is higher in the destination than in the source. Migration will decrease with skill level (migrants will be negatively selected) if the return to skills is greater in the source. Income disparity can be taken as a proxy for return to skills that is higher in a less egalitarian society and lower in a more egalitarian society. In migration from a more egalitarian to a less egalitarian society, the highly skilled are more likely to migrate. In migration from a less egalitarian society to a more egalitarian one, the less skilled are more likely to migrate. Empirical evidence shows a negative correlation between measures of source country income inequality and earnings of immigrants in the USA.

## 2.4. Labour market situation of immigrants in the EU

Due to data limitations, the situation of non-EU nationals is often used as a proxy to analyse the employment situation of immigrants. However, this leads to an underestimation of the migrant population in countries with high naturalisation rates. Migrants who are naturalised also tend to have better labour market outcomes than legal foreign residents, which will tend to bias towards more negative conclusions when looking at non-EU nationals. A complementary approach is to look at the situation of the foreign-born population (see Münz and Fassman, 2005).

The participation rates of non-EU nationals in the labour market are generally lower than those of nationals, except in the southern European countries where labour migration predominates strongly. In Sweden, Denmark and the Netherlands, which traditionally receive high numbers of asylum-seekers, the participation rates of foreigners are much lower than those of nationals<sup>(1)</sup>. The participation rates of foreign women are much lower than those of foreign men in all countries, with a gap exceeding 30 % in some countries.

The unemployment rates of non-EU nationals are roughly two to three times higher than those of EU nationals, except in recent immigration countries (Ireland, Italy and Spain). Only in Greece are the unemployment rates of foreigners lower than those of nationals. The unemployment rates of foreign women are usually higher than those of foreign men.

The employment rate of non-EU nationals is, on average, more than 10 percentage points lower than that of EU citizens. This difference does not tend to disappear once controlling for skill levels and other socioeconomic variables, although the employment rate gap is notably smaller for low-skilled workers. Indeed, education and skill levels of the foreign population in the EU — including country-specific skills, such as language — are typically much lower than those of the native population. Moreover, the immigrants' education and professional experience is not easily transferable or recognised into the host country and can result in 'brain waste'. Indeed, indications that certain immigrants tend to be overqualified for their jobs point to the risk of discrimination in accessing the labour market.

Several empirical studies find relevant 'life-cycle effects' (almost exclusively for the USA, though), that

is, over time, as immigrants integrate better in the host countries' society and improve their qualifications, both unemployment rate and wage gaps between immigrants and native workers tend to shrink<sup>(2)</sup>. This is confirmed when looking at the performances of the foreign-born population (including immigrants having acquired the citizenship of the receiving country), which contrast favourably with the non-EU population<sup>(3)</sup>. However, a study for Sweden and Denmark suggests that earlier immigrants do not perform better nor earn higher wages than when they were newly arrived<sup>(4)</sup>.

The distribution of foreign employment by industry is converging towards that of the native labour force over time<sup>(5)</sup>. Foreign workers, however, still tend to specialise in particular industries and occupations. They are over-represented in certain industrial sectors, in the sense that they account for a larger proportion of employment in those sectors than they do in total labour force. Foreigners are over-represented in the construction sector in most countries and even more markedly in the services sector in all countries; they are over-represented in the agriculture and fishing sector in Spain. They are typically under-represented in the public sector as well as in the financial sector. There are also wide cross-country differences in the industrial distribution of foreign employment. Employment in households and other services reaches 25–30 % of total foreign employment in most countries. In Austria, Belgium, Germany and Italy, more than 25 % of foreign employment is concentrated in mining, manufacturing and energy. Around 15 % of foreign employment in Spain is concentrated in hotels and restaurants. In Sweden, nearly 10 % of foreigners employed work in the education sector. In Denmark, Sweden and the UK, around 15 % of employed foreigners work in health and other community sectors. The occupational distribution of immigrants shows that they tend to have a greater proportion of blue-collar workers than natives. The proportion of foreigners with blue-collar jobs is generally much higher than that in white-collar jobs in most countries, with the exception of the UK, the Netherlands and Belgium. A higher concentration of immigrants in blue-collar jobs is associated with their relatively lower educational levels and the problems of skills transferability.

<sup>(1)</sup> It should be noted that asylum-seekers are often not allowed to work.

<sup>(2)</sup> See further the overviews in European Commission (2003) and (2004) and COM(2004) 508 final.

<sup>(3)</sup> See Münz (2004). The OECD (2005), however, generally finds unemployment among foreigners higher than, but similar to, those of foreign-born citizens.

<sup>(4)</sup> Rosholm (2001).

<sup>(5)</sup> OECD (2001).

Table 3

Employment of foreigners by sectors, 2002–03 average

	Agriculture and fishing	Mining manufac- turing and energy	Construc- tion	Wholesale and retail trade	Hotels and restaurant	Education	Health and other community services	Households	Administra- tion	Other services
Belgium	0.8	21.7	8.0	15.8	7.7	4.8	8.0	0.6	6.5	26.1
Denmark	:	16.2	:	11.9	9.5	5.9	18.5	:	:	30.1
Germany	1.1	31.6	7.3	13.1	11.1	3.1	7.3	0.6	2.3	22.5
Greece	5.1	17.1	27.9	10.8	9.4	2.1	1.9	16.3	:	9.1
Spain	8.2	12.2	17.7	10.6	14.9	2.4	2.1	16.4	0.7	14.7
France	3.1	16.1	16.4	11.2	7.4	3.4	5.2	7.9	2.9	26.2
Ireland	2.7	17.7	6.9	10.1	15.9	4.9	11.9	1.3	1.5	27.0
Italy	4.5	28.9	11.1	9.7	7.9	2.8	4.6	10.8	2.4	17.4
Luxembourg	0.8	10.3	16.0	13.1	6.8	2.0	5.7	3.7	10.0	31.6
Netherlands	1.5	20.4	4.5	15.0	8.2	5.4	12.2	:	4.6	28.2
Austria	1.1	24.9	12.3	15.2	12.2	2.8	6.5	0.5	0.9	23.6
Sweden	:	17.1	3.6	11.5	6.0	9.1	20.3	:	:	29.2
United Kingdom	0.4	11.3	4.5	11.9	11.5	7.8	14.9	1.3	3.8	33.6

NB: Danish and Italian 2000–01 average data, Netherlands 2002 data.

Source: OECD/Sopemi (2005).

## 3. Selected issues in the economics of migration

### 3.1. Estimating the economic impact of migration

Economic theory suggests that free international movement of labour tends to be beneficial because of allocative reasons, at least for the economy as a whole. Most studies find a small overall net gain from immigration for the host country, the ‘immigration surplus’, but the benefits are not distributed evenly across the native population.

Theoretical models of competitive labour markets predict that increased labour supply due to immigration will, given labour demand, depress the wages of competing native workers. But in presence of economies of scale, such as in research- or technology-intensive activities, average wages could increase. In open economy models, the increase in labour supply is expected to generate other economic mechanisms that increase the demand for labour, through the expansion of labour-intensive industries, so the overall effects on wages and unemployment are ambiguous.

The key issue for evaluating the labour market effects of immigration is whether immigrants are substitutes or complements to native workers. Thus, basically, the consequences for wages depend on the relative skill composition of foreign and native labour. The higher the substitution between immigrants and natives, the more likely immigration flows will cause a decline in native workers’ wages. On the other hand, inflows of immigrant workers that are complementary to native workers would, all things being equal, increase the productivity of natives and push their wages upwards.

Assuming that migrants mainly compete with blue-collar domestic labour for unskilled and low-paid jobs, it is precisely this group of native workers who might see their wage and employment opportunities depressed,

while the wage and income of complementary factors will move in the opposite direction. However, as long as the migrant flows are not too large, negative impacts on native workers are likely to remain rather moderate. Furthermore, as the flows of immigrants are composed of both skilled and unskilled workers, although biased towards the unskilled, and insofar as skilled and unskilled workers are complementary, the increased supply of skilled workers will raise the demand for unskilled workers and tend to increase their wages somewhat.

According to standard economic models found in the literature, a typical estimate would suggest an overall ‘immigration surplus’ of about 0.1–0.2 % of GDP for a 10 % addition to the initial labour force (<sup>1</sup>). The distributional effects tend to be more significant: again, a typical calculation for a 10 % inflow to the labour force (with a 50:50 skilled/unskilled mix) would suggest an income redistribution of about 2 % of GDP from native workers to (native) capital-owners, with unskilled labour having to shoulder a major share of the burden. Note, however, that from an empirical point of view a 10 % addition to the labour force represents a fairly large increase; in practice, numbers have been much smaller.

The wage rate effects in standard models are calculated under the assumption that wages adjust and labour markets clear. Obviously, when wages do not adjust, unemployment will emerge. Indeed, immigrants, especially in Europe, tend to have significantly higher unemployment rates than natives, probably reflecting, *inter alia*, lower wage flexibility and slower speed of adjustment in EU economies.

However, immigration may have positive effects on labour markets by relieving the labour shortage in certain

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<sup>(1)</sup> Borjas, Freeman and Katz (1997).

areas. New jobs can be created, such as domestic service or construction services, which would not be offered by natives. Highly skilled immigrants may contribute to the creation of new industries and the increase in long-term growth through human capital accumulation. Labour market efficiency may also increase with immigration, as suggested by Borjas (1). Indeed, immigrants are very responsive to regional differences in economic opportunities. New immigrants in the USA are found more likely to be clustered in those states that offer the highest wages for the type of skills they offer, thus 'greasing the wheels of the labour market'. Labour mobility in the EU is much lower than in the USA, so immigration could have a potential role in improving the efficiency of labour markets by compensating, at least partially, for the low mobility of natives. Last but not least, the spending of immigrants in the receiving country increases the demand for products produced by natives.

### 3.2. Domestic wages and employment

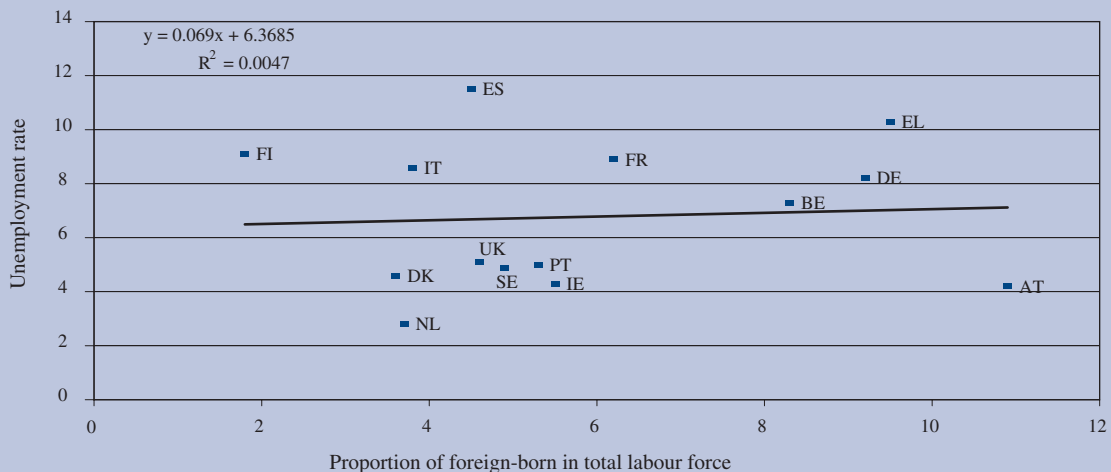
The potential negative effects of immigration on wages and unemployment have received a lot of attention in the academic debate. A large number of empirical studies

examine the impact of immigration on the labour market, but the evidence remains inconclusive.

Rough visual inspection of a cross-plot of the overall unemployment rate and the share of foreigners in the total population shows little, if any, correlation between these two variables. Indeed, the available empirical evidence suggests that the effect of immigration on the unemployment of native workers is small. The estimates range from no effect of immigration on unemployment to a small effect over time. Negative effects of immigration are generally found when the inflows are very high. Empirical studies based on static labour models find different effects on different groups of labour market participants, for example Borjas' (1987) work for the USA leads to the conclusion that immigrants' main competitors on the labour market are other immigrants (Dustmann et al., 2005). Some empirical studies find a positive relation between migration and wages (of complementary workers). It has to be noted that empirical research is plagued with numerous difficulties and that the results depend on many factors, such as the timing of inflows or the fact that immigrants can choose destination countries and regions with relatively low unemployment rates. Furthermore it is difficult to disentangle the labour market effects of immigration from those caused by different skill levels of immigrants and natives.

(1) Borjas (2001).

Graph 2: Unemployment and proportion of foreign-born in total labour force, 2002



Sources: Commission services, OECD/Sopemi (2004).



Table 4

Selected studies on immigration, unemployment and wages

Reference	Country	Main findings
Card, 1990	US	The arrival of around 125 000 Cubans, largely unskilled, in Florida in May 1985 increased the population of Miami by 7 %. Cubans alone (i.e. neither other unskilled Hispanics, blacks nor whites) were significantly affected by the inflow of migrants. But the growth of Miami's population was lower, indicating a fall from other sources of immigration.
Altonji and Card, 1991	US	Very slightly significant positive effect of the migration variable on employment, but negative effect on wages (elasticity 1.2).
Hunt, 1992	F	The repatriation of 900 000 'pieds noirs' from Algeria in 1962 increased the total labour force by some 1.6 %. A one percentage point rise in the proportion of returnees in the labour force reduced regional wages by 0.8 point and increased the native unemployment rate by 0.2 point.
Simon, Moore and Sullivan, 1993	US	Immigration has no significant effect on the unemployment rate. A very slightly positive effect is obtained when changes in unemployment are considered over two years.
Muhleisen and Zimmermann, 1994	D	The proportion of foreigners in local industry does not have an impact on worker mobility or exposure to unemployment.
Carrington and De Lima, 1996	P	The return of 600 000 Angolan nationals to Portugal over three years in the mid-1970s, largely in three cities, increased the local population by some 10 %. There is no instantaneous effect but a lagged effect equivalent to an additional 1.5 % of unemployment.
Diaz-Emparanza and Espinosa, 2000	E	Immigration has a negligible short-term effect on unemployment but there is no long-term relation between immigration and unemployment.
Longhi et al., 2004	US, DE, NL, A, Israel, Australia	A meta-analysis using a sample of 18 papers finds a negative but small effect of immigration on wages of natives with similar skills (a one percentage point increase in the proportion of immigrants in the labour force reduces wages by only 0.119 %).

There are also dynamic effects which complicate the analysis, such as the assimilation effects as immigrants acquire skills and experience in the local labour market, the possible adjustment in decisions on human capital investment by the native population and the potential mobility of native workers to another location after an inflow of competing workers <sup>(1)</sup>.

So far, the literature is overwhelmingly based on static labour models. However, the local labour markets could absorb an inflow of immigrant in many ways and not only through adjustment of natives' wages and/or unemployment. The literature has only started to tackle the more complex dynamic adjustment processes that may occur and the different effects that immigration has on the whole economy.

### 3.3. Public finance aspects of migration

An important element in the public debate over immigration has been the impact on public finances. Immigrants

are often seen as an additional burden for the welfare state, causing additional costs for unemployment and social assistance support systems, as well as for education and health systems, with these costs, on average, usually not matched by additional tax payments.

Brücker shows that, in Germany, Sweden and Denmark, the share of foreigners among welfare recipients rose from 8.3 % to 23.5 % over the period 1980–96 whilst the share of foreigners in total population increased from 7.2 % to 8.9 % <sup>(2)</sup>. In theory, skilled workers select less generous countries, which are less egalitarian and in which skills are better rewarded, whilst unskilled workers select more generous countries. But the literature finds that the higher dependency among immigrants than natives in those countries can be explained by the characteristics of immigrants — mainly their education level, age and number of children. Temporary immigrants are more likely to leave their family in the source country than permanent immigrants, therefore having a lower demand on a number of social welfare provisions, nota-

<sup>(1)</sup> However, evidence for the USA indicates that the native workers who emigrated from regions receiving an influx of unskilled immigrants were predominantly high skilled (Rivera Batiz, 1997).

<sup>(2)</sup> Brücker (2001).

bly the public education system. Refugees have a significantly higher welfare use than other immigrants.

Unfortunately, it is quite hard to derive a reliable estimate of the net fiscal contribution of immigrants. Results are typically not very robust with respect to methodological assumptions; it makes a lot of difference, for example, whether the analysis is static or takes life-cycle effects into account, whether the unit of analysis are individuals or households, what is taken into account and what not, and so forth.

Generational-accounting models have been used to estimate the fiscal impact of migration. In Italy, 50 000 immigrants per year would reduce the tax burden by 3–4 % of GDP<sup>(1)</sup>; in Germany<sup>(2)</sup>, a net annual inflow of 200 000 immigrants would reduce the tax burden by 1.1 % of GDP. Sinn et al. use a different methodology, calculating the present value for pension benefits and they find that immigrants are, on average, a net burden to the government budget — the burden is higher during their first 10 years than over their total stay<sup>(3)</sup>. However, the calculations are not very robust with respect to small variations in underlying assumptions. A study for the Netherlands by ter Rele finds a negative fiscal impact of immigrants, due to the lagging labour market performance of immigrants and the basic public pension provision<sup>(4)</sup>. In the USA, additional immigration is found to have a positive effect on the government budget only if immigrants are selected by age and skill<sup>(5)</sup>.

In summary, the evidence on the fiscal effects of immigration is mixed and the results are often not very robust. Having this caveat in mind, it is probably fair to say that the net budgetary impact appears to be fairly small. However, geographical ‘clustering’ of immigrants could also be associated with a higher burden on ‘local’ budgets.

### 3.4. Migrant workers and enlargement

Given that barriers to trade, FDI and other capital movements have already been largely removed, the free movement of persons and workers constitutes probably the most significant dimension of economic integration to change after accession compared to the status-quo. As

of 1 May 2004, the movement of persons within the enlarged EU is to be considered as a matter of internal mobility. Certainly, the large gaps in per capita income and wages across the enlarged EU provide high incentives for east–west mobility, which are likely to persist for quite some time; furthermore, geographical proximity and established historical and cultural ties may ease migration flows.

As with previous enlargements, temporary arrangements with respect to labour mobility to ensure a smooth process of integration have been agreed upon and included in the accession treaties. The system of provisional arrangements combines a two-phased transition period of five years (with a review after two years) and a possibility for a prolongation for individual Member States, if requested, of a maximum period of two years. As a result, the *acquis communautaire* will be applied fully after a maximum period of seven years in all Member States. It goes without saying that any projection of east–west migratory flows following enlargement is subject to a considerable degree of uncertainty. There have been more than 30 studies on the potential migration effects of enlargement with most estimating the long-run migration potential for the EU of between 2 % and 4 % of the source populations of the CEECs. Cumulated over 15 years, the absolute net number of migrants is estimated at around three million people. This would correspond to about 1.2 % of the projected working-age population of the former EU-15 in 2020. Even when allowing for a significant upward margin of error, these numbers are simply not large enough to affect the EU labour market in general.

In summary, these projections suggest that, from an overall economic perspective, potential east–west net flows of labour following enlargement do not appear to pose any serious threat to jobs and wages in the EU as whole. However, assuming that migration streams from the CEEC-10 will flow along existing immigration networks and geographic distance, the likely destination patterns of potential migratory pressures indicate that some countries and regions, in particular Austria and Germany, may indeed face some short-run adjustment problems to cross-border labour flows, including commuting.

In fact, normalised by relative population size, Austria exhibits by far the largest share of residents from the CEEC-10, followed by Germany, Sweden and Finland; for all the other Member States, their share of CEEC-10

<sup>(1)</sup> Moscarola (2001).  
<sup>(2)</sup> Bonin (2001).  
<sup>(3)</sup> Sinn et al. (2001).  
<sup>(4)</sup> ter Rele (2003).  
<sup>(5)</sup> Storesletten (2000).

residents is less than proportionate. Overall, Germany has attracted by far the highest number of residents from the CEEC-10, with a share of almost two thirds, followed by Austria, the UK and Italy.

Concurrent with EU enlargement, some 750 000 citizens of new EU members now lawfully residing in one of the old EU-15 Member States have acquired the right to bring in dependent family members, representing a considerable potential for family reunification<sup>(1)</sup>. Some 730 000 citizens of new EU members and of Bulgaria, Croatia and Romania are at present gainfully employed in the EU-15. Another 300 000 enter the EU-15 for a limited period of time as regular seasonal workers (IOM, 2005).

Indeed, an important conclusion from the east–west migration potential studies is the need to differentiate between various types of migration, in particular distinguishing between short-term and more permanent movement. Existing survey studies do suggest, for example, that the propensity for permanent emigration is fairly small for Czechs, Poles and Hungarians, while the preference for short-term migration, including cross-border commuting, seasonal and casual work is clearly much higher. Such patterns of ‘incomplete migration’, where those involved make frequent short-duration trips abroad to earn a living while maintaining a home in the origin country, already exist, both in legal and illegal forms<sup>(2)</sup>. Thus, it is not implausible to assume that incomplete migration will be the more important type of east–west labour flows following accession than conventional migration.

Given the unique combination of long common borders with almost no geographical barriers and high permeability between countries with very different income levels, one might envisage, in particular, an upsurge in cross-border commuting, perhaps on a weekly or even longer-term basis. Indeed, combining the high wage levels in economies such as Austria or Germany with the low cost of living at the original place of residence may form a fairly attractive option for workers from the neighbouring CEECs. It is fairly difficult, however, to project cross-border commuting potentials; in particular, historical experi-

ence offers little guidance, since earlier enlargements of the EU did not encompass integration of high wage and low wage economies with such high population densities in the immediate vicinities of the borders<sup>(3)</sup>.

A related phenomenon, probably again particularly affecting border regions adjoining the CEECs, could be a significant increase in the cross-border provision of services, including construction, through posted workers or self-employed. Following the ‘Rush Portuguesa’ judgment, the EC Directive 96/71/EC has brought an obligation to uphold certain minimum wage and working conditions prevailing in the countries receiving temporarily posted workers. However, recent EU experience clearly suggests that legal enforcement may be difficult to achieve; but perhaps more important, even when the respective minimum requirements as regards wage rates and other employment conditions are honoured, the labour cost of posted workers may fall considerably short of the going effective wages for native workers.

The economic rationale for maintaining restrictions on the free movement of workers after the date of accession may be weaker than often assumed. While the income gap between the new Member States and the EU-15 is likely to diminish to some extent over the transition period, the basic incentives to migrate will — in all likelihood — not be fundamentally different from now. At present, little differentiation in transitory arrangements has emerged across the EU-15<sup>(4)</sup>. In any case, applying temporary curbs on labour mobility from the new Member States will only delay the overall movement of workers and, in the meantime, introduce ‘biased’ destination patterns of the flows into the EU-15, with the risk of distorting mobility even on a more permanent basis.

Obviously, the likely types of east–west labour flows to occur are intimately interrelated with the personal profiles of the migrants. If the assertion is correct that labour

<sup>(1)</sup> The same will be true for another 650 000 legal residents of Bulgarian, Croatian and Romanian nationality after their accession.

<sup>(2)</sup> Salt et al. (1999) distinguish two types of so-called labour tourists: (a) short-term income-seeking workers, often without appropriate documents whose average stay is two to four months, currently estimated to number 600–700 000 annually (Morawska, 1999); (b) a smaller group of contracted temporary workers, about 300 000 in number.

<sup>(3)</sup> Existing estimates of the commuting potential between Austria and its CEEE neighbours, for example, put the numbers at between 40 000 up to 110 000 over the first five years, with some estimates as high as 200 000 or more over a 10-year period.

<sup>(4)</sup> Virtually all current Member States, except for Ireland, the UK and Sweden maintain restrictions on access to their labour market by workers from the new Member States, at least for the first two years following accession. There are no statistics available yet on the number of arrivals since the accession of the EU-10. According to the Ministry of Labour in Poland, in the first year of Poland’s EU membership the volume of migration amounted to 407 150, including 340 530 seasonal workers. The largest number of Poles, 250 000 people, worked in Germany. Some 15 % of the total number of Poles working abroad found employment in countries which fully opened their labour markets: 10 000 in Ireland, 12 000 in Sweden and 40 000 in the UK.

flows will be predominantly of the temporary, incomplete migration type, the majority of migrants can be expected to be young, single males, while family migration may be of somewhat less importance, at least in the initial years. Another implication is that legalisation upon accession may partly bring to the surface already existing undocumented temporary migration.

An important question concerns the skill distribution of migrants. In general, emigration is selective, in that the better off move: the old adage that ‘migrants move from positions of strength’ seems to be applicable. However, the jobs taken in destination countries are frequently of a lower qualification level than those left, with migrants going into construction, manufacturing and low skill service jobs. Morawska, putting together evidence from various studies, suggested that 12–14 % of post-1989 westbound migration could be classed as highly skilled comprising, inter alia, managers, scientists and researchers, and students <sup>(1)</sup>.

In general, human capital endowments of the CEE countries, measured by formal indicators such as school enrolment rates and average years of schooling, are higher than those of countries with comparable income levels, exceeding also those of the southern EU Member States, and almost matching those of the other EU Member States. However, formal enrolment rates may not be easily comparable given the fairly different educational systems; moreover, there is evidence that the quality of education falls considerably short of average standards in the EU.

At the risk of oversimplification, it is tempting to speculate, based on historical experience, about a potential polarisation of migrants’ jobs along the qualification dimension <sup>(2)</sup>, and with the far bigger pole formed by low-skilled, low-paid, flexible and often atypical jobs, probably quite regularly also associated with some sort of ‘brain waste’ <sup>(3)</sup>. At the upper end of the job spectrum one might find a group of highly skilled immigrants, comprising for example groups such as professional support personnel and managerial representatives or scientists, researchers and specialists in various fields, in particular where a

‘common language of understanding’ can be easily established. A special migrant group is likely to be formed by students from the CEECs receiving tertiary education in countries of the EU-15. At present, their number is still relatively low, according to recent statistics. While a trend increase in these numbers appears fairly likely, it remains unclear, though, what proportion of the foreign students will enter the labour force of their host country during or after their studies. Moreover, it is of course impossible to rule out the emergence of new refugee and asylum-seeker movements following ethnic conflict or other disastrous developments. In any case, a stable democratic socio-political environment respecting, in particular, minority and human rights will be indispensable to prevent people from being forced to leave — more or less involuntarily — their home country <sup>(4)</sup>.

### 3.5. Migration and ageing populations

In coming decades, the EU will undergo unprecedented changes in the size and structure of its population. Fertility rates are expected to remain well below the natural replacement rate, and life expectancy is projected to continue to increase by about one year and a half each decade <sup>(5)</sup>. The size and age structure of the EU-25 population are projected to undergo dramatic changes in coming decades. The overall size of the population is projected to be both smaller and older than it is now. Under the baseline scenario <sup>(6)</sup> prepared by Eurostat (Europop2004), the EU-25 population is projected to increase slightly by 3 % until 2025, when it will peak at 470 million. Thereafter, a steady decline occurs and, according to the projections, the population in 2050 will be smaller than in 2004, at 449 million.

According to the projections, the working-age population in the EU-25 will start to decline as of 2010 and, over the whole projection period, it will drop very significantly, by more than 15 percentage points, from 307 million in 2004 to 260 million in 2050. It is only projected to increase in Cyprus, Ireland, Luxembourg, Malta and Sweden. Over the same period, the elderly population (aged 65 and above) will increase very markedly by 58 million people. Their share of total population

<sup>(1)</sup> Cited in Salt (1999).

<sup>(2)</sup> It has to be noted that EU-10 nationals currently in the EU-15 are disproportionately in the medium-skill category (up to 60 %).

<sup>(3)</sup> In general, lower reservation wages (in the sense of accepting jobs of a lower calibre than, in principle, being qualified for) may put immigrants on a competitive advantage relative to the indigenous workforce. However, both insider-outsider and efficiency wage considerations do suggest that ‘underbidding’ may not be a real-world option in many cases.

<sup>(4)</sup> Some concerns have been voiced in this context, for example, that disrespect of their human rights could lead to a mass exodus of Romas to the west.

<sup>(5)</sup> For the EU-25, life expectancy at birth for males is projected to increase by 6.9 years between 2004 and 2050. For females, life expectancy at birth is projected to increase by 5.4 years (5.2 for EU-15), see Eurostat (2004).

<sup>(6)</sup> Europop2004 trend scenario, baseline variant.

will increase from 16.5 % in 2004 up to 29.4 % in 2050, according to the projection. Looking at individual Member States, the elderly population is projected to reach levels ranging from 22 % of total population in Denmark up to 35 % in Spain. The fraction of very old people aged 80 years and above is projected to almost triple from 4 % in 2004 to 11 % in 2050.

Overall, these shifts in population structure will lead to a dramatic change in the old-age dependency ratio, which is projected to approximately double from almost 25 % for the EU-25 today to 51 % in 2050. While the demographic burden of ageing will differ significantly across current EU Member States in absolute terms, with old-age dependency ratios rising to levels well above 50 % in some countries, what is common for all is the strong increase relative to current levels. Old-age dependency ratios projected for the EU-15 and EU-10 in 2050 are very similar, with a faster increase projected in EU-10 Member States; thus, enlargement will not modify overall demographic trends.

Rising concerns about the impact of demographic change on long-term economic growth and the sustainability of public finances have prompted a renewed debate over the potential role immigration could play to alleviate the pressures from ageing and declining populations. Increased immigration possesses the advantage of having an immediate impact on the working age population, provided, of course, net migration continues to exhibit a relatively younger age structure than the resident population. In addition, fertility rates among immigrant women are often higher than among the resident population which can help boost overall fertility and hence long-term population growth. Note, though, that since immigrants inevitably grow old too, the long-run effect on overall demographic structure is significantly less than in the short and medium term.

Immigration has already played an important role in influencing overall population growth in Europe. In fact, for the EU as a whole, net migration has been a more important source of population growth over the past couple of years than natural increase, with a number of Member States virtually, or entirely reliant on immigration for population growth. Looking ahead, however, maintenance of these past trends will not be sufficient to offset the prospect of a decline in the EU population. Note in this context that Eurostat's baseline population projection already incorporates net migration into the EU-15 of between 721 000 and 825 000 people per annum for the period 2009 until 2050, with

higher flows of between 855 000 and 1 470 000 projected over the period 2004 until 2009. Net migration into the EU-10 is projected to turn positive in 2019, reaching 100 000 people in 2026 and remaining broadly constant thereafter.

According to the scenario assuming zero net migration prepared by Eurostat, the total population for the EU as a whole would fall by close to 13 %, or 58 million people, between 2004 and 2050. Only France and Ireland would experience population growth, and population would fall most dramatically in Germany and Italy, by more than 20 %. Population would fall by around 15 % in Spain and Austria and the remaining countries would experience drops of between 5 % and 10 %. The population in EU-10 Member States would also fall sharply, especially in the Czech Republic, Estonia, Hungary, Latvia and Slovenia. The working-age population would fall by about 30 % or 87 million people in the absence of net migration flows for the EU-25. In the Czech Republic, Germany, Greece, Italy and Spain, the fall would be close to 40 %.

The role of migration in achieving specific population objectives between 1995 and 2050 was the subject of a widely noted report by the United Nations (<sup>1</sup>). The UN report concluded that keeping old age dependency ratios at current levels through migration seems out of reach because of the extraordinarily large number of migrants that would be required.

The study examined — in selected countries as well as for the EU as a whole, between 1995 and the year 2050 — the migration flows needed: (i) to maintain the size of the total population; (ii) to maintain the size of the working-age population, at the highest level they would have reached in the absence of migration after 1995; (iii) to maintain the old-age dependency ratio at a constant level.

For the first scenario, and somewhat less so for the second scenario, the results imply migration flows that are not too different from those recorded in the 1990s, but significantly larger — by a factor of four to five — than in an historical perspective for the period 1950–2000. On average, almost one million net immigrants per year would be required to keep the former EU-15 population constant over the period, and slightly more than 1½ million to maintain a constant working-age population. The impact on the old age dependency ratio, however, would

<sup>(1)</sup> United Nations (2000).

be minimal until about 2030. Assuming zero migration rates makes very little difference to the baseline population projections, since the assumed net migration flows in the baseline were put fairly low at an annual average of 270 000. In the third scenario, however, net migration flows required to keep the old-age dependency ratio constant reach enormous levels, for the EU a cumulated total number of 674 million migrants over the period 2000–50, equivalent to about 13 million per year and more than 10 times peak migration flows in the past decade.

Similar calculations have been performed, for example, for Germany arriving at even somewhat higher required migration rates<sup>(1)</sup>. In a hypothetical scenario with no net immigration, the German population will decline by one third or around 24 million people between 2000 and 2050. Assuming the annual net migration inflow remains at its historical average of some 200 000 people, the decline in the population will be reduced to some 10 million people, or 12 %. In order to achieve a constant German population, the annual net inflow has to increase to 300 000 people around 2010, and to 500–600 000 people per annum from 2030 onwards. Without any naturalisation, the share of the foreign population will increase from 9 % to 20 % by 2050 if migration remains at historical levels, and to 28 % if migration increases to a level which holds the German population constant. With migration at historical levels, the old-age dependency ratio is projected to rise from 0.24 in 2000 to 0.53 in 2050 (and to 0.65 in case of zero migration); if migration increases to a level which holds the German population constant, the corresponding level will be 0.43 according to these projections.

Obviously, migration scenarios and calculations such as the abovementioned are somewhat mechanistic and fairly sensitive to assumptions such as age and family structures of newly arriving immigrants. But, perhaps more importantly, immigration policy cannot easily be fine-tuned to reach precise demographic objectives due to difficulties in controlling the volume and composition of net migration. The difficulties in managing migratory inflows are all too well-known, limiting in practice the ability to quantitatively target net immigration flows. Moreover, even while policy may have some control over the level of immigrants, it has little or no control over emigration.

Moving from population considerations to labour market scenarios for the future workforce with a view to identi-

fying macro labour shortages to be filled by migratory inflows is of course even more complicated, both from a purely methodological and a political point of view. Demographic developments interact with policy reactions and behavioural responses, all of which affect the size and structure of the labour force in a complex way. Thus, any estimate of future ‘labour force gaps’ to be filled by migrant workers crucially depends on the question to what extent the existing labour force potential can be mobilised. And, clearly, labour market participation of migrants has to be considered as well. In consequence, all these factors have to be taken into account simultaneously to obtain a better understanding of the potential contribution of migration to mitigate the labour market impact of demographic change. However, efforts to identify precisely future labour market needs in terms of immigration flows and to fine-tune immigration policies accordingly appear rather naïve.

In summary, the main conclusion from a review of the existing literature appears to be that migration can contribute to mitigating the ageing process significantly if migration rates remain at their historical levels or increase further. As argued above, the sheer numbers of migratory inflows in such a longer-term perspective are very substantial and, clearly, will require a steep change in the integration processes in receiving countries. The large-scale immigration necessary would also probably raise social and political barriers.

However, it should be noted that, while recourse to immigration could have an impact on the age structure of the population, it could not on its own solve the problems linked to ageing. Population ageing affects migrants themselves, as they get older and their fertility patterns tend to resemble those in their host country. Thus even somewhat higher net immigration would not dispense policy-makers from implementing the EU’s internal structural reform agenda to cope with the impact of ageing populations. Obviously, better functioning labour markets will also be conducive to a smooth integration of a growing number of immigrants from non-EU countries in the future.

### **3.6. Selective migration policies**

This section focuses on selective migration policies for recruiting foreign workers to ease labour shortages<sup>(2)</sup>. In the context of the debate about skills gaps and mis-

<sup>(1)</sup> Bonin (2001).

<sup>(2)</sup> This section draws in some parts on OECD (2003).

matches, there has been a certain revival of interest in economic immigration policies to tackle labour market imbalances <sup>(1)</sup>. Several EU countries have already initiated specific programmes or introduced changes in their regulations to facilitate access to their labour markets for skilled immigrant workers, in particular for high-skilled workers such as researchers and software engineers. Some countries are also considering selective employment-related immigration policies to alleviate labour shortages, although the objectives and procedures may differ from one country to another.

However, the attempts in a few EU countries to put in place selective measures are fundamentally different from the sophisticated systems that have been in operation for a long time and have been steadily adjusted in Australia, Canada and New Zealand. In these three countries, the objectives are broader, embracing both economic as well as demographic and social aspects. Furthermore, the resources implemented both in foreign consulates and/or via digital connections (in Australia, for example), are considerable, as well as the consultative procedures at regional and local level and between the relevant main partners.

In Europe, countries like Spain, Italy and (more recently) Portugal and Germany, have advocated selective policies similar to those in Australia, Canada and New Zealand. As argued, this European-type selectivity actually takes a somewhat different form, in so far as it focuses solely on a system of labour immigration quotas in the case of the first three countries.

In other European countries, such as the UK, the Netherlands and France, no quota has been set. The system of recruiting foreign labour is still based on decisions taken principally at national or regional level in the light of labour market needs. The labour market situation remains the basic criterion, as well as the requirement that the salary be comparable to that for nationals with the same qualifications for the job in question. Exceptions do exist, however, for occupations such as IT workers in all three countries, and for specialists in the biotechnology, medicine, healthcare and teaching fields in the United Kingdom. In these countries, there are no criteria giving preference to one or more nationalities.

Depending on the country, the first work permit is usually issued for a year and is renewable.

Selective employment-related immigration policies cannot be designed in a simple way and clearly have their limits. Although this should not prevent Member States to increase their capacity to forecast skills and labour shortages (see study from Boswell), it would be illusory to think that the future needs of the labour market by sector and occupations can be accurately determined and forecast, not to speak of successful micro-management via immigration. The migrants most likely to help match demand and supply are those adaptable enough to face changing conditions, in view of their qualifications, experience and personal abilities. The selection mechanisms must be geared towards these would-be migrants and offer them sufficiently attractive conditions. Difficulties may arise with respect to identifying 'good candidates' for immigration and recognising the validity of qualifications and job experience as well as evaluating their linguistic skills, while avoiding discrimination in the selective procedure. Moreover, public authorities frequently refer to the temporary and even seasonal nature of the immigration they are willing to allow, but this is not often realistic. Past experiences of immigration have also demonstrated that it is extremely difficult to keep track of the length of stay of migrants and of their geographical and occupational mobility and, thus, to sustain temporary immigration schemes.

The limits may also be of an external nature. Many countries will probably develop similar needs and may thus be competing for the same labour resources. But, perhaps more importantly, migration policy will always have to take into account other categories and objectives to which selectivity may not necessarily apply (admission of asylum-seekers and refugees, family reunification and irregular migration). And, last but not least, migration policy may be subject to international agreements governing labour mobility. For all these reasons, immigration has become a matter of common interest for the Member States and the Commission supports the development of a common immigration policy.

In developing such policies, one should not nurture the idea of micro-planning to match supply and demand across occupations and skills. Certainly, a flexible admission system for allowing in foreign (specialist) labour in specific sectors can significantly contribute to ease labour market bottlenecks. However, the scope for

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<sup>(1)</sup> See further HWWA papers commissioned by the European Commission Directorate-General for Employment, Social Affairs and Equal Opportunities, in particular Papamedetriou (2004).

immigration policies trying to pin-point skill shortages appears to be fairly limited and, in any case, unlikely to be applicable on a large scale in an easy and quick manner. Rather, harmful policies restricting internal mobility

and other adjustment mechanisms must be avoided. In general, immigration policies should aim to keep the development of foreign workers on an even keel in the medium term and to avoid harmful stop-and-go policies.



## 4. Conclusions

The picture of immigration which emerges from this chapter is one in which net migration to the EU is on the rise (albeit from a comparatively low level), particularly in Member States like Ireland, Italy, Portugal and Spain. Although the flow of asylum-seekers into the EU has increased since 1989, family unification and labour migration remain the predominant reasons for immigration. With regard to the industrial distribution of employment in the EU, there appears to be a disproportionately high share of foreign workers in certain sectors like construction and services and a disproportionately low share in the public and financial sectors.

In general, the situation of immigrants in the labour market is relatively vulnerable, as evidenced by low participation rates and high unemployment rates, particularly in Member States which attract a high number of asylum-seekers. In general, non-EU women are less integrated into the EU labour market, with acutely low participation rates and acutely high unemployment rates, even by the standards of male non-EU-nationals. The situation of the foreign-born is somehow more favourable, pointing at the importance of citizenship in the integration process.

Economic theory and evidence concur that the net gains from immigration are likely to be positive in sign and modest in size. While it is possible that a disproportionate share of the costs will be borne by certain regions or groups of workers, foreign workers may also relieve labour shortages, act as a catalyst for the creation of new jobs, and increase labour market efficiency. Empirical evidence on the impact of immigration on domestic wages and employment is inconclusive, although it appears unlikely that average flows will have a signifi-

cant impact on unemployment. Similarly, the net budgetary impact of immigration appears to be fairly small, although the results vary according to how the financial burden is estimated, the geographical concentration of immigrants, and whether immigrants are selected on the basis of age and skill.

The enlargement of the EU from 15 to 25 Member States is unlikely to generate the flood of cross-border labour mobility that some commentators predicted. Available projections indicate that enlargement will produce an absolute net number of migrants of around three million people over 15 years. Immigration flows of this magnitude pose little if any threat to wages and employment in the EU over the long term. These results, and the experience with internal labour mobility so far, also call into question the rationale for temporary restrictions on the free movement of workers in the EU.

Finally, the evidence on the link between immigration and ageing populations suggests that, while net inflows of foreign workers can partially offset demographic developments, immigration should not be treated as a panacea for the EU economy's ills. First, the impact of immigration on ageing populations will depend on the integration of foreign workers into the EU labour market. Second, the evidence suggests that micro planning to match immigration skill shortages is likely to have a limited impact and could even restrict internal mobility and labour market adjustment. Overall, while immigration has an important role to play vis-à-vis the Lisbon strategy and the problem of ageing populations, it can in no way serve as a substitute for the reform of capital, labour and product markets.

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# Part II

## Assessing economic benefits and risks



# 1. Macroeconomic analysis and scenarios for the EU

## Summary

This chapter focuses on a quantification of the macroeconomic benefits and risks of growing worldwide integration for the EU's economy. From the perspective of this chapter, three key features characterise the post-1990 globalisation phase: a further deepening in trade and capital market integration; acceleration in the worldwide relocation of production processes; and global income and technological convergence. All three developments taken together are taken into account in the impact analysis of the present chapter. This wide definition also encompasses the notion that increased international trade integration and diverging productivity growth rate trends are not mutually independent phenomena.

One of the hallmarks of the present phase of worldwide integration is the increasing transfer of labour-intensive production processes and of business-related services from the developed world to lower-cost locations in the developing world. This process manifests itself most clearly in a sharp increase in international investment flows, in the steady growth in the use of imported intermediate inputs as part of global production chains and in shifts in global demand patterns. While this process has been ongoing for some decades now, at least on the goods side, it has undoubtedly intensified since the early 1990s, with the emergence of vibrant market economies in central and eastern Europe, the increasing integration of China and India into the world economy and the opportunities opened up, especially on the services side, by the coming on stream of new technologies, most notably ICT. Such a deepening in the integration processes of both manufacturing and service industries in turn offers the prospect of significant gains at the economy-wide level, with individual EU Member States benefiting in terms of lower prices for firms and consumers; enhanced

international trading volumes; and potentially higher levels of productivity and growth both from the associated restructuring of their economies and from the positive spillover effects of technological progress in the rest of the world.

The simulations in this chapter have quantified the effects of the abovementioned factors, with the main static and dynamic effects as described above. The simulation results are indicative of difficulties on the part of the EU to seize the opportunities arising from globalisation in the past 10–15 years. Furthermore, on the basis of present policies, the EU runs the risk of missing out on the medium- to long-run benefits from this process. Such an unfavourable outcome would be in stark contrast not only with the large income gains achieved by the US in the post-war catching-up processes of the EU and Japan; it would also imply an end to the EU's own significant gains from globalisation. Indeed, a macroeconomic assessment of the impact of globalisation suggests that — conservatively estimated — about 20 % of the increase in EU-15 living standards over the past 50 years can be attributed to the process of deeper international economic integration.

While the need for reform and modernisation of present policies is evident, the simulations also demonstrate that a much more positive outcome is possible, with the potential for GDP per capita gains from globalisation at a level similar to those predicted for the single market programme. Exploiting the opportunities offered by the present globalisation phase could bring additional income gains of 8 % over the next half century; in absolute terms, this would translate into gains of over EUR 2 000 annually, in 2004 prices, for every EU citizen (over EUR 5 000 per EU household). In addition, these estimated gains are based only on the effects of existing liberalisation measures. If a suc-

cessful Doha Round can be realised, substantially higher gains could be expected. However, realising these gains will require a significant restructuring process to be initiated and implemented, with the anal-

ysis highlighting, in particular, the need for the EU to shift the emphasis in its present economic model more towards innovation and the creation of a more business-friendly environment.



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# 1. Introduction

Part I of this report has discussed various aspects of the post-1990 globalisation process. The present chapter focuses on a quantification of the macroeconomic benefits and risks of growing worldwide integration for the EU's economy, both in static and dynamic terms. Three key features characterise the post-1990 globalisation phase.

- *Trade and capital integration.* The fall of the iron curtain in Europe and the opening-up of China, India and parts of central and Latin America have led to a further increase in international trade and capital flows. World trade is continuing to grow at rates well in excess of world output and stocks of FDI as a percentage of world GDP have more than doubled from less than 10 % in the late 1980s to over 20 % at present.
- *Acceleration in the global relocation of production processes.* The increase in international trade has not been confined to the exchange of finished goods and services since there has also been an expansion in the share of intermediate inputs which are traded internationally. This intermediate trade forms part of the growing trend towards the internationalisation of production. This trend has been ongoing for decades but has accelerated since the early 1990s with the growth in the relocation of labour-intensive manufacturing and business-related services to lower-cost locations around the globe. This is being driven by multinationals seeking to take advantage of changes in global specialisation patterns and by the need to focus their developed world activities on the higher value-added parts of the production process. Domestic firms are voluntarily relocating a wide range of activities to foreign countries essentially via two mechanisms, external outsourcing (i.e. contracting out parts of the production process to foreign suppliers) and by off-shoring (i.e. moving production abroad by setting up foreign subsidiaries) <sup>(1)</sup>. Outsourcing and off-shoring are part of the

wider process of 'global relocation' <sup>(2)</sup> which is the overall term used in the present chapter to capture the international trade, FDI and demand implications from the voluntary and involuntary transfer of production and business services abroad (in part or in whole). This 'global relocation' concept refers to all forms of economic activities (i.e. intermediate and final) and can involve either the closure or scaling down of complete industries or parts of industries in a certain location in favour of another (e.g. textiles) or the emergence of new industries (e.g. ICT). It essentially reflects the changes in domestic business strategies which result from a globalisation-induced heightening in both worldwide competition levels and in the pace of technological change. 'Global relocation' is measured in the present chapter by changes in intermediate goods and services imports (i.e. outsourcing), shifts in FDI (i.e. off-shoring) and by changes in the demand for domestic and foreign produced goods and services.

- *Global income and technological convergence.* In addition to the integration of economies through trade and financial flows, economic globalisation is also being driven by the movement of knowledge (technology) across borders. The emerging economies, especially the EU's new Member States, India, China and other south-east Asian countries have

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<sup>(1)</sup> Outsourcing refers to the contracting out of a range of economic activities (linked to the intermediate stages of the production process) to external suppliers. These activities include business-related services as well as the production of parts and components and semi-finished goods. Outsourcing is measured in the present chapter by the growth rate of both non-oil intermediate goods imports and business-related international services. Off-shoring, on the other hand, refers to the process whereby firms retain the ownership of the whole production process but locate parts of their activities abroad by setting up subsidiaries. Off-shoring is measured in the present chapter by FDI flows. Outsourcing and off-shoring are, of course, linked in cases where the foreign supplier of the intermediate inputs is owned by the importing company. It is not therefore possible to distinguish between outsourcing/off-shoring using data on intermediate imports since the latter could be intra-firm transactions or imports from independent foreign firms.

<sup>(2)</sup> 'Global relocation' is equivalent to the French concept of 'delocalisation'.

exhibited strong productivity growth. On average productivity growth in the rest of the world (world excluding EU-15 and US) was about half a percentage point higher than in the EU over the last 10–15 years. This process of income convergence is likely to continue over the coming decades, underpinned by a persistence of the existing TFP growth rate differentials. As indicated by many growth studies, a country's level of long-run income per capita is strongly related to human capital. Amongst many of the emerging economies in Europe and Asia, human capital is available in relative abundance.

All three developments taken together is what we use to define globalisation for the present chapter. This is a very wide definition. Various authors see globalisation simply as a process enabling the free movement of goods, services, labour and capital. This is what Martin Wolf (2004), for example, defines as 'liberal globalisation'. Especially in recent years, the global 'relocation' of production (our second aspect) is often regarded as a typical characteristic of globalisation. It can of course also be seen as one form which the free movement of goods, services and capital can take. Nevertheless 'relocation' incorporates other aspects as well. Most likely it depends on some technological developments which have taken place in recent years and which have further reduced the costs of international transactions and communications. In addition, the 'relocation' phenomenon is also related to the third element of our definition, technical progress connected to the availability of skilled labour in the developing economies of the world which makes it easier for firms to shift production.

This wide definition of globalisation also encompasses the notion that increased international trade integration and diverging productivity growth rate trends are not mutually independent phenomena. As will be argued in this chapter, strong productivity growth in the developing world can be regarded as a driving force for greater trade integration. Obviously, there is also the facilitation of further trade integration through the ongoing decrease in transportation costs and trade barriers but this is not what we would regard as the typical characteristic of glo-

balisation as we have experienced it since the beginning of the 1990s. The process of mere trade integration has a long history and goes back at least until the 19th century. What we regard as typical for the 1990s is the economic liberalisation which has taken place in large areas of the world and which enables countries to make full use of their productive potential combined with the increased international mobility of capital.

In terms of structure, the chapter is divided into three sections. Section 2 gives a brief overview of the theoretical debate, with the objective of identifying the important indicators for welfare measurement. Section 3 describes the major globalisation-related stylised facts since the beginning of the 1990s and tries to assess whether there have been significant trend changes or whether the last 15 years must merely be seen as a continuation of longer-term patterns. Section 4 tries to quantify the short- and longer-term gains/losses of the globalisation process, using the Economic and Financial Affairs DG's international macro model and by taking into account the empirical evidence on the various transmission channels. Apart from income and terms of trade effects, these channels include enhanced levels of competition, increased incentives for investment and innovation, the diffusion of new technologies and organisational practices, scale economies, and greater efficiencies in terms of resource allocation.

The ultimate focus of this analysis is on the EU's capacity to adapt to the challenges posed by globalisation, as reflected in higher levels of productivity growth in the developing world; a sharp expansion in worldwide investment flows and greater volumes of international trade in both intermediate and final goods and services. In this context, the concluding remarks section underlines the importance of progressively implementing the key elements of the Lisbon strategy in maximising the EU's gains from these processes. An essential conclusion is that the EU needs to move to a more flexible, innovation-based, economic model in order to reap the benefits of an increasingly open and interdependent global economy.

## 2. Short overview of various perspectives on globalisation

Looking at globalisation from the perspective described above, an important question is how will the post-1990 international productivity trends, and the changes in the international division of labour implied by them, affect growth in the EU? There are two extreme positions, an optimistic and a pessimistic one.

- According to the optimistic view (held by many trade economists), productivity increases in the developing economies are welfare-improving for EU citizens. The reason is that the goods and services produced in these countries (which are not perfect substitutes for goods produced in the EU) tend to be sold at a lower price in order for them to be absorbed by the world market. Thus, domestic consumers and investors would benefit from increased productivity in the RoW. Also, income growth in these emerging economies leads to higher demand for EU goods and services which increases the price of EU tradeables. Industrialised regions therefore benefit both in terms of an increase in their terms of trade and an increase in demand for their products and services. More recently, much attention has been devoted in the literature to a third advantage from an expansion in trade and technical progress in the RoW, namely access for consumers to an increased variety of imported goods. Broda and Weinstein (2005) argue that increased variety rather than pure price effects dominate the welfare gains for consumers resulting from trade liberalisation. They estimate that, in the case of the USA, the value of increased product variety to consumers, derived from trade liberalisation, is equivalent to about 3 % of US GDP. This is about three times the assumed traditional effect from the gains from trade, as estimated by Feenstra (1992) and Romer (1994). Unfortunately the welfare gain from increased variety is hard to measure, since standard national accounts price measures underestimate quality improvements, linked with factors such as variety.

- According to the more pessimistic view as, for example, presented by Samuelson (2004) as well as Gomory and Baumol (2000), productivity growth in the developing world will not simply be confined to the production of goods and services in which these countries were specialising in before the productivity take-off. Technological progress in the RoW will enable catching-up countries to increase the range of goods they produce and to enter markets which were previously dominated by industrialised countries. This could make the production of certain goods previously produced in industrialised countries obsolete. In simple terms, technological advancement in the RoW defined in this way is linked with a shift in demand from goods produced in the industrialised regions to goods produced in the catching-up countries. To the extent that increased supply is accompanied by increased demand for the goods supplied by the catching-up countries, the beneficial terms of trade and demand effects described in the optimistic view will be smaller and could even, under certain extreme circumstances, be reversed.

*How does outsourcing affect the various interpretations of globalisation?* The last 10 years have been characterised by an increase in the trade of intermediate goods and services. An increased import of intermediates is also known as outsourcing. This phenomenon does not fundamentally alter the economic assessment. However, there is one important difference. When there is only trade in final goods, the international relocation of production due to changing patterns of comparative advantage may go at a faster pace. In contrast, when domestic firms can outsource some stages of production to foreign suppliers, the larger use of intermediate inputs will often prevent production from moving abroad completely, by allowing firms to make use of a more efficient international division of labour. In other words, outsourcing

will not only reduce costs but it can directly increase the marginal product of domestic factors of production.

This productivity-enhancing effect of outsourcing has been the subject of intensive research in recent years. Egger and Egger (2001) find that international outsourcing of goods has in fact increased the productivity of low-skilled workers by over 3 % in the EU from 1993 to 1997. Amiti and Wei (2004) find too that services outsourcing in US manufacturing is positively correlated with labour productivity (but goods outsourcing has insignificant productivity effects). Konings (2004) and Amiti and Wei (2005) provide a survey of the employment and productivity effects of outsourcing and try to assess the quantitative importance of services outsourcing. A large part of the literature is also concerned with the wage premium of high-skilled workers. For example, Feenstra and Hanson (1999) attribute between 17½ % and 40 % of the increase in the wage premium of non-production workers to outsourcing. Finally, Mann (2004) argues that international outsourcing in IT production has led to a fall in IT prices of between 10 % and 30 %.

*Short- versus long-run effects of globalisation.* The discussion so far refers essentially to the long-run effects of globalisation i.e. to a situation where a new equilibrium (both external and internal) among the main trading partners has been reached and the terms of trade have been adjusted (i.e. a new equilibrium characterised by increased trade and technological convergence is established at the global level). This is a situation where EU exports would benefit on the demand side from high

income in the RoW and both consumers and investors would benefit from gains in the terms of trade. What can be said about the transitional gains or losses and how long will the transition to this new equilibrium last?

Can one safely assume that there will be a smooth transition from the short to the long run? Not necessarily, even if one holds the view that globalisation will be welfare improving in the long run, there could still be short-run negative effects for economically advanced regions such as the EU-15, especially in circumstances where policy-makers fail to respond appropriately. There is certainly a positive demand effect because of higher RoW imports, especially of EU investment goods which is beneficial in the short run. However, catching up in the developing world also offers higher returns for physical investment in these regions and is likely to direct international investment flows away from the developed to the emerging market economies. This could temporarily lower investment rates at home and productivity growth could suffer temporarily from a decreased rate of capital accumulation, with negative effects on real wage growth. This could have additional negative effects on consumption. Of course these short-run negative effects could be significantly attenuated if policy-makers were to respond with measures aimed at maintaining the EU's attractiveness as a place for innovation and investment. More specifically, action is needed to enhance the EU's capacity to produce and commercialise a flow of world-class innovative technologies and to create an investment environment conducive to the imitation and absorption of externally available know-how.

### 3. Macroeconomic indicators for evaluating the benefits and costs of globalisation: an assessment of the broad trends for the period 1991–2003

Unfortunately there is no direct way of deciding whether the optimistic or pessimistic view of globalisation better fits the facts. All we can do is examine whether the evolution of certain macroeconomic variables is more consistent with one view or the other. The theoretical discussion suggests that there are a number of macroeconomic indicators which are important for assessing the benefits and costs of globalisation. The optimists expect positive spillovers from rising terms of trade in the currently industrialised economies, from the additional boost to exports and from the productivity gains induced by sectoral restructuring and from the absorption of externally produced technological progress (i.e. new knowledge). Sceptics would regard adverse shifts in import and domestic demand patterns as alarm signals, with the present EU pattern of increasing import penetration rates and stagnant domestic demand trends being a case in point. In addition, sceptics point to FDI outflows being detrimental (at least over a transition phase) for domestic productivity.

The next section provides information about the basic stylised facts concerning the most relevant macroeconomic indicators, showing both the magnitude of the change in the latter as well as (as far as this is possible) the trend change since the beginning of the 1990s. Careful interpretation is needed given that these indicators are influenced by a wide range of factors, only some of which are related to globalisation. This section presents the trends for most of these variables since the beginning of the 1990s for the EU-15, US and a 'rest of the world' grouping. Focusing only on these three areas is useful in establishing a clear understanding of the main transmission channels and it also mirrors the three-way break-

down used for the model simulations in Section 4. The present section starts with an assessment of global productivity trends which we regard as the most important indicator for evaluating the overall success or failure of the globalisation process, with long-run trends in the latter dictating the standard of living of the developed world and underpinning the income convergence ambitions of the emerging economies.

*Productivity trends.* Table A below shows that long-run changes in per capita incomes are essentially driven by productivity trends. One can also see from the table that the EU's own catching-up process with the US over the postwar period was driven by an annual average productivity growth rate differential of close to 1 % point. Likewise, the EU must now expect a faster pace of efficiency gains in the rest of the world over the coming decades, as these countries restructure and upgrade their economies in their drive to converge towards the income levels of the developed world. Globalisation is an essential vehicle for this catching-up process, with trade and capital market integration driving productivity growth via increases in capital accumulation and the diffusion of technological progress. Of course, for the EU to fully benefit from this process, it must also adapt to the changes in specialisation/comparative advantage being driven by this deepening in the integration process. In this context, increased global competition is potentially a powerful driver of productivity growth, acting as an incentive for firms to continuously enhance their underlying efficiency performances via process or product innovations (thereby differentiating themselves from their competitors in the global marketplace).

Table A

Average annual growth rates, 1960–2003 (%)

	Employment	Productivity	GDP	Population	GDP per capita
EU-15	0.5	2.5	2.9	0.4	2.5
USA	1.7	1.6	3.4	1.1	2.2
RoW	2.0	2.1	4.2	1.8	2.3
World	1.9	1.8	3.7	1.7	2.0

	Productivity (per person employed)		GDP per capita	
	1960–90	1990–2003	1960–90	1990–2003
EU-15	2.9	1.4	2.9	1.6
USA	1.5	1.8	2.4	1.8
RoW	2.2	2.0	2.4	2.2
World	1.9	1.6	2.1	1.8

(\*) For the 'rest of the world' and world aggregates, the period 1960–2003 is used. Only those 'rest of the world' countries where data are available for the whole period 1960–2003 are included.

Sources: Groningen Growth and Development Centre and The Conference Board, Total Economy Database, January 2005 and own calculations.

On the basis of productivity trends over the 1990s, how well has the EU been coping with this deepening of the global integration process and with the income and technological catching-up of the rest of the world? As can be seen from Table A and Graph 1, productivity growth rates in the rest of the world have been on average about half a percentage point higher compared to the EU over the period 1991–2003. While catching-up would suggest that such a differential is to be expected, the graph indicates that the differential has been growing rapidly over the 1990s, with the gap in 2003 around 1½ % points. The USA, on the other hand, has managed to boost its productivity growth rate over this period and to restrict the gap to around half a percentage point. These trend labour productivity differences suggest that the EU is not responding effectively to the catching-up of the rest of the world, especially when one compares its performance with that of the USA.

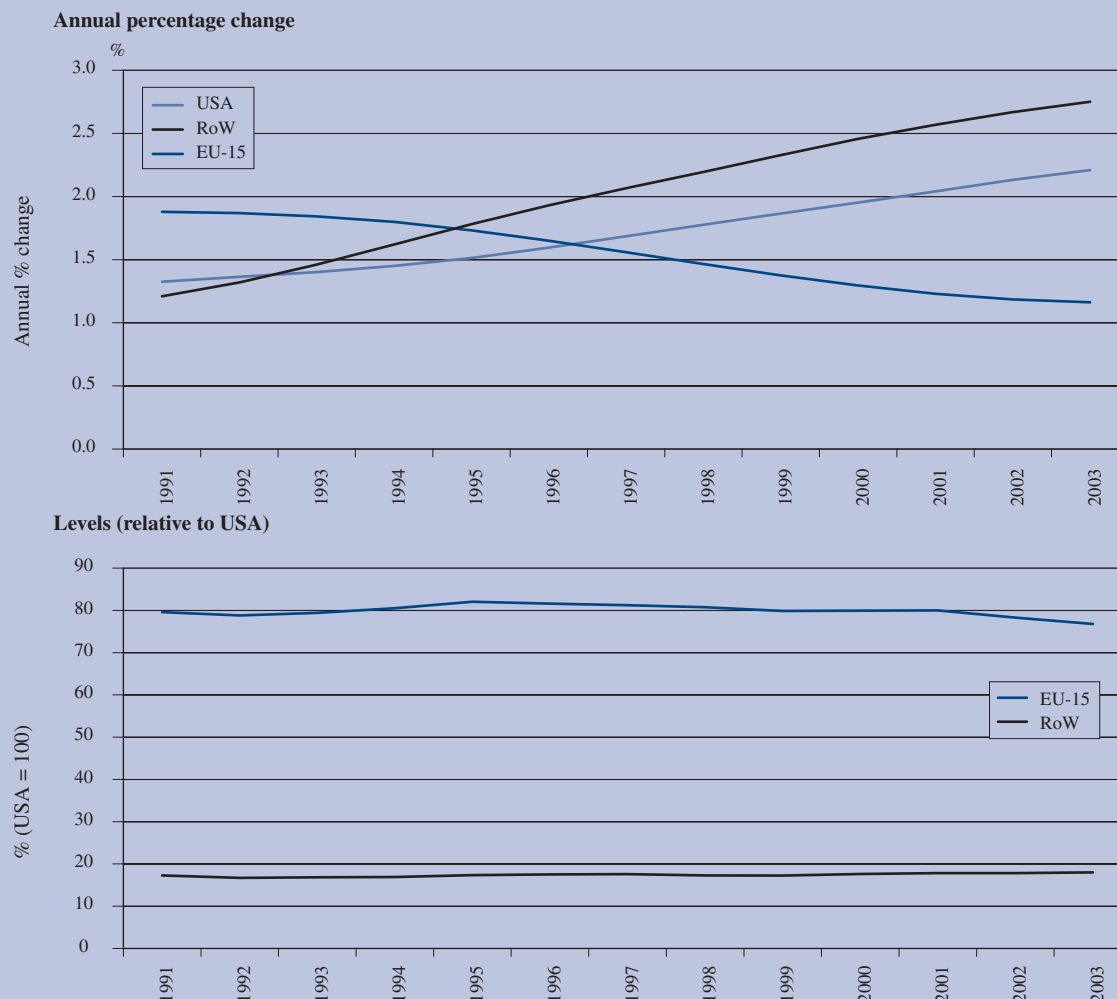
As the 2004 EU review showed, part of the downturn in the EU's productivity growth rate over this period reflects an outdated and inflexible industrial structure which has proved slow to adapt to the intensifying pressures of globalisation and the associated acceleration in technological progress. The review also stressed that, while the USA also witnessed big negative effects in a range of its traditional manufacturing sectors, it has nevertheless managed to turn around its productivity performance by focusing on the newer, leading edge, man-

ufacturing sectors such as ICT and on a further development of a number of its services sectors. What is particularly disturbing about the EU's post-1990 performance is that it has now, for the first time in the post-war period, a trend productivity growth rate which is lower than that of the USA. This has occurred despite the fact that the EU's productivity levels are still less than 80 % of those of the USA (Graph 1). The EU is manifestly suffering from a premature halting, and indeed reversal, of its own secular convergence trend.

With regard to the emerging economies, according to Graph 1 these countries are making big strides in terms of productivity growth rates, although of course in levels Graph 1 also shows that the present positive growth rate differentials will need to persist for decades if incomes in these countries are to converge over time to those in the EU and the USA. It can, of course, be argued that productivity trends in the RoW by themselves are not the result of technological convergence but are instead the outcome of higher investment rates. A big issue therefore for the present chapter is to get a clearer idea of the nature and extent of the technology shocks in the RoW in order to understand the present and expected future shifts in global production patterns. A knowledge of TFP developments is crucial for identifying these region-specific technology shocks and for assessing the quantitative magnitude of worldwide technological convergence.



Graph 1: World labour productivity trends, 1991–2003



NB: Countries included represent about 93 % of the world population and, as in particular the smaller and poorer countries are not in the database, the sample represents an even larger share of world GDP (almost 98 %).  
 Sources: AMECO (USA and EU-15) and GGDC (Groningen Growth and Development Centre) and the Conference Board, Total Economy Database, August 2005, own calculations.

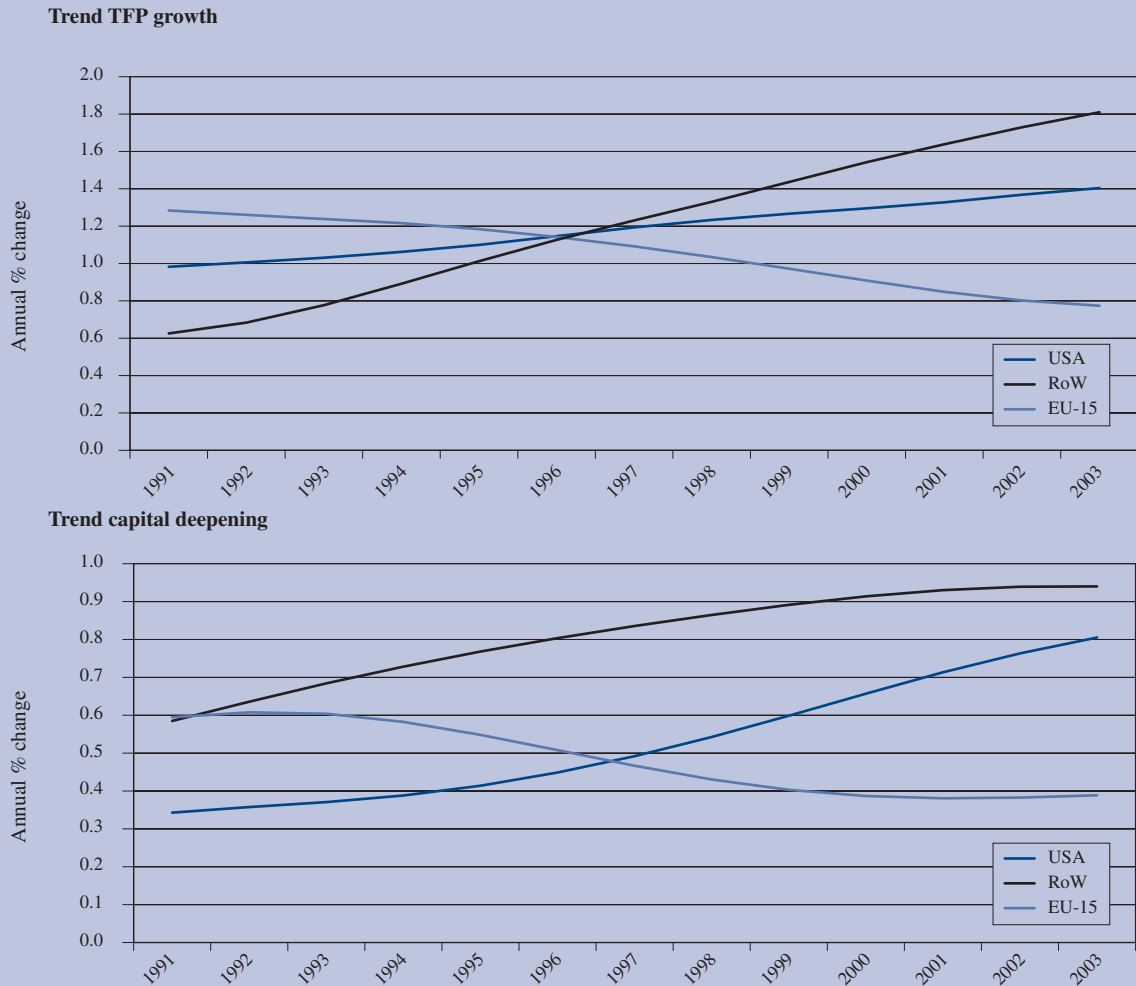
Graph 2 below gives a decomposition of labour productivity into its capital deepening and total factor productivity (TFP) components and indicates that the upward trend in productivity in the RoW is being driven by both factors but with TFP the most significant driver. This is a very important conclusion since TFP is widely regarded as the structural component of productivity growth. Graph 2 tells us quite a bit about the nature of the productivity changes in the RoW, in particular that the efficiency gains in these countries reflect more than simply the absorption of technical

progress from the developed world in the form of capital accumulation. These countries also appear to be producing new knowledge, i.e. new process or product innovations which the whole world can gain from. It is not, however, possible to judge at this stage the extent to which this new knowledge is being derived from their own domestic R & D and human capital endowments or whether it mainly reflects the activities of foreign multinationals. If the RoW trends were simply an absorption story, the implications for the developed world would be less significant compared with a sce-

nario where these countries are producing new knowledge via their own domestic innovation systems and converting this knowledge into a globally competitive industrial structure. The implications for the EU of different interpretations of these TFP trends in the RoW are explored in the simulations in Section 4, in particular regarding their effects with regard to terms of trade and production relocation patterns.

*Total FDI developments (manufacturing plus services).* A knowledge of capital flows, especially the net position in terms of FDI, is important to assess the domestic investment implications of globalisation. Stocks of foreign capital as a share of world GDP have increased dramatically since the early 1980s, with the pace accelerating even more in the 1990s. FDI constitutes a big part of these flows over the last 10–15 years, with the inward stock of FDI rising from around 9 % of world GDP in

Graph 2: Decomposition of labour productivity trends into capital deepening and TFP components



NB: Countries included represent about 93 % of the world population and, as in particular the smaller and poorer countries are not in the database, the sample represents an even larger share of world GDP (almost 98 %).

Data on capital stocks for the rest of the world are based on UN investment series and several assumptions, including capital/output ratio in 1970 = 3, depreciation = 4.5 %, alpha = 65 %

Sources: AMECO (USA and EU-15) and GGDC (Groningen Growth and Development Centre and the Conference Board, Total Economy Database, August 2005, <http://www.ggdc.net>) and own calculations.

1990 to close to 23 % in 2003. This FDI trend for the 1990s marks a big change relative to the 1980s where the increase was much more subdued (i.e. from 6½ % to 9 % of world GDP).

While the EU, USA and the RoW all experienced sharp increases in the share of inward FDI as a percentage of GDP since the early 1990s, the net positions tell a very different story. As can be seen from Graph 3, the net positions for the EU and the US deteriorated significantly over this period. From a position of broad balance in the early part of the 1990s, net FDI outflows from the EU reached over 9 % of EU GDP in 2001 before falling back somewhat in 2002 and 2003. This trend marks a significant break with the 1980s where the EU was in either broad balance or slight deficit (i.e. of the order of 1–1½ % of GDP). For the USA, the deterioration in its net stock position was less severe compared with the EU. In addition, its net deficits of 3–4 % of GDP in the 1990s were not totally out of line with its experiences in the 1980s, at least in the early part of that decade.

Finally, regarding the RoW, Graph 3 shows that the stock of FDI has increased significantly over the 1990s and has continued to grow in the early years of the present century to reach a level of over 8 % of GDP. A significant part of the increase over this period has been due to the opening-up of China, where the net stock of FDI has grown from 1 % of GDP in the early 1990s to over 33 % in recent years.

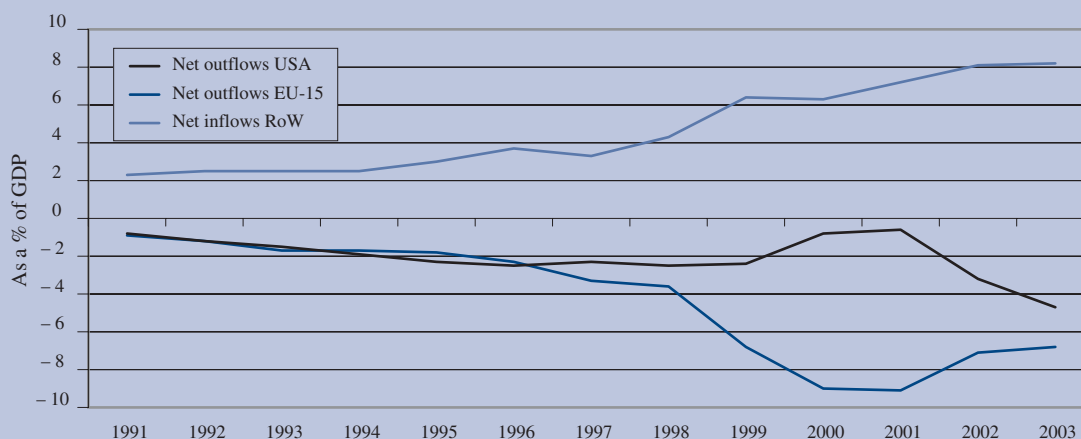
*Terms of trade.* The welfare effects of globalisation, measured in terms of consumption trends, both for the converging and developed regions are critically dependent on the evolution of the terms of trade. Looking at the terms of trade trends in Graph 4 (i.e. the relative price of exports compared to imports for non-oil goods and services), they seem to support the optimistic view of globalisation. In other words, despite the observed productivity growth differentials, there has been no demand shift to the RoW, with the technology (i.e. supply side) improvements in this region simply leading to lower prices.

Both the EU and the USA show terms of trade gains (when changes in oil prices are excluded) since the mid-1990s, while the rest of the world shows terms of trade losses. This aggregate level pattern is consistent with the analysis in the trade integration chapter which showed that the relatively advanced economies were more specialised in the medium–high-tech product areas.

This specialisation pattern not surprisingly has given them more pricing power compared with the emerging economies which tended to focus on low-skilled products/basic commodities or in the labour-intensive stages of the production of high-tech goods (many of which are controlled by foreign multinationals).

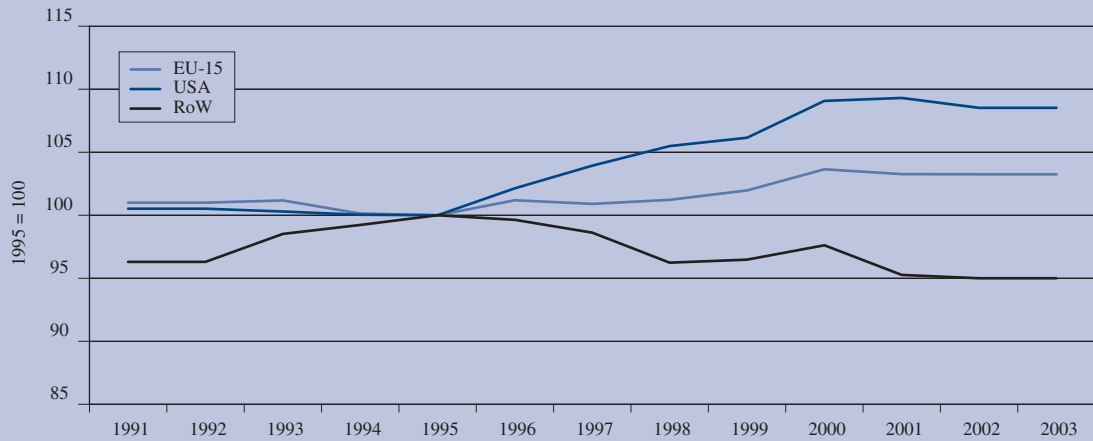
While terms of trade trends between the developed and developing world can be rationalised in terms of the rel-

**Graph 3: Stocks of FDI: net inflows and outflows for the EU, USA and rest of world, 1991–2003**



Sources: Commission services and OECD.

Graph 4: Terms of trade developments for non-oil goods and services, 1991–2003



Sources: Commission services and World Bank, *World development indicators*.

ative skill content of trade, an interesting additional question is whether the same rationale applies to the growing, post-1995, terms of trade differential between the USA and EU-15. This observation holds even when one takes account of exchange rate changes, as the terms of trade indicator itself is not sensitive to the currency used for the calculations although the components (i.e. export and import prices) are.

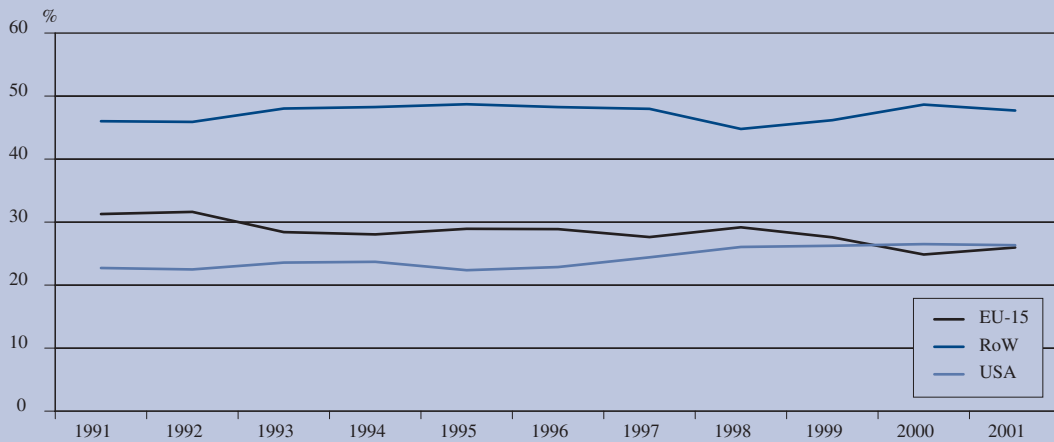
At the aggregate level, the greater US gains reflect the fact that import prices have fallen more than export prices compared with the situation in the EU. In addition, in dollar terms, US export prices have fallen substantially less than those of the EU. While there is undoubtedly an exchange rate element to this export price trend, it may to some extent reflect greater US pricing power given its strong comparative advantage in high-technology goods and in 'difficult-to-imitate research goods' such as semiconductors.

Such an explanation would also be consistent with the fact that, although the USA's global share of manufactured goods exports is clearly on the decline, its share of global manufacturing value-added has risen (Graph 5). These contrasting trends for exports and value-added are suggestive that the USA is more advanced than the EU in transferring the low value-added parts of its manufacturing industries to emerging markets (either via outsourcing or off-shoring) whilst retaining those parts of the value-added chain which have the greatest pricing power.

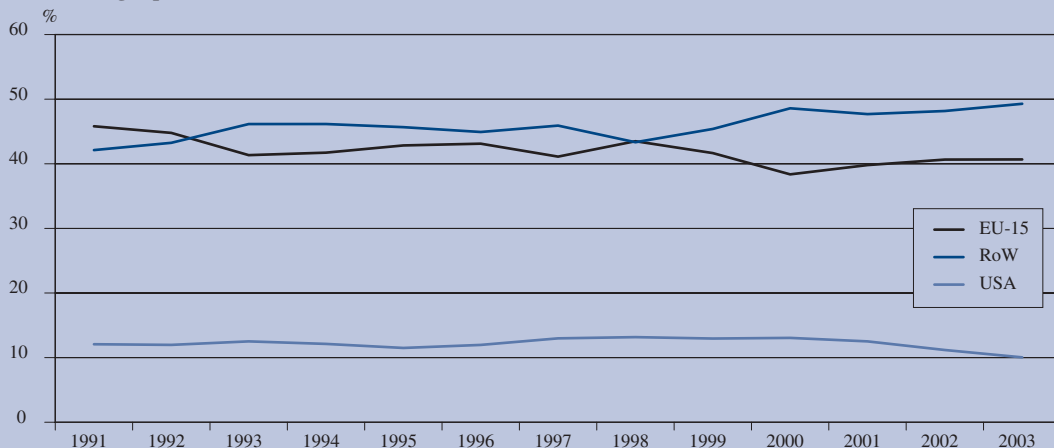
Can industry-specific terms of trade trends help us to explain these differences in the post-1995 evolution in the USA and the EU? An analysis of the top 20 export product groupings, using price data supplied by CEPII, neither supports nor rejects this thesis, with conflicting results depending on whether one measures the terms of trade using world price indices or unit values. The world price index data suggests that the EU experienced higher terms of trade gains for these product groupings compared with the USA. The EU retained relatively strong pricing power in those industries where it has traditionally held a significant global presence, such as in chemicals and pharmaceuticals where prices have remained relatively stable compared with the declines experienced elsewhere. In addition, the EU has done well in a number of capital goods industries, the products of which are in strong demand in the initial stages of the catching-up processes of the rest of the world. Unfortunately, however, these higher EU gains do not hold when world prices are replaced by the specific terms of trade indicators based on unit-values. Consequently, these industry-level price data give conflicting signals regarding the direction of the aggregate economy-wide trends. This is perhaps not that surprising, given that pricing data for sectoral trade categories tend to be very volatile, with specific segments of individual categories displaying very different pricing patterns and with individual countries specialising in different quality ranges. In addition, it should be stressed that these 20 groupings represent less than half of all trade in goods and unfortunately no price data exist for services sectors.

Graph 5: Shares of global manufacturing value-added and manufacturing exports, 1991–2001

(a) Value added, 1991–2001



(b) Manufacturing exports, 1991–2003



Source: World Bank, *World development indicators*.

*Export market developments.* Higher export volumes constitute one of the most visible indicators of the gains from globalisation and here the evidence from the earlier trade integration chapter is that the EU is generally holding its own in extra-EU-15 world markets. The EU's overall performance compares favourably with the US and Japan and the EU is world leader in a wide range of medium-technology and capital-intensive goods areas. Despite this, there are a number of areas of concern regarding the medium- to long-run trends for the EU. In terms of new competitors, it is clear that China and the Asia region in general pose a considerable competitive challenge to the EU. Over the 1990s, the EU has experienced large and rising deficits with Asia in its overall

trade and has experienced sharp turnarounds in its trading performance in a number of product areas which have traditionally been EU strongholds. For example, the growing competition to the EU in the capital goods area is a source of deep concern. This is particularly the case for China where the 1990s surpluses in this category of goods have evaporated in recent years. In terms of a skills-based breakdown of product groupings, while the EU has a clear specialisation in the medium-high-technology area, it is exceptionally weak in high-technology export markets, especially in the ICT area.

In overall terms, the speed of the changes in certain product categories and the EU's inexplicably large gap in

specific high-technology areas suggest that complacency based on the relatively good 1990s performance would be a serious mistake. This view is bolstered by the belief that the EU, given its specialisation in the capital goods sector, would be expected to do relatively well in the initial, investment-intensive, phase of the catching-up process. Furthermore, China and the south-east Asia region have appeared to specialise more in areas where Japan and the USA have traditionally been strongest, with little inroads made, as yet, into a number of EU-dominated industries such as pharmaceuticals, chemicals and motor vehicles. It is difficult to envisage this situation persisting indefinitely. In addition, it should be underlined that the graph below also contains services exports and this is another factor boosting the performance of the EU and the USA over recent years since the big gainers from global services outsourcing have undoubtedly been the developed economies.

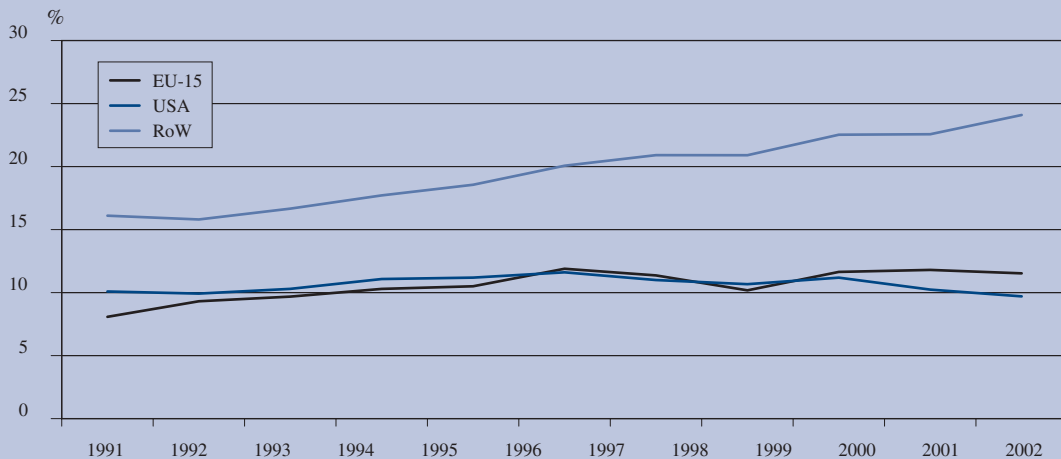
*Potential shifts in preferences towards foreign goods and services.* In order to identify demand trends, information about world import market share developments for the various regions are required. Is the optimistic or pessimistic view of globalisation supported by looking at the development of import shares? The results presented in Graph 7 indicate that the extra-EU import share for goods and services has increased more strongly for the EU, compared to the other two regions. Import shares in

the rest of the world have grown more slowly not only compared to the EU but also relative to the USA. This is an indication that there has been a shift in preferences towards goods produced in the rest of the world. As discussed earlier, this is partly driven by trade in ICT-related products.

The evolution of import shares in fact provide a direct estimate of import demand shifts in the three regions under the assumption that the price elasticity of imports is equal to one. Empirical estimates for this elasticity suggest values larger than one. Given the fact that the terms of trade has improved for the EU (i.e. the price elasticity of imports is not equal to one), the actual shift of preferences for foreign goods is larger than indicated by the change in the import share (i.e. the demand shift in favour of imports is being underestimated by the evolution of the import share). As noted by Krugman (1988), there is a systematic link between international growth rate differentials and demand elasticities for imports.

Recently, Gagnon (2004) has shown that this is consistent with models of technical change where increases in TFP are positively linked to product innovations (i.e. RoW produces goods which are increasingly demanded in the developed world). This enables RoW countries to

Graph 6: Changes in non-oil export <sup>(1)</sup> market shares for goods and services (%)



<sup>(1)</sup> For EU-15 exports to extra-EU-15, for the US and RoW exports to world. Sources: UN Comtrade, AMECO and own calculations.

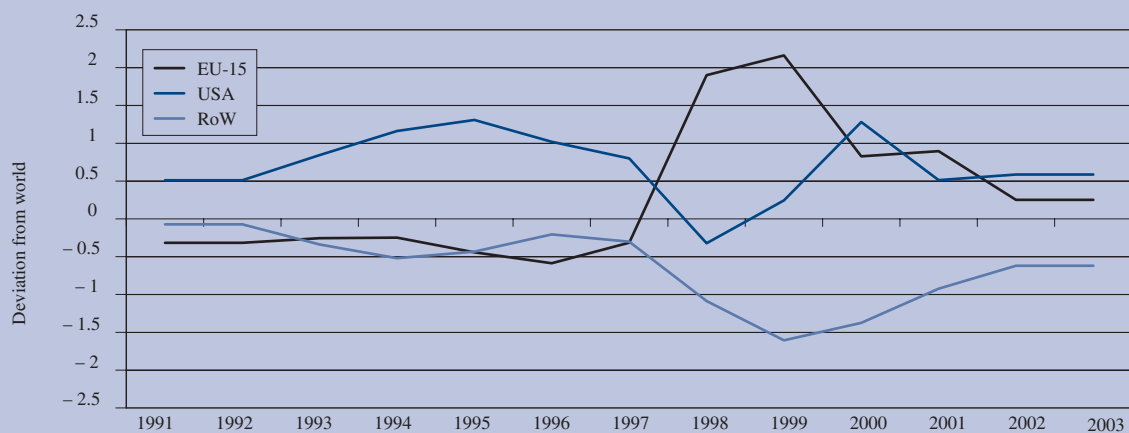
offer products on the world market which so far have been exclusively supplied by the more developed economies.

Thus the development of import market shares over the last 10–15 years are not inconsistent with the view that technical progress in the rest of the world has led to stronger international product competition and to market share gains for the rest of the world in markets previously dominated by the EU and the USA. In terms of longer-term patterns, while import penetration rates have increased, the most discernible shift is in the composition of trade, with imports of capital and intermediate goods (most notably parts and components) and of high-technology products now constituting a higher share of overall imports. Consequently, the 1990s have experienced not only acceleration in international economic integration but also a change in the nature of integration towards the globalisation of production processes, most notably in the ICT and car industries.

To summarise, the evidence presented above for the different indicators does not permit a definitive conclusion regarding the overall benefits or costs of globalisation for the EU economy over the last 10–15 years, with a final assessment only being possible on the basis of the

general equilibrium simulations to be presented in Section 4. Despite this uncertainty it is fair to suggest that, from the partial-equilibrium analysis in the present section, the overall trend for globalisation-related EU indicators has been somewhat negative. This is particularly true for the section on productivity, where TFP trends are pointing to a structural productivity problem in the EU. This TFP conclusion has clear implications for all of the other indicators covered, although lagged effects, and the particular nature of the catching-up process in the RoW, is perhaps clouding the outcome in certain areas, most notably regarding the terms of trade and export performances. On the assumption that the EU continues to be significantly under-represented in the high-technology export sectors (unlike the USA and Japan) and that Asia progressively moves into areas of traditional comparative advantage for the EU in the medium–high-technology segment of the market, it is reasonable to predict a medium- to long-run deterioration in both the EU’s overall pricing power and in its external trading position. The deteriorating TFP performance in the EU and the associated poor investment environment is also adding to the relatively high level of capital outflows and to the increasing evidence that our import penetration ratios are rising, with imports of a number of important ICT products adding to this trend.

Graph 7: Import penetration ratios: non-oil import market shares for goods and services <sup>(1)</sup>: annual percentage change, 1991–2003



<sup>(1)</sup> Refers to external trade between the three areas and is measured as imports as a share of domestic demand.  
 Source: World Bank, *World development indicators*.

## 4. Quantifying the static and dynamic effects of globalisation

This section analyses the quantitative impact of globalisation, using a variant of ECFIN's international macro model QUESTII and using the insights provided by Section 3. The model has been adapted in various ways in order to better capture the phenomena discussed earlier. An important feature that has been added to the model in order to better reflect the outsourcing phenomenon is the consideration of imported intermediate inputs in domestic production. Trade in final and intermediate goods and services is explicitly modelled via a CES preference and production structure which allows us to specify the varying degrees to which goods and services produced in different regions are substitutable. A consistent definition of price indices allows us to interpret changes in real consumption in welfare theoretic terms. Finally, based on recent empirical results in international trade, an attempt has also been made to model the link between technological change and demand shifts (see Annex 1 for further details).

It must be stressed from the outset that quantifying the effects of globalisation at the macroeconomic level is a difficult task and that there are certainly limitations to a purely macroeconomic view of the globalisation phenomenon. The process of globalisation does not affect the economy in a uniform manner. It affects sectors and occupations to various degrees. Not being able to identify the critical sectors and their interactions with the rest of the economy in a detailed way is a weakness of any macro analysis. Nevertheless, a macro approach offers many advantages. Sectoral studies are often of a partial nature and they miss important economic feedback mechanisms. In contrast, international macro models such as QUEST allow for the consistent modelling of international trade and financial flows by considering equilibrating mechanisms, operating via adjustments in the terms of trade, which establish long-run internal and external balance. In fact, the quantitative analysis conducted in this chapter emphasises international capital

flows, by looking at how they respond to globalisation-related shocks and by further analysing repercussions on other important macro aggregates such as consumption, investment and productivity.

In order to conduct such an analysis it is important to first define what globalisation means in terms of quantifiable shocks hitting the world economy. Here, we go back to our definition of globalisation in the introduction where we state that the major impulse for the current globalisation phenomenon is a process of technological convergence in a number of emerging economies, mostly located in central and eastern Europe, Asia and parts of central and Latin America. As discussed in the previous section, technical progress, defined as the growth rate of TFP, has been about half a percentage point higher in the RoW compared to the EU-15 over the last decade. It is assumed that this growth rate differential is likely to persist over the next 50 years and to gradually decline thereafter.

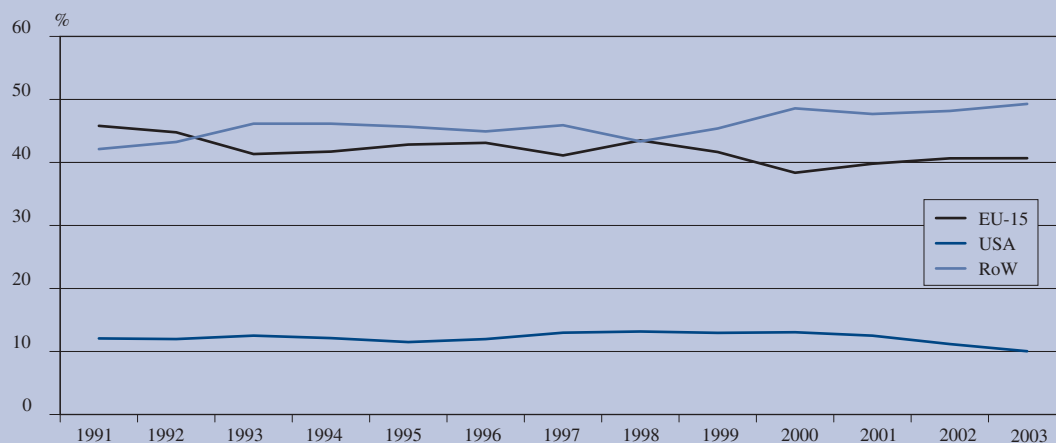
As indicated in Section 2, one important element for assessing the spillover of technical progress from the RoW to the industrialised economies is the degree to which increased technological capacity in the RoW leads to changes in global production patterns. More specifically, to what extent will worldwide income and technological convergence lead to the relocation of production from one country to another for a range of goods and services. At the macroeconomic level, 'global relocation' can be measured using data on changes in capital outflows, imports of intermediate inputs and by shifts in demand patterns for foreign and domestically produced goods and services.

Empirical evidence from the trade literature suggests that the emerging economies are quickly moving up the quality ladder. Consistent with the estimates of Gagnon (2004), bilateral imports of country  $i$  from country  $j$  are

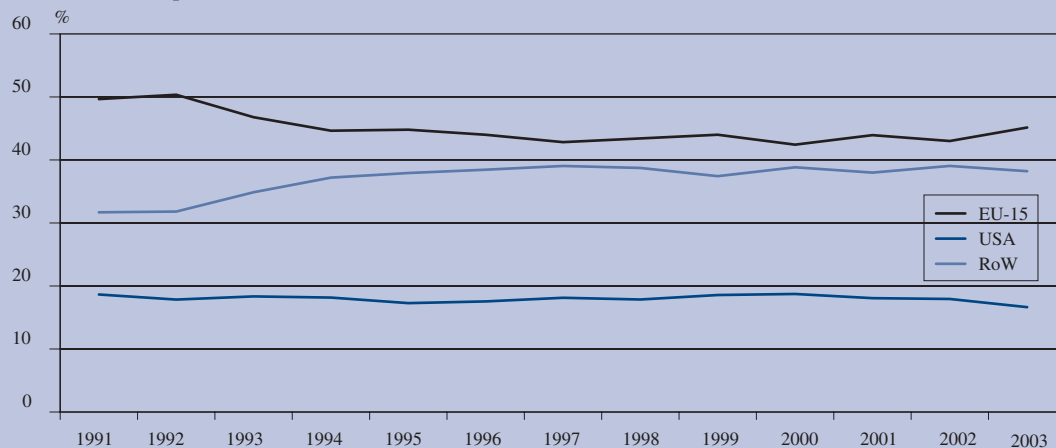


Graph 8: EU-15, US and rest of world shares of world manufacturing exports and of business service exports, 1991–2003

Manufacturing exports



Business services exports



Source: Commission services and World Bank, *World development indicators*.

positively affected by the growth rate differentials between the two countries. The available estimates suggest that a growth rate differential between the catching-up country and world GDP growth of 1 % shifts its imports by about half a percentage point (i.e. every one percentage point growth differential is associated with half a percentage point shift in that country's demand for intermediate and final imports). An important question remains, however: how does this affect the number/variety of goods and services produced in the industrialised economies? From the perspective of the EU, at least four alternative global production relocation patterns can be distinguished.

- *Global relocation pattern 1 (no change in specialisation)*. Under this scenario, catching-up in the rest of the world does not fundamentally change the structure of traded goods and services. Rapid technical progress enables emerging economies to produce the goods they traditionally supplied to the world market at a lower cost. In this scenario, 'relocation' only therefore takes the form of changes in relative prices whilst the pattern of international specialisation remains unchanged.
- *Global relocation pattern 2 (change in specialisation)*. For this second scenario, it is assumed that

technological progress in the rest of the world enables emerging market economies to produce goods and services which were formerly only produced in the more advanced countries. This causes firms in the industrialised economies, such as the EU, to exit the market or to move production abroad. Certain types of goods formerly produced domestically in the EU are replaced by imports. Consequently, technological convergence leads to shifts in relative demand. This process is modelled via a positive shift in the import demand equation for the EU and a negative shift in the demand for domestically produced goods. However, while there is a shift in the pattern of specialisation, the number of varieties of goods and services is not changed globally.

- *Global relocation pattern 3 (pessimistic assessment of a change in specialisation)*. This scenario is a variant of scenario 2, with the only difference being that technical progress in the RoW is assumed not only to lead to the production of goods and services which directly compete with those of industrialised countries in world markets but in addition it leads to the substitution of imports in the RoW by domestic production. There is, therefore, a negative shift of import demand in the RoW associated with the positive demand shift towards domestically produced goods. This scenario is manifestly more negative for the EU compared with scenario 2, with import substitution in the RoW leading to reduced exports for the EU and to less favourable terms of trade effects.
- *Global relocation pattern 4 (optimistic assessment of a change in specialisation)*. This is also a variant of scenario 2 but this time the outcome is more favourable for the EU. The important difference with the earlier scenario is that the introduction of new goods and services by the RoW does not lead to a displacement of domestically produced EU goods and services. This scenario is an attempt to capture the gains for EU consumers and investors from an increased variety of intermediate and final goods and services. In this case, the upward shift in the EU's import demand equation is not accompanied by a downward shift for domestically produced EU goods and services.

The simulations presented below explore the impact of globalisation under these four alternative scenarios. Obviously the 'truth' will be found in a combination of all four patterns. Nevertheless, it is useful to look at these extreme simple cases in order to see the range of possible outcomes.

In addition to technological convergence, another important globalisation feature which is emphasised in the simulations is the substantial liberalisation of international capital and trade flows since the beginning of the 1990s. Of course, trade barriers due to distance (transportation costs) remain, but these are largely symmetric. Finally, regarding the employment effects, it is assumed for all the simulations that wages adjust to keep the level of employment constant. While this is undoubtedly a simplification, it has the advantage of summarising the effects of globalisation on the labour market by a single indicator, namely real wages. With a standard wage equation in place in the model, the impact would have been split into wage and employment effects. Another way of looking at this convention is that it provides information on how much wages will have to adjust in order to keep employment constant. In most cases, while real wages may need to adjust downwards in the short run, this is not the case over the longer run where gains are evident from the improvement in the terms of trade. This overall effect does not, however, make a distinction between skilled and unskilled workers and consequently no conclusions can be drawn in terms of the income distribution consequences of globalisation. Future modifications to the model will hopefully make such an analysis possible.

Three essential issues are addressed in the simulations described in Sections 4.1 to 4.3. Firstly, from a backward-looking perspective, we are interested in the extent to which the evolution of the main macroeconomic aggregates over the last 15 years have been influenced by the globalisation process and whether the EU has gained or lost from this process. Secondly, from a forward-looking perspective, we are trying to establish how the European economy will be affected by a continuation of current globalisation patterns both in static and dynamic terms. Finally, given the rise in protectionist sentiments in many developed economies, we are also interested in looking at the effects of an anti-globalisation scenario which is characterised by increased trade tariffs and a reduction in capital mobility.

#### **4.1. What are the longer-run implications for the EU of a persistence of current trends?**

Looking back at the last 15 years, the question can be posed whether the relatively strong growth in the RoW over this period has in total been rather beneficial or

harmful for the EU's economy. A priori, a clear answer to this question cannot be given. On the one hand, it can be argued that growth in the RoW generated additional demand for EU exports. But this must be compared to the potentially increased levels of import penetration in the EU and the possibly detrimental effects from capital outflows. Could capital outflows in the last decade have contributed to lower EU-15 investment rates and consequently could they have been a factor behind the slow-down in EU productivity growth? Furthermore, can the observed growth divergences possibly explain the magnitude of the change in the terms of trade and import shares and how do these effects translate into the growth of consumption, investment and GDP as well as to changes in the trade balance? Section 4.1.1 assesses whether the first two 'relocation' patterns described earlier are compatible with the stylised facts of the post-1990 period, with 4.1.2. looking at pessimistic and optimistic variants of the second pattern (i.e. that a change has occurred in global specialisation patterns).

#### **4.1.1. Are present globalisation trends leading to changes in international specialisation patterns or not?**

*Simulation 1: No change in specialisation patterns — the conventional trade and growth view ('relocation' pattern 1)*

This first scenario is close to the conventional trade and growth view, based on the notion of comparative advantage/specialisation. According to this view of globalisation, growth in the RoW does not lead to a change in the pattern of international specialisation. In other words TFP growth in the RoW does not lead to a shift in demand in favour of this region, beyond the effect generated by the change in the terms of trade. Without a shift in preferences, the welfare effects (measured by private consumption) of an increase in foreign TFP are significantly larger. With a TFP growth differential of roughly 0.5 %, Table 1 and Graph 9 show that, after 50 years, the level of output in the rest of the world has grown by nearly 30 % relative to a technical baseline which assumes that no catching-up occurs. Relative to the EU's GDP per capita level, this would imply an increase from about 25 % of the EU average at present to 55 % in 2050.

Concerning the EU itself, the long-run output effect is slightly positive. However, there is an adjustment process, characterised by a period of investment falling below baseline levels, linked with the relocation of capital to the faster-growing regions. The negative invest-

ment response peaks between five and 10 years after the initial shock where, at its maximum, its level is down by about 1 %, i.e. the annual average growth rate of investment is reduced by about 0.1 %. The real consumption wage recovers relatively quickly because of the terms of trade gains and turns positive after 10 years despite the fact that productivity levels remain below baseline for much longer. Also consistent with recent economic developments in the EU, the relocation of capital to the rest of the world (RoW) has been associated with a positive trade balance effect over the 1990–2005 period. Globalisation is associated with an increase in the import share for both final and intermediate goods (due to cheaper existing products) and with a small loss in the EU's world export market share. Compared to the actual increase in the EU's import share over this period, the model-generated increase is on the low side and consequently the results may be on the optimistic side.

In overall terms, under this scenario, the negative short-run effects for the EU from production 'relocation' slightly dominate the positive effects from increased world demand and from the improvement in the EU's terms of trade. However, EU households benefit in the medium to long run in terms of improved terms of trade and from the higher interest income from abroad (from the earlier capital outflows). The increase in the terms of trade derives from the fact that the acceleration in productivity in the RoW, and the associated price declines, dominates the positive effects on prices from the shift in import demand towards goods produced in the RoW. As explained in Section 3, this pattern is not inconsistent with the terms of trade developments as observed over the last 15 years. From the earlier Graph 4, we can observe that the initial improvement in the terms of trade in the RoW was followed by a more permanent loss, while for the EU the opposite pattern was evident.

*Simulation 2: A shift occurs in international specialisation patterns ('relocation' pattern 2)*

In this scenario, emerging market economies are expanding varieties and enter markets previously dominated by the EU. This scenario addresses fears that there may be an insufficient response from the EU to the challenge posed by emerging market economies by not moving strongly enough into the development and production of new products. These fears are fuelled by the apparent weakness of the EU economy to enter new high-tech markets such as IT for example. Can this sce-

Table 1

**Simulation 1 — No shifts in international specialisation patterns (conventional trade and growth view)**

Effects on rest of world				
	1991	2005	2025	2050
GDP per capita	0.3	7.9	18.5	28.9
Terms of trade	0.8	- 3.1	- 8.7	- 13.4
Import shares (final goods and services)	0.0	- 2.0	- 5.0	- 7.6
Effects on EU				
	1991	2005	2025	2050
GDP per capita	0.0	- 0.2	0.0	0.6
Terms of trade	- 0.5	2.5	7.1	11.1
Import shares (final goods and services)	0.0	1.5	4.0	6.1
Import shares (intermediate goods and services)	0.0	1.5	3.7	5.6
Investment	- 0.7	- 0.5	1.1	2.5
Consumption	- 0.2	0.3	1.8	3.5
Real consumption wages	- 0.1	0.2	1.1	2.3
Export market share	0.2	0.1	- 0.4	- 0.7
Trade balance	0.2	0.1	- 0.3	- 0.6

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

nario better characterise the last 15 years and, if yes, what would be the long-run consequences for Europe?

This scenario attributes more of the observed decline in GDP, consumption and investment in the EU over the period 1990–2005 to globalisation. This adjustment pattern to the ‘globalisation shock’ generated by the model is not inconsistent with the stylised facts on consumption, investment and the trade balance in the EU over the period 1991–2004. The prospect of less capital deepening and consequently lower productivity growth has negative effects on labour income expectations and therefore on private consumption, which frontloads this effect. However, despite the more negative results from simulation 2, it must be stressed that globalisation as such does not entirely explain the decline in GDP per capita growth over this period, with the annual growth rate being reduced by about 0.05 % in the first 10 years, which is equivalent to less than 25 % of the actual decline.

Concerning the terms of trade, whilst this scenario is broadly consistent with the observed developments since the early 1990s, the nature and extent of the gains are different to those of simulation 1. In simulation 1, it was

assumed that the products in which the RoW holds a comparative advantage (such as production of ICT-related goods, consumer electronics and textiles) are sold at a lower price (ie. the TFP gains in the RoW are reflected in cheaper products only). In simulation 2, it is assumed that the TFP gains are reflected in both cheaper products and in the introduction of new products by the RoW which are increasingly demanded by the developed world. A comparison of the results in Tables 1 and 2 reflects these differences in the underlying assumptions, with a larger terms-of-trade gain in the pure TFP scenario (i.e. simulation 1) and an increase in the nominal import share which is significantly smaller than that of the present simulation.

In overall terms, given that we are replicating developments for only the last 15 years, the results from simulations 1 and 2 unfortunately do not allow us to make a clear discrimination in favour of one view or the other. Both are broadly consistent with the stylised facts. However, even under the second scenario, it is clear that the EU economy could benefit from higher growth in the RoW, though to a smaller extent than under the traditional trade and growth view. Given the uncertainties involved, Section 4.1.2. goes on to look at two variants

Graph 9: Effects of a continuation of the 1991–2004 globalisation trends



Source: Commission services.

of simulation 2, with the objective of establishing the likely range of the overall effects.

#### 4.1.2. Changes in international specialisation patterns — a pessimistic and optimistic interpretation for the EU

*Simulation 3: A more pessimistic production relocation scenario (pattern 3)*

One of the consistently positive features of scenarios 1 and 2 is that the EU continues to reap important benefits from an increase in its terms of trade. Though these two scenarios capture the movements of the terms of trade over the last decade quite well, their long-run prediction

(a permanent terms of trade improvement for the EU) is somewhat at odds with empirical evidence on the long-term link between growth and the terms of trade for faster-growing regions.

The stylised facts over the last four decades in fact point in the direction that there is no systematic negative association between faster growth in a region and a loss of its terms of trade. This suggests that the ‘relocation’ assumptions made in the first and second scenario could in fact be too optimistic. Therefore, in this scenario, we adopt ‘relocation’ pattern 3 where we allow for import substitution in the RoW. This scenario yields no long-run improvement in the EU’s terms of trade. The nega-

Table 2

**Simulation 2 — Shifts in international specialisation patterns**

Effects on rest of world				
	1991	2005	2025	2050
GDP per capita	0.3	8.1	18.8	29.2
Terms of trade	1.8	- 1.2	- 6.2	- 10.2
Import shares (final goods and services)	1.0	- 0.5	- 3.3	- 5.6
Effects on EU				
	1991	2005	2025	2050
GDP per capita	0.0	- 0.5	- 0.3	0.2
Terms of trade	- 1.1	1.1	4.9	8.1
Import shares (final goods and services)	- 0.6	3.8	9.1	13.4
Import shares (intermediate goods and services)	0.0	4.2	9.0	13.0
Investment	- 1.5	- 1.5	0.2	1.6
Consumption	- 0.6	- 0.1	1.6	3.4
Real consumption wages	- 0.2	- 0.3	0.5	1.6
Export market share	0.4	0.0	- 0.7	- 1.2
Trade balance	0.4	0.1	- 0.5	- 0.9

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

tive EU investment impact is now much more persistent and the real wage outcome is much more negative reflecting the downward pressure on productivity.

Despite this, the extent of the negativity should not be exaggerated. After 50 years, GDP per capita is down by 1 % in levels, with most of the reduction concentrated in the first 10–15 years. Even in this scenario, the long-run welfare effects represented by an increase in per capita consumption are positive for the EU economy. This is because households benefit from increased interest income from their investments abroad. The most important conclusion to be drawn from this simulation is that relocation (defined as off-shoring plus outsourcing plus shifts in relative demand) is a relatively minor phenomenon, at least at the level of the EU's macro economy.

*Simulation 4: A more optimistic production relocation scenario (pattern 4)*

This scenario shows that the introduction of new goods from the RoW has the potential to significantly

increase the long-run welfare gains in the EU. This aspect, as we learned earlier, has been emphasised in the recent trade literature, where a lot of attention has been devoted to the two welfare consequences of increased trade for consumers, namely the fall in the price of existing goods and services and the introduction of new imported varieties of goods/services. As can be seen in Table 4, when one allows for these types of variety effects, globalisation takes on a much more positive aspect. While the results with regard to the terms of trade and import share developments are broadly similar to simulation 2, there is a much more positive outturn in terms of investment and consumption. The positive consumption effect is more than double that of simulation 2, with the result that overall GDP per capita in 2050 is more clearly positive compared with the earlier results. Why are the results so positive in the long run? The deflators for consumption and investment are quality (variety) adjusted, i.e. they fully take into account the consumer and investor benefits from having increased choice. Traditional price indices would not properly take this effect into account (see Annex 1 for additional details).

Graph 10: Macroeconomic effects of a more pessimistic production relocation scenario for the EU



Source: Commission services.

### Overview of simulations 1–4

The above simulations stress the uncertainties regarding a static interpretation of globalisation patterns, with both interpretation 1 (no change in specialisation) and interpretation 2 (change in specialisation) both being consistent with the stylised facts of the post-1990 period. In addition, depending on what happens with regard to the terms of trade and import demand patterns, the income position of the EU could be more negative or positive. However, while this is undoubtedly true, simulations 1 to 4 do provide a useful range against which to assess the different hypotheses, with the most negative scenario pointing to losses of about 1 % in GDP per capita levels in 2050 (i.e. 0.02 off the

annual average growth rate over the coming decades) and with the most optimistic scenario pointing to permanent gains of 1.6 % in levels (i.e. a gain of 0.03 in terms of growth rates).

### 4.2. Dynamic effects of globalisation

In addition to the type of static effects discussed in 4.1, many commentators rightly stress that the benefits of globalisation go far beyond these initial ‘first-round’ effects on consumers and firms, emanating from lower prices and a greater range of goods and services. Globalisation also offers the realistic prospect of higher levels of productivity and growth due to the restructuring induced

Table 3

**More pessimistic relocation scenario (no terms of trade gains for the EU and smaller demand effects)**

	Effects on EU			
	1991	2005	2025	2050
GDP per capita	0.0	-1.1	-1.2	-0.9
Terms of trade	-2.9	-2.7	-0.7	0.4
Import shares (intermediate goods and services)	0.0	3.2	7.0	9.8
Trade balance	1.0	0.2	-1.1	-1.8
Investment	-3.6	-4.3	-2.7	-1.6
Consumption	-1.4	-1.1	0.8	2.5
Real wages	-0.5	-1.5	-1.4	-0.9

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

Table 4

**Potential effects from the introduction of new varieties of goods**

	Effects on EU			
	1991	2005	2025	2050
GDP per capita	0.0	-0.3	0.5	1.6
Terms of trade	-1.1	0.9	4.3	7.1
Import shares (final goods and services)	0.0	4.8	10.2	14.7
Investment	-1.6	0.2	3.5	6.1
Consumption	-0.4	1.1	4.2	7.5
Real wages	-0.2	0.9	3.1	5.5

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

by greater levels of competition and from the faster pace of worldwide technological change.

*Simulation 5: Effect of globalisation in terms of competition*

The effect of globalisation in terms of the emergence of new competitors or from the introduction of new products is likely to have an impact on competition levels and could therefore reduce price/cost mark-ups. Various economists have tested this hypothesis in recent years. Kee and Hoekman (2003), using international sectoral

data, find that an increase of 10 % in the ratio of imports to production lowers the mark-up by around 1½ percentage points (i.e the mark-up falls from an average of 12 % to 10½ %). Chen, Imbs and Scott (2004) find similar results for Europe, based on Eurostat data and the BACH database. Boulhol (2005) estimates the import penetration effect, directly on the Lerner index (a measure of the profitability of firms), using data from the OECD's STAN sectoral database. He also finds similar results and estimates the reduction in mark-ups to be in the range of three to four percentage points.

The scenario presented in Table 5 is run under the assumption that increased trade will increase competition and cause a decline in the mark-up of four percentage points. Concerning production relocation, a change in specialisation patterns is assumed and consequently the results can best be compared to those of the earlier simulation 2. The increase in competition lowers prices and increases the demand for labour and capital. This has especially beneficial effects for the real income of workers both directly and indirectly via higher investment.

Table 5

**Potential effects from increased competition levels**

	Effects on EU			
	1991	2005	2025	2050
GDP per capita	0.0	0.1	1.1	2.5
Terms of trade	-1.1	1.1	4.9	8.2
Import shares (final goods and services)	-0.6	3.8	9.1	13.4
Investment	-1.0	1.7	6.0	8.3
Consumption	-0.7	-0.4	1.8	4.6
Real wages	-0.2	1.6	5.2	8.6

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

*Simulation 6: Potential for higher levels of technological diffusion*

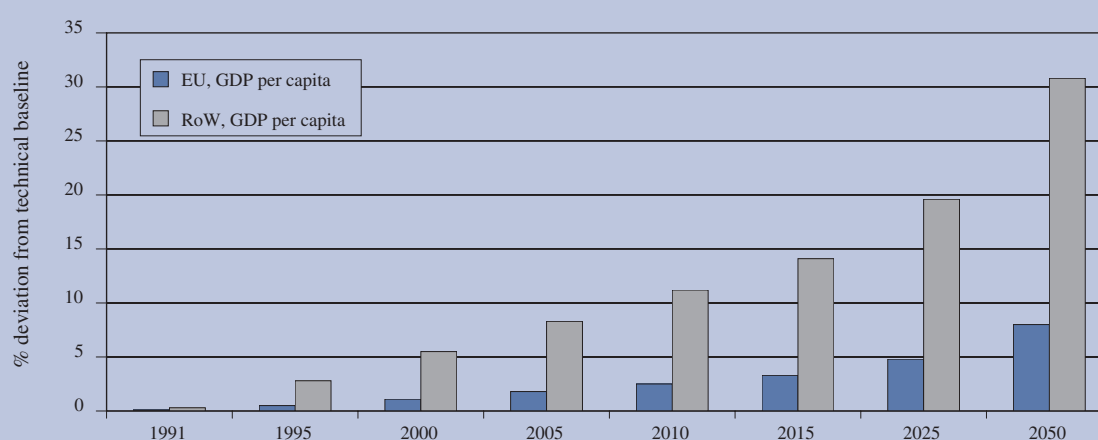
In addition to the competition effect, the last simulation in this section also allows for the potential benefits accruing from technological (i.e. TFP) spillovers from the rest of the world. A recent review of the literature on international technology diffusion (Keller, 2004) concluded that for 'most countries, foreign sources of technology are of dominant importance (90 % or more) for



productivity growth' and that substantial technology spillovers are associated with it (i.e. the use of foreign investment goods has productivity benefits over and above the direct capital deepening or absorption effect).

For the purposes of the present simulation, it is assumed that about 25 % of the technological advancement in the RoW spills over into the EU in terms of higher TFP growth.

Graph 11: Most favourable globalisation scenario: gains for EU and rest of world



Source: Commission services.

These spillover effects for the EU take the form of higher levels of innovation and positive reorganisation effects. Table 6 shows that, when one correctly allows for the dynamic effects of increased openness both in terms of dynamically induced gains from technological diffusion and from the enhanced levels of competition described earlier in simulation 5, the long-run welfare effects of globalisation are not only much larger but the short-term losses are smaller and are of a shorter duration. Graph 11 also makes the important point that the developing world and the EU are both big winners from globalisation under this scenario. In terms of GDP per capita, the level of income in the developing world rises by over 30 % compared with a gain of 8 % for the EU. In growth rate terms, an 8 % level effect translates into an annual average gain in EU living standards of roughly 0.2 each year up to 2050. Table 6:

### 4.3. Anti-globalisation scenarios (static and dynamic effects)

Despite the fact that the benefits of globalisation are widely accepted, the extent and nature of the present

phase is understandably causing concern amongst politicians and policy-makers regarding its ultimate impact on developed economies. While the simulations in Sections 4.1 and 4.2 would suggest that, at the macro level, these concerns are groundless, the regional and sectoral

Table 6

#### Potential dynamic effects (increased competition and technological diffusion)

	Effects on EU			
	1991	2005	2025	2050
GDP per capita	0.1	1.8	4.8	8.0
Terms of trade	-0.9	0.8	3.7	6.0
Import shares	0.0	3.4	7.3	10.5
Investment	-1.1	3.1	8.5	12.2
Consumption	-0.3	1.5	5.4	9.7
Real wages	-0.1	2.6	7.1	11.5

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

impacts could nevertheless be considerable as countries strive to restructure their economies in response to the intensification in global competition levels. Given this charged political environment, it was felt appropriate to look at the possibility of not only slowing down the process of globalisation but in fact of reversing it via the imposition of increased levels of tariffs and the reintroduction of capital controls. In the three simulations described below, the static and dynamic effects of reversals to the present integration trend are analysed, with the first simulation looking at the purely ‘first-round’ effects, the second simulation examining the implications in terms of reduced levels of competition, and the final simulation assessing the additional impact in terms of technology spillovers.

*Simulation 7: Static effects of anti-globalisation policy measures*

For this simulation, a 10 percentage points increase in tariff levels is imposed which essentially brings us back to the average tariff levels pertaining in the 1960s (see Williamson, 2004). In addition, it is assumed that FDI as a share of world GDP is reduced to half its present levels. The pure trade effects of the tariff increases are in fact relatively small. They can be compared to the Krugman (1990) estimate of a 50 % reduction in international trade yielding a loss in worldwide per capita income of 2.5 %. These effects are offset in the developed economies by the reduction in capital outflows, with the overall GDP per capita effect in the EU being less than 1 % in terms of levels (consistent with a contraction in world trade of about 20 %).

*Simulation 8: Effects due to reduced product market competition associated with less trade*

As discussed earlier, the link between trade intensity and goods market competition is an actively researched relationship. Applying the estimates quoted earlier (Kee and Hoekman etc.) to the reduction in trade intensity implied by increased tariffs, yields a reduction in GDP per capita of about 3¼ % in 2050.

*Simulation 9: Static plus competition plus technology diffusion effects*

The final simulation takes into account the main potential channels via which increased tariffs and reductions in FDI flows can impact the EU and world economies. Regarding the effects of technology diffusion, as explained earlier, international technology trends play an

Table 7

**Anti-globalisation scenario — static effects**

Effects on rest of world				
	1991	2005	2025	2050
GDP per capita	0.0	-0.3	-0.4	-0.5
Effects on EU				
	1991	2005	2025	2050
GDP per capita	0.0	-0.6	-0.8	-0.9
Investment	-1.2	-2.5	-2.4	-2.4
Consumption	0.3	0.1	-0.3	-0.4
Real wages	-1.5	-2.0	-2.3	-2.5

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

Table 8

**Anti-globalisation scenario — effect of static effects + reduced competition**

Effects on EU				
	1991	2005	2025	2050
GDP per capita	0.0	-1.1	-2.3	-3.3
Investment	-1.7	-5.8	-8.0	-8.8
Consumption	0.5	0.3	-0.6	-1.6
Real wages	-1.5	-3.9	-6.8	-9.0

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

important role in the economic development of countries. Various studies (for example, Helpman and Coe, 1995; Keller, 2004) conclude that for larger countries, about a quarter of domestic TFP growth is imported from abroad, with much higher levels for smaller economies. Using this estimate, a reduction in trade could lead to a significant slowdown in technical progress around the world. Applying the same technology diffusion effects as in simulation 6 implies that a 10 % reduction in trade would lead to a reduction in worldwide TFP (i.e. knowledge) of about 3 %. If one combines the technology, competition and initial static effects, Table 9 and Graph 12 show a substantial negative impact on living standards in the EU and the RoW, of the order of 5 % in levels, roughly 0.1 in growth rate terms. These simula-

tions confirm that the EU's present standard of living depends to a significant extent on the efficiency gains achieved via the global trading system.

#### 4.4. Overview of simulation results

Sections 4.1 to 4.3 have tried to provide upper and lower bounds of globalisation-induced spillover effects for the EU economy, both in the short and long run. This assessment has been carried out on the basis of a series of simulations which have isolated the key transmission channels from globalisation to productivity and GDP per capita trends. The static effects of various hypotheses regarding import penetration and terms of trade movements have been underlined, as well as the beneficial effects of glo-

Table 9

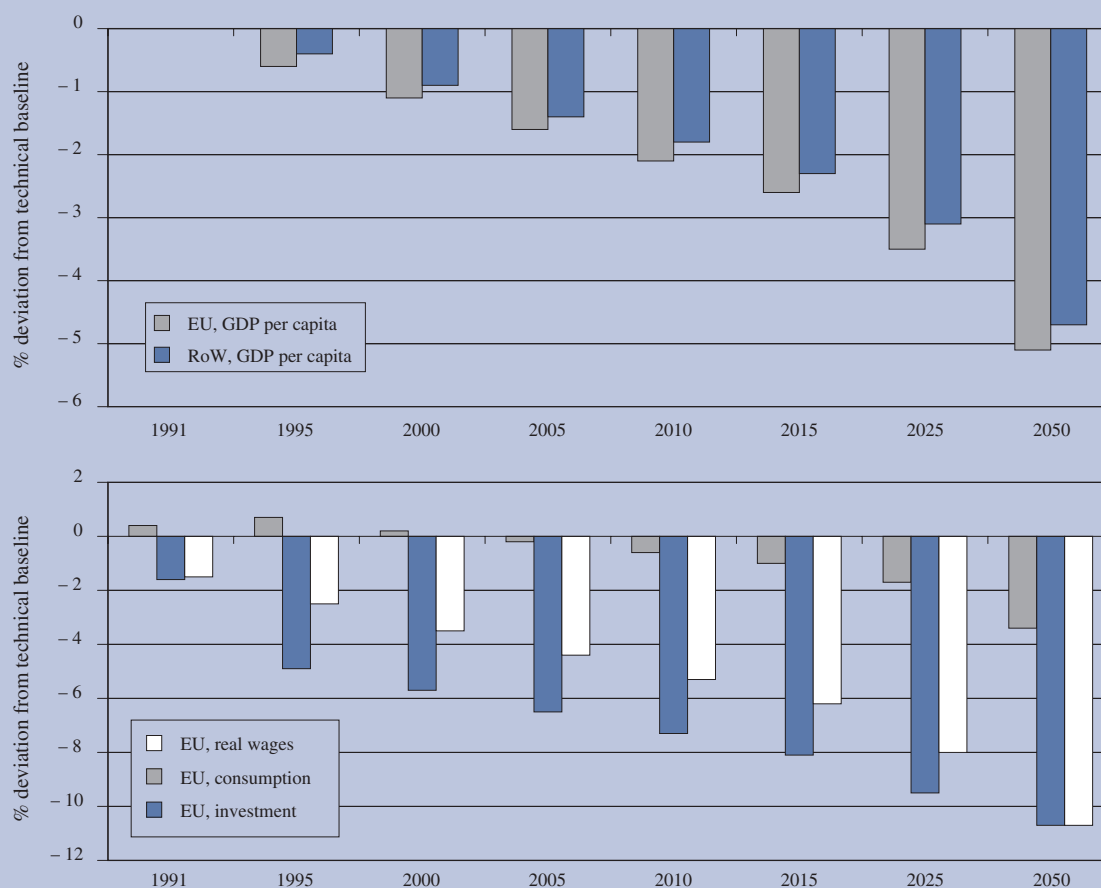
#### Anti-globalisation scenario — static + competition + diffusion effects

	Effects on EU			
	1991	2005	2025	2050
GDP per capita	0.0	-1.6	-3.5	-5.1
Investment	-1.6	-6.5	-9.5	-10.7
Consumption	0.4	-0.2	-1.7	-3.4
Real wages	-1.5	-4.4	-8.0	-10.7

NB: All variables are expressed as percentage deviations from a baseline with a common technology trend.

Source: Commission services.

Graph 12: Anti-globalisation scenario: static + competition + diffusion effects

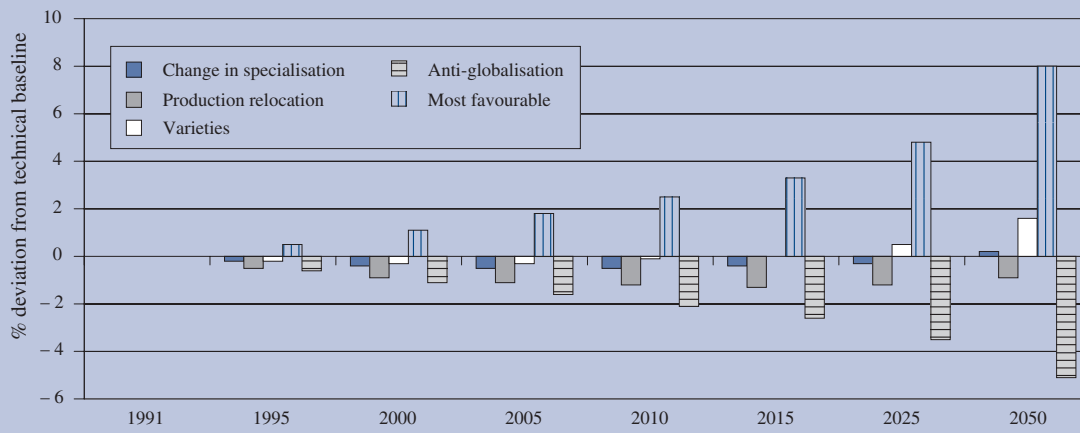


Source: Commission services.

balisation from greater product varieties and from dynamic influences such as enhanced levels of competition, technological diffusion and restructuring. These more dynamic effects would be expected to result in gains for the EU in terms of product upgradings (i.e. higher value-added goods and services) and a recovery in TFP growth rates. Graph 13 gives a summary of the range of outcomes which are possible from the different interpretations of the implications of present globalisation patterns. The results are presented below in the context of the outturn for the EU's GDP per capita performance. The main points to be highlighted are as follows.

- Firstly, in purely static terms (i.e. simply allowing for first-round effects), the post-1990 globalisation phase, and the associated production relocation from EU-15 countries to emerging market economies, has had marginal effects over the period 1991–2004 on the growth rate of EU living standards. If one assumes that the conventional trade and growth view holds (i.e. no change has occurred in the pattern of worldwide comparative advantage), then the growth rate effect over this period has been essentially zero. If, on the other hand, one assumes that globalisation has led to shifts in international specialisation patterns, the maximum negative growth rate effect would still only be of the order of 0.1 % (i.e. a reduction in the annual average growth rate of EU living standards from 1.5 % to 1.4 % over the period 1991–2004). Even this negative impact is shown to be a short-run adjustment effect, with the long-run static impact of globalisation over the complete period 1991–2050 being roughly zero. In addition, these relatively negative EU effects from the post-1990 globalisation patterns should be compared with the much more positive US experience with the post-Second World War catching-up processes of the EU and Japan. Consequently, it is fair to conclude that the relative failure of the EU to respond to the opportunities presented by globalisation in the last 10–15 years, to a large extent reflects an inadequate policy response on behalf of a number of EU governments to the changing nature of this process.
- Secondly, regarding the phenomenon of global production relocation, the present study shows that its macroeconomic effects are, in fact, relatively small. In the worst case scenario, the maximum negative effect would be –1.3 in 2015 on the level of EU GDP per capita which is equivalent to 0.05 off the EU's annual average growth rate over this period. In addition, the effect in 2050 would be close to zero in growth rate terms. This is not of course in contradiction with the widespread popular view that production relocation is having significant sectoral and regional effects. It just stresses that the net effect of globalisation-induced changes in international production patterns is extremely small for the EU with any localised losses in specific sectors being offset by gains elsewhere in the EU's economy.
- Thirdly, if one allows for the possibility of more dynamic effects from globalisation in terms of restructuring from heightened competition levels and from technological spillovers from the rest of the world, the EU has the potential to achieve significant efficiency gains from the global convergence process and the associated reallocation of productive resources. On the basis of the most optimistic scenario, the level of EU GDP per capita would increase by about 8 % which is roughly equivalent to 0.2 on the annual average growth rate over the next four to five decades. This is broadly equivalent to the expected impact from the EU's single market programme. This compares with a 30 % gain in levels for the rest of the world, thereby ensuring a strong degree of catching-up for the emerging economies and a mutually beneficial integration process for both developed and developing countries. Given that extra-EU goods and services trade amounts to only 15 % of EU GDP, an annual growth rate effect of 0.2 constitutes a significant gain, especially since the competitive environment in the EU is at present relatively intense due to the degree of integration already achieved. In absolute terms, an 8 % increase in levels amounts to a permanent annual gain in living standards of over EUR 2 000 in 2004 prices for every EU citizen (over EUR 5 000 per EU household).
- Finally, regarding the effects of actions to slow down or even reverse the trend towards greater global integration, the results are unambiguously negative. All three anti-globalisation scenarios show negative effects for the EU and the rest of the world, with the most pessimistic suggesting that the level of living standards globally could be up to 5 % lower. Consequently, while the protectionist route may appear initially alluring to politicians relative to the alternative of global competition, in the long run it is a policy which will be highly negative for EU citizens in terms of efficiency levels and overall welfare. Outward-oriented policies are manifestly essential for dynamism and greater prosperity.

Graph 13: Overview of simulation results: effects on EU GDP per capita



Source: Commission services.

## 5. Conclusions

Globalisation is neither an inevitable nor indeed an irreversible phenomenon. It is driven, firstly, by the desire of policy-makers to liberalise their economies based on an assessment of the potential economic gains from this process and, secondly, from the ongoing influence of technological advancements in facilitating an expansion of business opportunities at the worldwide level. Its nature evolves over time to reflect this complex mix of economic, technological and political forces which ultimately shapes the different phases of worldwide integration. One of the hallmarks of the present phase is the increasing transfer of labour-intensive production processes and of business-related services from the developed world to lower-cost locations in the developing world (i.e. production relocation). This process manifests itself most clearly in a sharp increase in international investment flows, most notably FDI, in the steady growth in the use of imported intermediate inputs as part of global production chains and in shifts in global demand patterns. While this process has been ongoing for some decades now, at least on the goods side, it has undoubtedly intensified since the early 1990s, with the emergence of vibrant market economies in central and eastern Europe, the increasing integration of China and India into the world economy and the opportunities opened up, especially on the services side, by the coming on-stream of new technologies, most notably ICT. These developments are collectively driving a strong income and technological convergence process at the global level.

These trends are also leading to a significant increase in worldwide competition levels, with many companies being forced to operate at the global level, and to combine the comparative advantages of different production locations, in order to remain internationally competitive. The use of worldwide production locations provides firms with the potential for significant cost advantages as well as direct access to new and expanding markets, sources of finance and technology. Such a deepening in the integration processes of both manufacturing and service industries in turn offers the prospect of signifi-

cant gains at the economy-wide level, with individual EU Member States benefiting in terms of lower prices for firms and consumers, enhanced international trading volumes, and potentially higher levels of productivity and growth both from the associated restructuring of their economies and from the positive spillover effects of technological progress in the rest of the world.

The simulations in this chapter have quantified the effects of the abovementioned factors, with the main static and dynamic effects being described. The results have been presented as a range of possible outcomes. This approach was adopted to reflect the high degree of uncertainty attaching to the long-run evolution of a number of key GDP per capita determinants, such as import propensities, terms of trade, the investment climate in the EU, and the effects of higher levels of competition, restructuring and technological spillovers.

The overall conclusion of these simulations is that the EU is presently not reaping the potential benefits from globalisation and, consequently, the post-1995 deterioration in our economic performance relative to other more dynamic world regions should be attributed to domestic not external factors. Furthermore, on the basis of present policies, the EU is likely to miss out on the medium- to long-run benefits from this process. This would be in stark contrast not only with the large income gains achieved by the US in the post-war catching-up processes of the EU and Japan but also with the EU's own benefits from globalisation in the past.

A number of methods can be used to provide a rough estimate of the EU-15's post-war gains from globalisation. One commonly adopted approach is to use the long-run elasticity of output per capita with respect to openness (measured as exports plus imports as a percent of GDP). While a wide range of estimates exist in the literature for this elasticity, ECFIN's 2003 EU Review estimate of about 0.3 is reasonably representative of those applied to OECD countries. Applying this elasticity to

the increase in openness achieved by the EU over the period 1950–2002 would suggest that about 20 % of the increase in EU-15 living standards over the post-war period can be attributed to the EU's growing integration into the world's economy <sup>(1)</sup>.

While the need for reform and modernisation of present policies is evident, the simulations also show that a much more positive outturn is possible, with the potential for GDP per capita gains from globalisation at a level similar to those predicted for the single market programme. The present study suggests additional income gains of the order of 8 % over the next half century; in absolute terms this would translate into over EUR 2 000 annually, in 2004 prices for every EU citizen (over EUR 5 000 per EU household).

However, realising these gains will require a significant restructuring process to be initiated and implemented, with the analysis highlighting, in particular, the need for the EU to shift the emphasis in its present economic model more towards innovation and the creation of a more business-friendly environment.

This shift towards an innovation-based model is necessitated by the growing interconnectedness of the world's economy which is already driving up the pace of technological progress and magnifying the gains from excellence, with the benefits being reaped by the USA's global dominance in the ICT industry being a good example of the latter. This dramatic intensification of the globalisation process is already transforming the economic structures of the developed and developing worlds, with India emerging as a global power in services, China consolidating its position in manufacturing and with the developed world as a whole searching for an appropriate

response. Many countries in the developed world have recognised the seismic nature of the change and are responding positively by embracing an open-economy, innovation-based, model which emphasises the importance of world-class educational establishments, higher levels of excellence-driven and better-targeted R & D, more market-based financing systems, and more flexible regulatory and institutional frameworks delivering a more dynamic and competitive business environment. Others are responding in an inappropriate manner by attempting to cling to the belief that the EU's present economic problems are temporary and that the magnitude of the changes wrought by globalisation will avoid the need for fundamental reforms.

In this context, the collective challenge for EU governments is to embrace the reality of a rapidly changing global marketplace and of the structural changes which it inevitably provokes. Europe has to adapt its policies and institutions to the competitive and technological challenges posed by globalisation.

If it wishes to avoid a globalisation-induced 'race to the bottom' in medium–low-tech industries, it must increasingly focus on the EU's sources of 'deep' comparative advantage and on creating the framework conditions necessary to convert a reformed EU knowledge production/absorption system into a globally competitive industrial structure. This would constitute an optimal EU response to the ongoing internationalisation of production processes. We are living in a new world where knowledge creation and absorption and the flexibility of the regulatory and institutional frameworks will be the key determinants of the economic fortunes of economies and from where the next big technological innovations will emanate. While Lisbon is a manifestation of this collective desire for change, implementation of the needed reforms will be the litmus test of whether the future will bring a substantial improvement in the EU's gains from globalisation or will confirm the EU's ongoing decline as a global economic power.

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<sup>(1)</sup> Taking the effects of intra-EU integration into account would actually push up the estimated gain to about 30 %. This tentative estimate is corroborated by additional Economic and Financial Affairs DG research for the present study, on the basis of a Helpman and Coe (1995) methodology for calculating international R & D spillover effects.

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# Annex I

## Modelling the globalisation-induced relocation of production processes at a macroeconomic level

There is substantial empirical evidence that technical progress occurring in a certain region goes along with changes in the structure of international production. Countries with above-average rates of technical progress are expanding the menu of goods and services that they offer on the world market. In particular, a technological innovation in an emerging economy can be such that an industrialised country can lose its comparative advantage for the production of certain goods with the consequence that production moves from one country to another. The international switch of production locations is what we call ‘global relocation’. Notice that this is a more general concept than outsourcing or off-shoring, since it applies to finished and intermediate goods. This annex shows how this process is modelled in QUEST.

QUEST, like any standard macro model uses a system of import demand equations that are a function of the aggregate demand for consumption, investment by households, firms and the government and the relative price of imports. This is the so-called elasticities approach. A key assumption of the elasticities approach is that each country produces an aggregate commodity which is an imperfect substitute for goods (aggregates) produced in other countries. This assumption is often referred to as the Armington (1969) assumption. The one good assumption hides the fact that the aggregate itself is undergoing substantial structural changes, among them changing patterns of comparative advantage. This process can be modelled at an aggregate level if one properly defines the aggregate from an underlying structure of preferences over domestic and foreign varieties. Krugman (1979) was the first to start from a more disaggregated approach to modelling macro trade relationships. The CES utility function introduced by Dixit and Stiglitz (1977) has become the standard vehicle for representing preferences. Let

$$X_r = \left[ \sum_{i=1}^{N_D} X_{r,i}^D \frac{\sigma-1}{\sigma} + \sum_{i=1}^{N_F} A X_{r,i}^F \frac{\sigma-1}{\sigma} \right]^{\frac{\sigma}{\sigma-1}}, \sigma > 1,$$

$$A \leq 1, X = (C, I), r = (Dom, For)$$

be a utility function for the domestic economy (region  $r$ ) defined over  $N^D$  domestic and  $N^F$  foreign varieties. The parameter  $\sigma$  denotes the elasticity of substitution between the individual varieties (<sup>1</sup>). The parameter  $A$  denotes the home bias. Utility maximisation subject to a budget constraint allows us to derive aggregate demand functions for imports and for domestically produced goods

$$X_r^D = s_r(N^D) \left( \frac{P_r^D}{P_r} \right)^{-\sigma} X_r$$

$$X_r^F = s_r(N^F) \left( \frac{P_r^F}{P_r} \right)^{-\sigma} X_r.$$

Aggregate demand for goods produced domestically ( $X^D$ ) and for imports ( $X^F$ ) are a function of aggregate demand ( $X$ ), relative prices ( $P_r$ ) and product variety ( $s()$ ). By starting from individual commodities it can be seen that in contrast to the standard Armington specification, there is a third important factor, namely changes in the number of varieties which can explain variations in import demand and the demand for domestically produced goods. Assume that the world economy initially produces  $N$  goods. The subsets  $N^D$  and  $N^F$  are produced domestically and abroad. Now suppose that technical progress enables the foreign economy to also produce some of the  $N^D$  goods at a lower world market price, then the production location for these goods will change,  $N^F$  increases and  $N^D$  declines. At the aggregate level, this leads to an upward shift in the import demand equation and a downward shift in the demand function for domestically produced goods.

In the conventional view, changes in demand only occur as a response to relative price changes. The modern trade theory view allows for additional structural shifts due to

<sup>(1)</sup> The actual structure of preferences is slightly more complicated, especially if it allows for different elasticities of substitution (eos) between domestic and foreign goods.

the introduction of new goods in one region and thus allows for an additional globalisation channel, besides the relative price channel. Notice that shifts in the demand functions for domestic and imported goods will, in general, be associated with relative price changes. The new view allows us, however, to distinguish between the sources for price changes. In particular, it distinguishes between cost changes across regions which are due to product innovations and cost changes due to other sources. For example, if the change in relative costs is due to relative shifts in labour supply but not affecting technological capacities, then only the conventional price channel would be operative. If relative costs are changing due to the introduction of new products then, in general, both the price channel and the variety channel would be operating simultaneously.

This view on aggregate trade equations thus offers more possibilities to model the link between technical progress in individual regions and shifts in domestic and foreign demand components and thereby obtain a better macroeconomic representation of globalisation. There is indeed substantial empirical evidence that empirically estimated shifts in import equations are related to product innovations in the exporting region. Shifts in import demand can be explained by growth differentials between the exporting and the importing region. In the empirical trade equations used in the QUEST model, the ‘shift terms’ are modelled as follows

$$s_r(N^i(TFP_r^D, TFP_r^F)) = \left( \frac{TFP_r^i}{TFP_r^D + TFP_r^F} \right)^{\psi_r(i)}$$

with  $i = (D, F)$  and  $\psi(i) \in [0, 1]$

thereby establishing a link between changes in relative TFP and product innovations. In the scenarios presented in this paper, four production relocation patterns between the RoW and the EU are distinguished.

*Relocation pattern 1:* Catching up in the RoW does not fundamentally change the structure of traded goods and services. Rapid technical progress essentially enables emerging economies to produce the goods they traditionally supply to the world market at lower cost. ‘Relocation’ only occurs via relative price effects but the pattern of international specialisation remains unchanged. This is modelled by setting

$$\psi_r(D) = \psi_r(F) = 0, r = RoW, EU15 .$$

*Relocation pattern 2:* Technological progress in the rest of the world enables emerging market economies to produce goods which were formerly only produced in the current industrialised countries. This causes firms in the industrialised economies to exit the market. Certain types of goods formerly produced domestically are replaced by imports. This process is modelled via a positive shift in the import demand equation and a negative shift in the demand for domestically produced goods. There is a change in the pattern of specialisation. However, the number of varieties is not changed globally. This is modelled by setting  $\psi_{EU}(D) = 1, \psi_{EU}(F) = 1$  and  $\psi_{RoW}(D) = 0, \psi_{RoW}(F) = 0$ .

*Relocation pattern 3:* The same as pattern 2 concerning the EU. But in addition it is taken into account that technical progress in the RoW leads to import substitution by domestic production. There is a negative shift of import demand in the RoW associated with a positive shift in the demand for domestically produced goods.

$$\psi_{EU}(D) = 1, \psi_{EU}(F) = 1, \text{ and}$$

$$\psi_{RoW}(D) = 0, \psi_{RoW}(F) = 1 .$$

*Relocation pattern 4:* This is the same as pattern 2 with the difference that the introduction of new goods by the RoW does not lead to a displacement of domestically produced goods in the EU because the RoW introduces new goods. In this case the upward shift in the import demand equation is not accompanied by a downward shift in the demand for domestically produced EU goods and services. The parameter values characterising this pattern are given by

$$\psi_{EU}(D) = 0, \psi_{EU}(F) = 1, \text{ and}$$

$$\psi_{RoW}(D) = 1, \psi_{RoW}(F) = 0 .$$

The introduction of new goods to the world market adds an additional welfare gain, since preferences are characterised by a love of variety ( $\sigma > 1$ ). The quality change due to new goods is measured by a quality-adjusted price index which is derived from the utility function. In the QUEST model, a consumption-based price index  $P$  is defined consistently with the underlying CES preferences as the minimum expenditure for goods  $X_i^D$  and  $X_i^F$  such that  $X(X_i^D, X_i^F) = 1$ , given relative prices. The consumer price index measures the least expenditure for

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*1. Macroeconomic analysis and scenarios for the EU*

$X_i^D$  and  $X_i^F$  that buys a unit of the consumption index. How does the introduction of new goods change this index? The price index is defined as follows

$$P = \left[ N^D P^D^{(1-\sigma)} + N^F P^F^{(1-\sigma)} \right]^{\frac{1}{1-\sigma}} .$$

Under the assumption that consumers value the introduction of new goods ( $\sigma > 1$ ) an increase in the number of foreign goods ( $\Delta N^F > 1$ ) lowers the price index, thus indicating a rise in the value of real consumption.



## 2. The adjustment challenge in the labour market

### Summary

This chapter examines the impact of rising international economic integration and the emergence of new low-cost labour-abundant trading partners on a global scale on labour markets in the EU. The main findings can be summarised as follows.

Overall, international trade and investment has not been associated with aggregate net employment losses — and there is no indication that more open economies suffer from higher unemployment; however, it is a significant, although far from dominant, factor behind overall job turnover and the reallocation of labour, and as such it can have a negative impact on certain sectors and regions.

Trade integration is likely to have had a small negative impact on manufacturing jobs in the EU. Estimates of job displacement accounted for by increased international trade range between zero and 20 % of all permanent layoffs. The impact of company relocation on job losses has been almost negligible, in particular when compared to total employment or total restructuring.

Outsourcing of business services has been growing but so, almost in parallel, has insourcing. In fact, countries such as the USA and the UK are net exporters in business services, and for several other EU countries the balance of trade in business services has been broadly in balance. Accordingly, there is no evidence so far that outsourcing of business services has had a negative impact on employment.

While outsourcing of intermediate inputs has increased productivity, the available evidence also suggests that trade and vertical integration has caused a significant decline in demand for unskilled labour, in particular in manufacturing.

Global economic integration has contributed to rising wage inequality in the USA; indeed it is estimated to account for as much as one third of the overall increase. The case is less obvious in the EU Member States, where wage inequality has increased little, though employment prospects for the low-skilled remain unfavourable.

The wage share in national income does not appear to be systematically related to deeper international economic integration. Notwithstanding some high-profile cases, it has not led to a systematic erosion of working conditions either.

The extent to which the benefits from globalisation can be reaped depends largely on how efficiently employment can be reallocated. Displaced workers in the EU are less likely to find a new job than those in the USA, though displaced workers in the USA have to accept a bigger drop in earnings when they are re-employed.

Job-search efforts appear to be more strongly geared towards jobs in the same industry among displaced workers in EU Member States than in the USA. Occupational and regional labour mobility is low in the EU-15 Member States and has hardly increased over the last few years. Training, however, is likely to increase the likelihood of finding a new job.

Thus, upon closer inspection, many of the allegedly negative implications of rising international trade and investment are belied by the evidence. However, policy-makers may be well advised not to dismiss widespread public concerns too easily. In order to realise the potential gains from deeper international economic integration, production structures will have to move towards further specialisation and diversification into new areas of relative comparative advantage, and this process will not be without friction and may cause

considerable hardship for the affected workers. The renewed Lisbon strategy with its focus on employment and productivity has a key role to play, matching the pursuit of efficiency with considerations of fairness. Obviously, well-functioning labour markets that enable workers to move smoothly from declining to expanding activities are essential; in practice, this may

often mean ensuring a better balance between income support for job losers, adequate job-finding assistance, training, and proper re-employment incentives. However, as argued in other parts of this report, meeting the broader challenge from globalisation requires policy responses that extend far beyond labour market and social safety-net policies.

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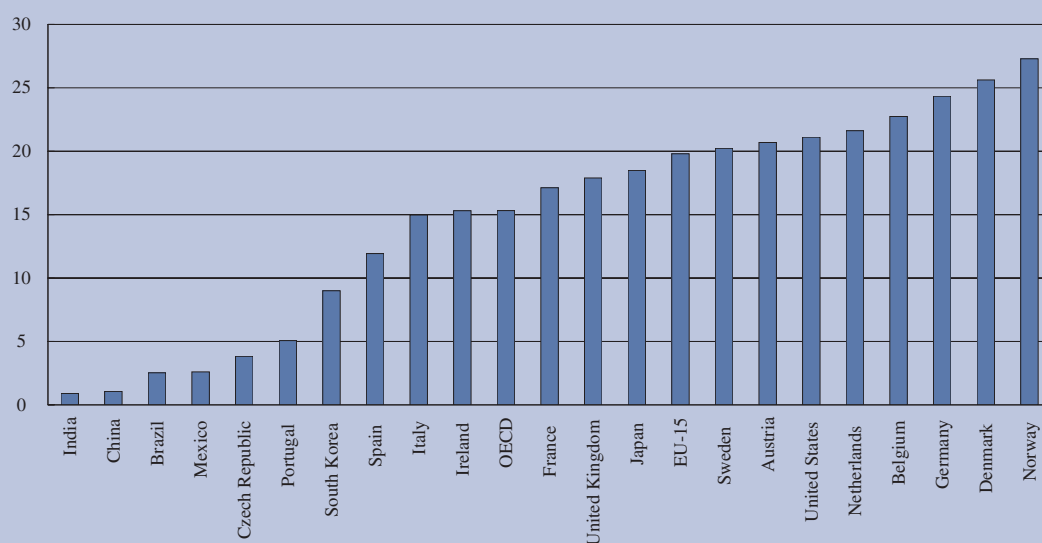
# 1. Introduction

Public perceptions of how rising international economic integration affects labour markets are often dominated by anxieties concerning job losses and downward pressures on wages and working conditions, with potential detrimental impact on economic well-being. Fears appear to be running strong, in particular in many high-wage EU countries, that increased import competition from low-wage countries puts too much pressure on local producers and workers; import penetration of products from countries endowed with cheap labour may render domestic industries uncompetitive, enforce the closing of factories or parts of them at home and induce the relocation of plants and operations abroad. Clearly, such perceptions of the impact of 'globalisation' fuel widespread anxieties that this process will be associated with rising employment and earnings insecurity, or may

even lead to a mass exodus of well-paid jobs in high-wage countries and induce a 'race to the bottom' which is deemed as inescapable by many.

In a nutshell, the combination of technological advance and policy liberalisation is allowing economic activity to become increasingly specialised and dispersed across countries and continents. The boundary of what can and cannot be traded is being steadily eroded, and the global economy is encompassing an ever-greater number of tradable goods and services. Set against a background of sluggish economic growth and persistently high unemployment in much of the EU, these developments have led to a sometimes highly charged debate about the allegedly negative impact of rising economic integration on jobs and wages.

Graph 1: Wage costs in manufacturing, 2002



NB: Average hourly compensation in USD for production workers in manufacturing in 2002. Countries are ranked in ascending order of hourly compensation evaluated at market exchange rates.

Sources: OECD STAN database and US Bureau of Labor Statistics, Foreign Labor Statistics, November 2004, except that wage data for India are estimates based on 2001 and 2003 data from Oxford Economic Forecasting ([www.oef.com](http://www.oef.com)).

The widespread popular ambivalence towards globalisation stands in stark contrast to the sanguine view shared by most economists that trade and investment liberalisation are an important source of rising living standards for the overall population. The broad consensus view, backed up by solid economic theorising, holds that the most important long-run impact of international trade and investment on labour markets has been to raise average real wages without undermining the aggregate employment base, thus providing substantial payoffs to the representative household <sup>(1)</sup>. Indeed, the historical record strongly suggests that increased international integration has never led to a net reduction of employment over more than short periods of time, if at all.

Looking at the more recent past, there is no evidence from an aggregate viewpoint that countries with a higher degree of openness, defined here as the share of exports

and imports in GDP, suffer from a higher rate of unemployment. There is also no evidence that countries that recorded a more rapid increase in openness over the past two decades witnessed a stronger increase in unemployment than those in which international economic integration advanced at a slower pace <sup>(2)</sup>.

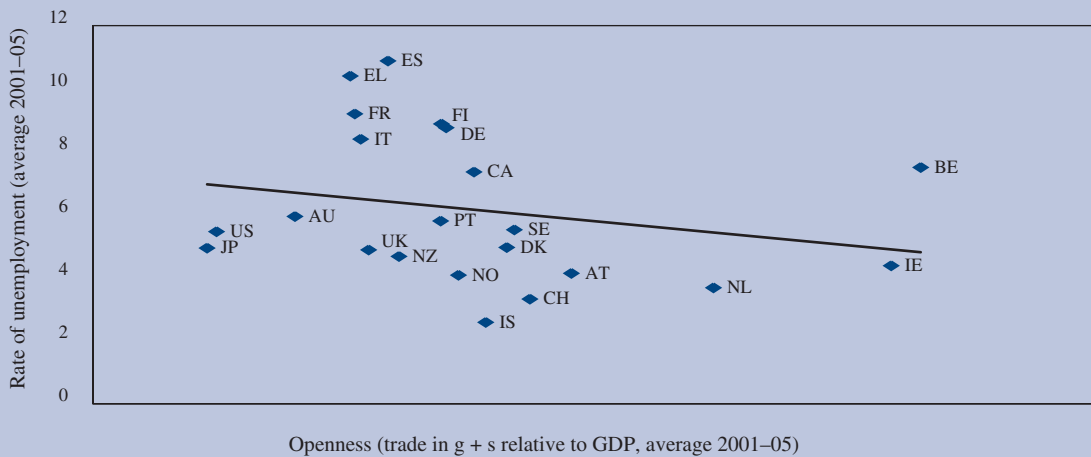
Notwithstanding the overall benefits from deeper international economic integration, both economic theory and empirical evidence demonstrate that in this process the welfare of some people may be reduced even as aggregate productivity and income improve. There is no shortage of individual case studies and anecdotal evidence indicating significant labour market adjustment costs arising from intensified international competition for certain groups of the workforce, as reflected in higher job displacement rates and the social hardship associated with ensuing long spells of inactivity and unemployment and/or large wage losses once re-employed.

Against this background, the purpose of this chapter is to review the available evidence and to provide some new insights into the effects of increased globalisation on the

<sup>(1)</sup> Estimates of the resulting income gains derived from economic analysis are typically quite substantial. For example, the scenario simulation exercise presented in the previous chapter of this report suggests a potential gain in living standards of over EUR 2 000 in 2004 prices for every EU citizen. Hufbauer and Grieco (2005) estimate that after a half-century of shrinking distances and commercial liberalisation, the average US household enjoys an income gain of about USD 10 000 per year. The payoff comes through the same routes as other economic gains: lower prices at the check-out counter, more product choices, and fatter pay-cheques. They argue that the payoff could be even bigger: Future policy liberalisation could produce an added USD 5 000 per household each year. Much of the benefit would come from sectors that were essentially left out during earlier rounds of liberalisation: services, agriculture, transportation, and trade with developing countries.

<sup>(2)</sup> If at all, the relationship — as indicated by the trend line in the two graphs — is in the opposite direction: economic integration goes along with declining rates of unemployment. But this result is significant only under special conditions, i.e. the inclusion of Ireland and the exclusion of the recently acceded Member States.

Graph 2: Unemployment and openness, industrial countries



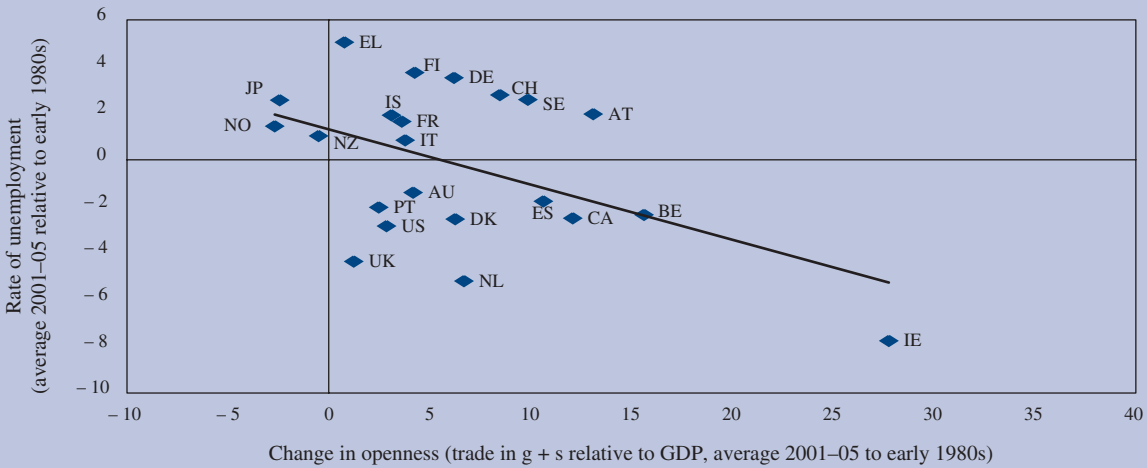
Source: Commission services.

*Part II — Assessing economic benefits and risks*  
*2. The adjustment challenge in the labour market*

EU labour market, highlighting a number of stylised facts and directions for policy. The remainder of the paper is organised as follows: Section 2 examines the effects of trade in goods and services on labour market outcomes, Section 3 focuses on the impact of capital

mobility and the internationalisation of production, while Section 4 discusses the challenges to labour market adjustment mechanisms. Section 5 provides a summary of the main findings and concludes with some policy implications.

**Graph 3: Change in unemployment and change in openness, industrial countries**



Source: Commission services.

## 2. The impact of trade in goods and services

In this section the effects of increased trade on the labour market are discussed. In doing so, we make a distinction between increased imports of final products and increased imports of intermediate inputs. To date, most studies that have analysed the effect of trade on the decline of the relative demand for low-skilled workers have focused on the former. However, as argued by Feenstra and Hanson (2003), trade in intermediate inputs, sometimes called ‘production sharing’ or ‘outsourcing’, may have very different effects than trade in final products on labour market outcomes. We first focus on import competition from final products and then tune in on the effects of outsourcing.

### 2.1. Import competition

The economics behind the effects of international trade are basically very similar to that of migration, except that the former translates only indirectly to the labour market, while the latter has a direct effect on the labour market<sup>(1)</sup>. According to the Heckscher-Ohlin theory of comparative advantages, countries that are relatively well endowed with high-skilled workers will specialise in the production of high-skilled-intensive products, typically high-tech products, while countries with abundant low-skilled labour will specialise in the production of low-skilled-intensive products, typically low-tech products. The latter will export low-tech products to the former, while the high-skilled-intensive countries will export high-tech products to the low-skilled-intensive countries. As a result, production patterns and labour demand will adjust to reach international wage equalisation<sup>(2)</sup>. Labour is affected indirectly through the demand effects for the final products produced in each country. However, in reality we do not observe such

clear patterns of international specialisation. Instead, increased intra-industry trade is observed (Fontagné et al., 1997), which cannot be explained on the basis of pure comparative advantages. There are more predictions of the Heckscher-Ohlin model which conflict with empirical observations, such as the result that due to increased trade, the wage skill gap in the developing world should diminish. This is not at all what we observe.

In the last decade, a large body of research has focused on the role globalisation has had on labour markets in advanced countries. Table 1 gives an (incomplete) overview of the various studies (mostly focused on the US labour market) that analysed the effects of trade on the labour market. The vast majority of papers have looked at how increased import competition has affected especially the less-skilled workers in advanced markets. Import competition in these studies refers to increased imports of final products. If globalisation has enhanced international specialisation, then increased imports of low-skilled-intensive products from the low-wage countries may have reduced the demand for low-skilled labour in advanced countries. This, in turn, resulted in lower wages for the low-skilled and/or less jobs for the low-skilled. However, most of the empirical evidence indicates only a modest contribution of international trade in explaining rising income inequality between the skilled and the low-skilled (for overviews see, for example, Freeman, 1995; Slaughter and Swagel, 1997). Estimates of the share of the increase in inequality accounted for by trade range between zero and one third in the USA.

Although there has been less work on Europe, the evidence to date also suggests no or only small effects on wages, but possibly a larger effect on employment, which is most likely due to the more rigid nature of wages in Europe. Machin and Van Reenen (1998) investigate to what extent technology versus trade can explain the changes in skill structure in six OECD countries, Denmark, France, Germany, Japan, Sweden and the

<sup>(1)</sup> For a review of recent trends in labour migration, and a discussion of its impact on the labour market, see Chapter 4 in Part I of this report.

<sup>(2)</sup> Norman and Venables (1993) stress that when trade costs are important, goods trade alone does not equalise factor prices; flows of capital and labour would also be needed.

*Part II — Assessing economic benefits and risks*  
*2. The adjustment challenge in the labour market*

*Table 1*

**The effect of trade on the labour market**

Study	Country	Results
Görg and Hanley (2005)	Ireland	Outsourcing lowers employment in the short run.
Amiti and Wei (2005a)	UK	No significant effect found.
Amiti and Wei (2005b)	USA	Growth in outsourcing leads to a small reduction in employment, this effect disappears when detailed industries are grouped into larger sectors.
European Commission (2004)	EU	Substantial dynamic gains for the EU, but may come at a cost of negative employment effects for certain sectors or regions.
Egger et al. (2003)	Austria	Comparing the effect of increased imports, deteriorating terms of trade and outsourcing. Outsourcing hurts employment the most.
Feenstra and Hanson (2003)	USA	Outsourcing contributes to skill upgrading and increases in the skilled–unskilled wage gap
Heitger and Stehn (2003)	Germany	No effect of trade with developing countries on wages and employment. Strong effect of technological change and exogenous wage fixing.
Kucera and Milberg (2002)	10 OECD countries	Most of job loss is due to intra-OECD trade. Net job losses result from export declines to LDCs, rather than import penetration.
Braconier and Ekholm (2001)	Sweden	CEE wage competition with parent firms in multinationals. Small employment effect in the parent firm, large effect in low-wage EU affiliates.
Campa and Goldberg (2001)	USA	Real exchange rates have a significant impact on employment, but it varies between low and high mark-up industries and extent of trade in intermediates.
Daudin and Levasseur (2005)	France	Modest and positive impact of international trade.
Faini et al. (1999)	Italy	Weak or positive effect on employment.
Treffler (2001)	Canada, effect of NAFTA	Average tariff reduction of 5 % resulted in a 3 % fall in employment.
Kletzer (2001, 2002)	USA (1979–94)	Employment elasticities of 0.7 for exports and – 0.4 for imports.
Andersen, Haldrup and Sorensen (2000)	EU	Slow wage convergence between more integrated EU members.
Goldberg and Tracey (2000)	USA	Significant effects found in 13 of 20 industries, with the strongest effects for appreciations of the export exchange rate reducing employment.
Landesman et al. (2001)	Seven OECD countries	The net effect of imports and exports was positive in the 1990s and negligible in the 1980s.
Machin and Van Reenen (1998)	Six OECD countries	Technological change rather than trade drives changing demand for low-skilled workers.
Morrison-Paul and Siegel (2000)	USA	Technological progress is more important than trade in explaining labour demand.
Oscarsson (2000)	Sweden	Small effects on employment, for both non-production and production workers. Larger effects on wages.
Minondo (1999)	Spain	Decreased demand of manufacturing employment by 15–20 %, but does not take into account technological change.
OECD (2005)	OECD	Employment growth is lower in sectors subject to strong international competition, but the results are mixed.
Konings and Vandenbussche (1995)	UK	No overall effect on employment. Positive overall effect on wages. For manufacturing: negative effect on both, but only for unionised firms.
Zweimuller, Winter-Ebmer and Aiginger (1995)	Austria	Some effect on employment; larger wage effect.
Sachs and Schatz (1994)	USA	7 % employment decline for manufacturing 2 % among non-manufacturing.
Berman, Bound and Griliches (1994)	USA	Technological progress explains the shift towards skilled labour.
Wood (1994)	Highly industrialised countries	Net job destruction of 5 % of employment.
Revenga (1992)	USA	10 % reduction in import prices leads to a drop of 2.5–4 % in employment and 0.5–1 % in wages.

Source: Commission services.

United Kingdom. While increased import competition seems to be clustered in the same sectors in which skill-upgrading took place (as well as increased R & D spending), there is no statistically significant relationship between changing demand for low-skilled workers and trade. In contrast, a strong effect of technological change seems to have driven the changing skill structure.

Landesmann et al. (2001) study the impact of north-south trade on employment in seven advanced economies (France, Germany, Japan, the Netherlands, Sweden, the UK and the USA) over the period 1980–96. Their estimates identify a significantly negative impact of imports in the 1980s but not in the 1990s. The impact of exports to the south on employment was positive and significant in both periods. The effects of exports and imports on employment cancelled out in the 1980s while the net effect in the 1990s was positive.

Kucera and Milberg (2002) distinguish between the effect of trade with OECD and non-OECD countries, which can be read as a distinction between intra-industry trade with other OECD members and inter-industry trade with non-OECD members. Only the latter implies a change in specialisation patterns that can justify a decline in employment. Their calculations suggest that trade within the OECD led to a small increase in manufacturing employment of about 0.1–0.2 % whereas non-OECD trade is related with a loss of employment in manufacturing of 5–8 % between the late-1970s and the mid-1990s. These numbers are small in comparison with the actual decline of slightly above 20 % in manufacturing employment in the EU between 1979 and 1995.

Daudin and Lavassuer (2005) review empirical estimates of the impact of trade on employment in France, finding a modest and positive impact of international trade. Net job losses were concentrated in the late 1980s and early 1990s and were mainly due to trade with developing countries. The magnitude of the job loss due to increased trade with developing countries was tentatively estimated to amount to 150 000 to 300 000, compared to total employment of 2.2 million.

In their recent employment outlook, the OECD (2005) finds that employment growth in manufacturing sectors exposed to a high degree of international competition was lower in 1980–2000 than in total manufacturing in 11 out of 15 OECD countries. The exceptions were four EU countries (Belgium, Portugal, Spain and Sweden),

implying a mixed evidence for the total of 10 EU Member States in the sample.

The findings of these studies seem to be confirmed by the trend of industrial employment in import competing and export competing sectors shown in Graphs 4 and 5. Manufacturing sectors, in which the import-penetration ratio increased, seem to have recorded a stronger decline in employment than those where import competition has been weaker.

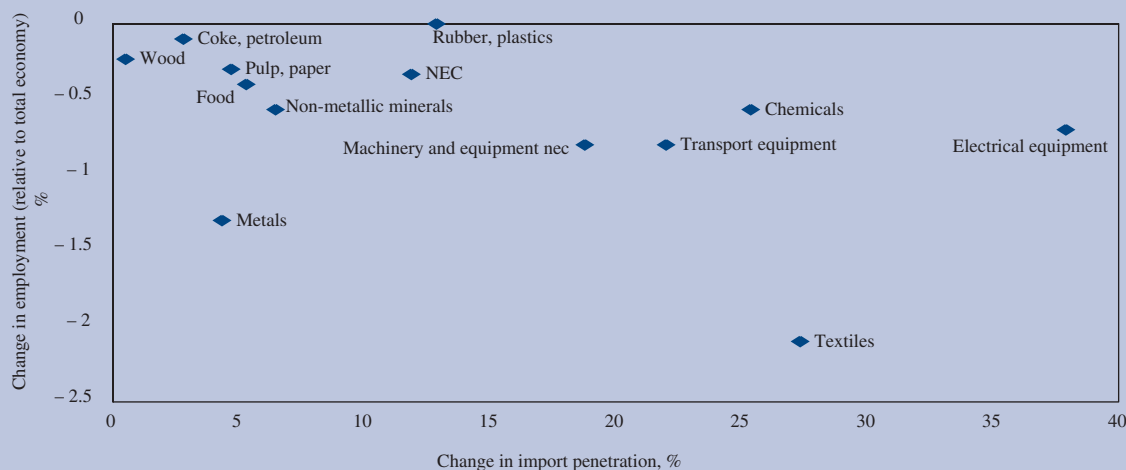
Graph 4 illustrates this relationship for the period 1980–2000 based on aggregated industrial data for eight EU Member States. Employment fell more strongly in the textiles industry, where import-penetration doubled from 25 to about 50 %, than in food industries where the 2000 import-penetration index was comparatively small. Indeed, the index was smaller in the food industry in 2000 than it had been in textiles 20 years ago and increased by less than in textiles over the two decades analysed. The overall picture does not change if different periods are looked at (1990–2000 and 1995–2000).

The relationship between industrial employment and foreign trade is less clear cut when the export-import ratio is considered. A large part of the EU's foreign trade takes place in the form of intra-industry trade. This is demonstrated by a strong correlation between changes in import penetration and the export share of production across sectors. Sectors exposed to strong import competition are also those that export a large share of their production. No relationship between changes in the export-import ratio and relative employment across sectors is visible in Graph 5.

Rising import penetration seems to reduce relative employment in a manufacturing sector even if the export share of products is controlled for. Table 2 reports the results of OLS regressions that relate the change in employment in 12 manufacturing sectors in nine and 11 countries, respectively, relative to the total economy to changes in the sectors' import penetration and export orientation over time. It turns out that the coefficients of both foreign trade variables are small but significant. The size of the import variable is higher than that of the export variable over all three periods analysed <sup>(1)</sup>.

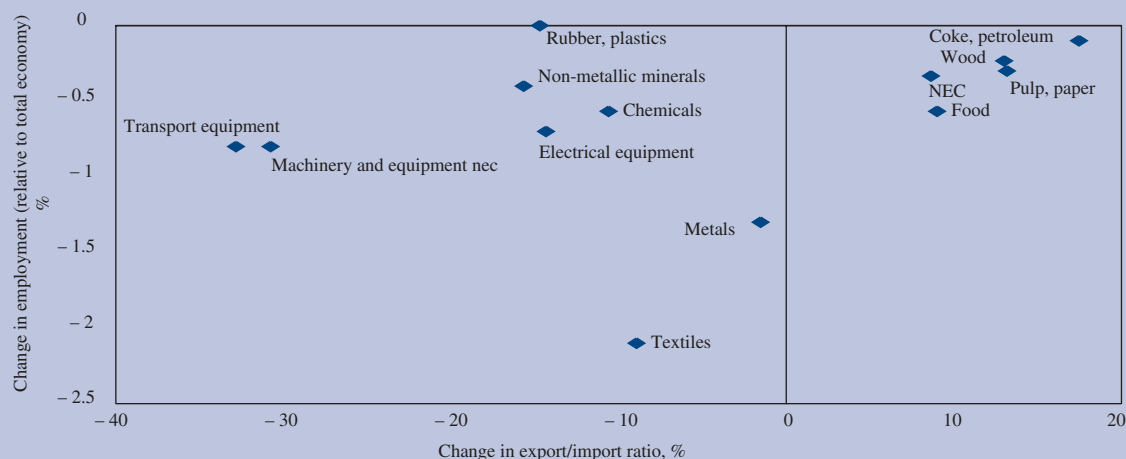
<sup>(1)</sup> The conclusions do not change if the labour productivity and labour costs are included as additional control variables or if country- or industry-fixed effects are added.

Graph 4: Change in employment and import penetration, manufacturing sectors, EU-8, 1980–2000



NB: 2000 figures are averages 1999–2001, nec stands for not elsewhere classified.  
 Sources: OECD STAN, Commission services.

Graph 5: Change in employment and export-import ratios by manufacturing sectors, EU-8, 1980–2000



NB: 2000 figures are averages 1999–2001, nec stands for not elsewhere classified.  
 Sources: OECD STAN, Commission services.

Taken at face value, the coefficients suggest that trade (exports and imports) explains 20 % of the decline in the share of manufacturing employment in total employment between 1980 and 2000. According to this estimate, 80 % are due to other reasons, captured in the constant. Note that the coefficients are larger for the long

period 1980–2000 and decline for the more recent periods. The variation in the data explained by the variables also declines for the shorter time period as witnessed by a declining  $R^2$ . Moreover, the foreign trade variables are no longer significant at standard levels for the period 1995–2000. These findings suggest that trade-related job

Table 2

**Change in sectoral employment (relative to total economy) in dependence on changes in foreign trade structures, 12 sectors in 9/11 countries**

	Constant	Import penetration	Export share	R2	Countries
1980–2000	– 0.412 (0.072)	– 0.034 (0.007)	0.027 (0.006)	0.251	BE, DK, DE, ES, FR, IT, FI, SE, UK
1990–2000	– 0.204 (0.040)	– 0.022 (0.005)	0.015 (0.0005)	0.139	Plus NL and PT
1995–2000	– 0.057 (0.017)	– 0.007 (0.004)	0.003 (0.003)	0.063	Plus NL and PT

NB: OLS regression, standard errors in brackets. All variables are defined as changes in percentage points between the starting period and last period. The 1980 observation is average 1980/81, 1990 observation is average 1989–91, 2000 observation is average 1999–2001.

Source: Commission services.

losses in the EU Member States were more important in the 1980s than in the period after 1995 albeit that globalisation is thought to have accelerated in particular in the recent years.

One should add a potential caveat though. In the above estimates, no controls are included to capture technological change. However, technological change may be embodied in international trade; thus, part of the decline in employment that is now attributed to increased import competition may simply reflect new and better technology in use, often obtained by the imports of more advanced intermediate inputs resulting in learning externalities (e.g. Amiti and Konings, 2005). This only illustrates the general difficulty to disentangle the effects from trade and from technological change.

Analysis of data from household surveys by the OECD (2005) for the US and 14 EU countries suggests that manufacturing workers face a higher risk of displacement than employees in services. Among manufacturing industries, displacement rates also tend to be higher in the industries where international exposure is intense. If one assumes that these differences reflect the extra job displacement by international competition, it follows that international trade and investment account for between 4 % and 17 % of all permanent layoffs in these countries <sup>(1)</sup>. While this is certainly a non-negligible number, it appears to be safe to conclude that international competition is far from being the dominant cause of job displacement.

<sup>(1)</sup> Clearly, such a calculation can only provide an imprecise estimate.

A final point to raise is that the evolution in aggregate employment as discussed above might hide a lot of turbulence in the labour market. In particular, as widely documented by Davis and Haltiwanger (1999) among others, at all times and even within narrowly defined sectors both gross job creation and gross job destruction is taking place.

Gross job creation refers to all employment gains of expanding and new firms, while gross job destruction refers to all employment losses of shrinking and exiting firms. Aggregate data on employment hide such gross job flows. An example can illustrate the importance of gross labour market flows. A decline in aggregate employment of 2 % may be the result of a gross job creation rate of 8 % and a gross job destruction rate of 10 %. Alternatively, it may result from a gross job creation rate

Table 3

**Displacement rates by industry, average in percentage of total employment**

	14 EU countries 1994–2001	USA 1979–99
Manufacturing	3.7	4.6
— High international competition	3.7	5.9
— Medium international competition	4.4	6.2
— Low international competition	3.5	4.3
Services (and utilities for USA)	3.2	1.7
Total employment	2.8	2.2

Source: OECD (2005) on the basis of the ECHP for the EU-15 countries excluding Sweden; and Kletzer (2001) for the USA.



Table 4

**Annual average job turnover rates in manufacturing, 1995–2003**

	JC	JD	Net	Gross	Excess
France	0.05	0.03	0.01	0.08	0.07
Belgium	0.05	0.05	0.00	0.09	0.08
Italy	0.10	0.10	0.00	0.20	0.16
United Kingdom	0.05	0.07	– 0.02	0.12	0.10
Sweden	0.06	0.05	0.01	0.11	0.09
Germany	0.05	0.05	0.00	0.10	0.07
Denmark	0.04	0.03	0.00	0.07	0.06
Spain	0.08	0.05	0.02	0.13	0.10

Source: Computation by Commission services, using the Amadeus company accounts database.

of 2 % and a gross job destruction rate of 4 %. Clearly, the former reflects a much more turbulent labour market than the latter and presumably adjustment costs are likely to be different. Such churning of jobs is often a reflection of labour market restructuring. The key insight to recognise, however, is that even in apparently declining sectors (at the aggregate) there are many firms that do expand.

In Table 4, such gross job flows are reported for the manufacturing sector in eight European countries using the Amadeus company accounts database <sup>(1)</sup>.

Data for more than 246 000 manufacturing firms were used to compute gross job flows for the period 1995–2003. Table 4 shows the annual average gross job creation rate (JC), gross job destruction rate (JD), the net aggregate employment growth rate (net) and the gross job reallocation rate (gross), which is the sum of the job creation and the job destruction rate. In the present application, entry and exit of firms is excluded, so the job flow rates are a lower bound to the true ones.

Gross job turnover rates are clearly much larger than net employment changes. The annual average gross job creation rate varies between 3.6 % and 10 %, but also the annual average gross job destruction rate varies between 3.2 % and 10 %. Countries, like Italy, with a high job creation rate are typically also countries with a high job

destruction rate; likewise, countries with a low job creation rate tend to have a low job destruction rate. While popular attention often focuses on job losses due to import competition or outsourcing, job gains taking place in the same sector tend to go largely unnoticed. In fact, Table 4 demonstrates that such job gains are equally important. Indeed, the major share of job turnover appears to be structural, and unrelated to the business cycle, as indicated by the continuously significant share of job creation in economic downturns and of job destruction in boom periods. Finally, Graph 6 plots the average job reallocation rate versus the degree of openness of a country, indicating no correlation between the two. Obviously, many factors drive structural change and the associated reallocation of jobs, with technological progress and international economic integration just being the two most prominent examples.

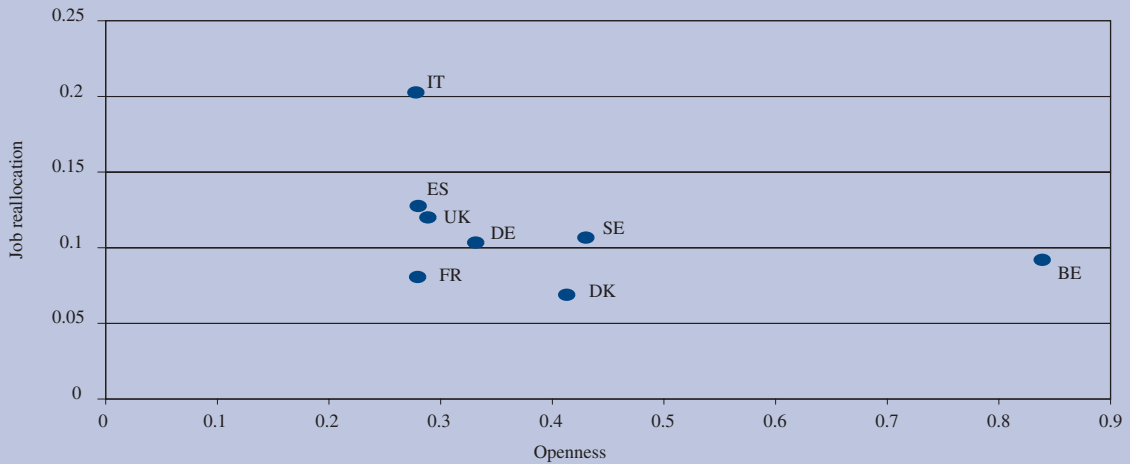
From a general perspective, and contrary to widespread perceptions, the degree of sectoral reallocation has remained broadly stable over the past 25 years. Graph 7 clearly indicates that, after a period of higher turbulence in the early 1990s, the sectoral reallocation of labour has proceeded at a relatively constant pace, showing no signs of acceleration in recent years.

## 2.2. Outsourcing

Increased international trade is not only reflected in increased trade in final products, but also in increased trade of intermediate inputs. Table 5 shows how trade in intermediate inputs has increased rapidly over the last decade.

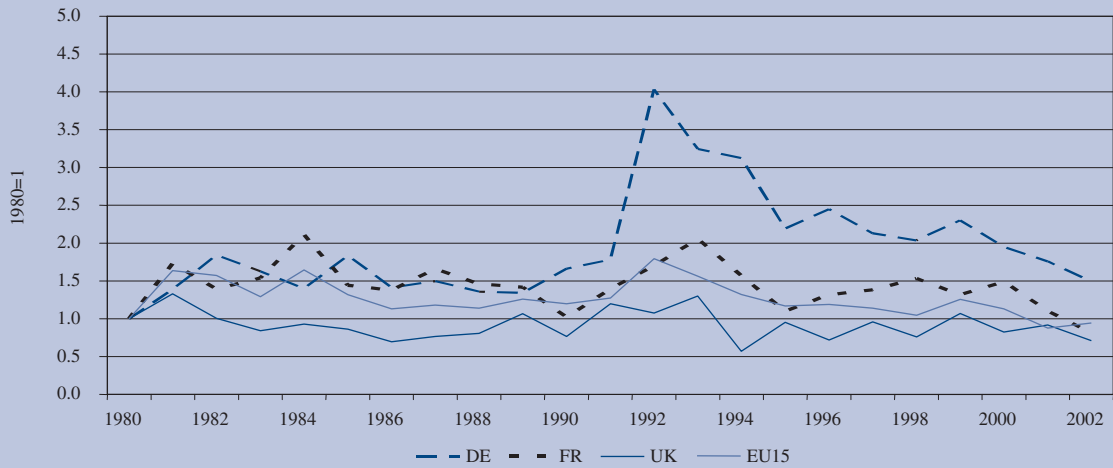
<sup>(1)</sup> This data set covers all unconsolidated companies that have to report full or abbreviated company accounts. An effort is made by the data provider (Bureau Van Dijk) to make data comparable across different countries, by using the same sampling techniques and reporting procedures across different countries.

Graph 6: Trade openness and average gross job turnover in manufacturing, 1995–2003



Source: Commission services.

Graph 7: Sectoral reallocation index



Source: Computation by Commission services, based on data from the Groningen Growth and Development Centre, 60-Industry Database, February 2005, <http://www.ggdcc.net>

Feenstra and Hanson (2003) argue that trade of this type not only affects labour demand in import-competing industries, but in addition labour demand is affected indirectly in the industries using these imported inputs. Consequently, trade in intermediate inputs (outsourcing) can have an impact on wages and employment that is much greater than for trade in final goods. Trade in intermediates has clearly

become an important part of the value chain in manufacturing. Campa and Goldberg (1997) and Feenstra and Hanson (1999) estimate the total amount of imported intermediate inputs by using the purchases of each type of input multiplied by the economy-wide import share for that input. Simply summing this over all inputs within each industry gives an industry-specific estimate of imported inputs.

Feenstra and Hanson (1999) find for US manufacturing that imported inputs have increased from 6.5 % in 1972 to 11.6 % in 1990. Egger and Egger (2001) use the same measure to compute for German manufacturing that outsourcing has increased annually by 3.22 % between 1993 and 1997. Hummels et al. (2001) use input-output tables for 10 OECD countries and four emerging market economies to demonstrate that trade in outsourced components in the vertical chain accounts for 21 % of these countries' exports. Furthermore, international outsourcing grew by approximately 30 % between 1970 and 1990.

What are the effects of outsourcing on economic outcomes? A first group of papers looks at the effects of increased trade in intermediate inputs on productivity. Görg, Hanley and Strobl (2004) use plant-level data for Ireland to show that exporting manufacturing firms especially enjoy productivity gains from outsourcing intermediate inputs. Egger and Egger (2001) find that labour productivity of low-skilled workers increases with outsourcing. For a developing country, Amiti and Konings (2005) find that plants that import intermediates have higher total factor productivity than firms that do not, in addition, a reduction in the tariff on intermediate inputs has larger effects on TFP than a reduction in final output tariffs.

A second set of papers tunes in on the role of outsourcing on labour market outcomes. Feenstra and Hanson (1999) show that outsourcing in the US can account for at least 50 % in the relative increase in the wage share of skilled workers. Likewise, Görg and Hines (2005) find that outsourcing in UK manufacturing has contributed to the shift in the relative demand for labour towards the more skilled ones. In contrast, Helg and Tajoli (2005) find no effects of outsourcing in Germany, but they do find a significant impact on demand for skilled workers in Italy. Aubert and Sillard (2005) estimate that, in the French manufacturing sector, 13 500 jobs were lost, on average, between 1995 and 2001 due to outsourcing. This corresponds to 0.35 % of industrial employment or 12 % of gross job reductions.

Using data from seven EU countries on imported materials, Falk and Wolfmayer (2005) estimate that outsourcing to low-wage countries reduced employment in manufacturing by at least 0.25 % each year over the period 1995–2000. This number is quite high because overall manufacturing employment in these countries declined by 0.4 % over this period. Interestingly, no negative impact on employment was found in this study from outsourcing to other (high-wage) countries. Egger et al. (2003) combine

Table 5

**International outsourcing: the share of foreign intermediate products in total intermediate products for the total economy**

	1995	2000
Italy	17	19
Denmark	22	26
Finland	20	24
Netherlands	29	30
Austria	25	29
Sweden	23	28
Germany	20	26

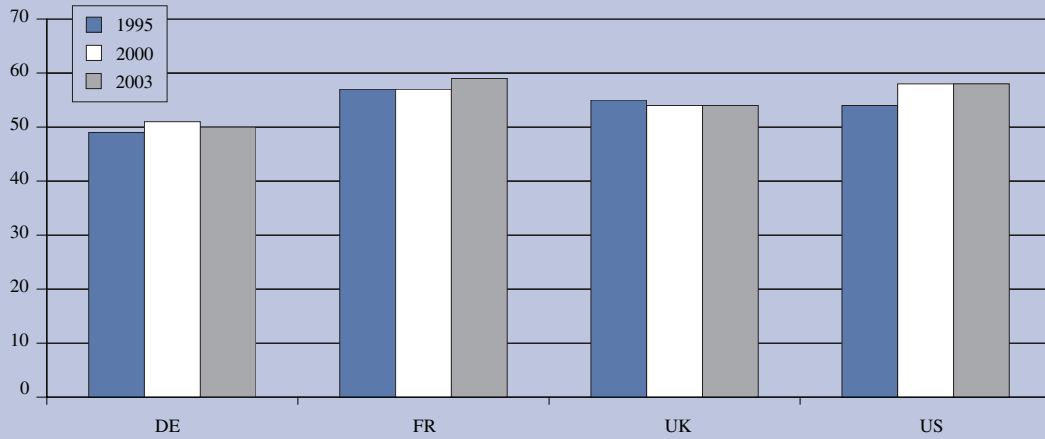
Source: Cesifo study 2005.

data on individuals' labour market situation with industrial data in Austria. They find that the probability of both staying employed in a sector with a comparative disadvantage or of moving into employment in such a sector is negatively related to the size of imports in general and imports of immediate goods. The latter is their proxy for outsourcing and therefore they conclude that outsourcing has a negative impact on employment. However, it has no significant effect on the probability of staying employed in a sector with a comparative advantage. Hijzen et al. (2004) and Görg (2005) analyse the impact of outsourcing on manufacturing employment in the UK and Germany, respectively. Both studies find a strong negative impact on demand for unskilled labour. The evidence from a case study of the German automobile industry by Nunnenkamp (2005) also points towards lower demand for low-skilled labour as a consequence of outsourcing production to central and east European countries.

In sum, the relatively scarce available empirical evidence on the subject suggests that, while outsourcing of intermediate inputs seems to be beneficial for productivity, it is likely to be associated with a drop in the relative demand for unskilled workers. Note, however, that from an overall perspective, the labour market situation of unskilled workers — while relatively unfavourable in general — has remained quite stable in recent years <sup>(1)</sup>. Thus, other factors than globalisation

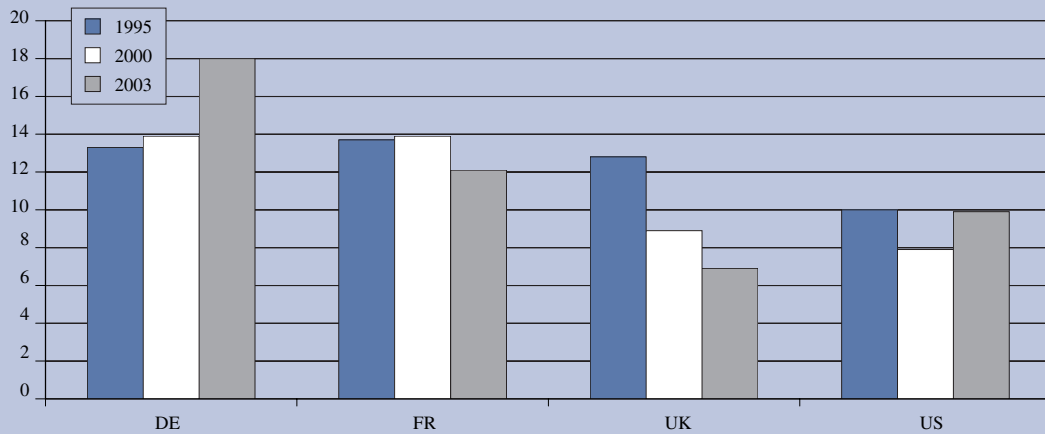
<sup>(1)</sup> Data on employment by skill levels need to be interpreted with caution. For example, when comparing employment rates for the least educated quartile across countries, other studies find considerably lower employment rates for the least qualified in Europe than in the US; see, for example, Glyn (2001).

Graph 8: Employment rates of low-skilled workers



Source: OECD, *Education at a glance*, 2005.

Graph 9: Unemployment rates of unskilled workers



Source: OECD, *Education at a glance*, 2005.

affecting supply and demand for different skill categories of workers, obviously in conjunction with aggregate economic conditions, have apparently played a more important role.

While the studies quoted previously have focused on outsourcing of intermediate inputs affecting the low-skilled, a

recent concern has been the increased outsourcing of services, which potentially affects the high-skilled workers.

In a study for management consultancy Forrester Inc., Parker (2004) calculates that 80 000 service jobs were moved off-shore from the EU-15 in 2004 (see Table 6), largely in IT staff and among clerical workers. The

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number is forecast to increase to a cumulative 1.1 million by 2015. As reasons for the job outflow, Parker notes overpricing of scarce skills at home and a strong emerging skill basis abroad, while low-cost communication costs and global cost competition facilitate and enforce, respectively, the most efficient allocation of resources. Looking ahead, some authors see a large potential for eventual off-shoring of intensive ICT-using occupations. About 15–20 % of total employment could be subject to international outsourcing in the EU-15, the USA and Canada according to calculations by van Welsum and Vickery (2005). Computer, financial services and R & D may be the sectors most affected. But the authors also note that part of the outsourcing may be within the EU. For example, Ireland has been a recipient of off-shoring activities from other EU countries.

The important point to note, however, is that sourcing affects both imports and exports. Graphs 10–13 are inspired by the work of Amiti and Wei (2005a). Outsourcing of business services has increased a lot since the early 1980s. However, ‘insourcing’, i.e. foreigners buying business services in the home country, has also increased substantially over the years. This suggests that, once both sides of the market are taken into account, the net effect on the labour market is likely to be negligible. Amiti and Wei (2005b) found no evidence that sourcing had a significant effect on labour market outcomes in the US and the UK. For a detailed analysis of outsourcing in the services sector, the interested reader is referred to Chapter 3 in Part III of this report.

Table 6

**European service jobs moving off-shore, 2004–15**

	2004	2005	2006	2015 cumulative	2004 observation in % of 2004	
					Service employment	Market- service employment
United Kingdom	56 034	43 670	37 113	758 401	0.24	0.40
Germany	8 008	3 346	6 278	139 914	0.03	0.05
France	5 541	2 095	4 431	98 174	0.03 <sup>(1)</sup>	0.05 <sup>(1)</sup>
Netherlands	2 676	805	1 632	36 663	0.04 <sup>(1)</sup>	0.07 <sup>(1)</sup>
Italy	2 463	1 662	1 235	28 834	0.02	0.03
Sweden	1 425	420	971	20 240	0.04	0.09
Belgium	953	428	855	17 621	0.03	0.05
Denmark	877	304	605	13 102	0.04	0.08
Spain	873	616	466	10 303	0.01	0.01
Austria	738	264	481	12 065	0.03	0.04
Finland	590	222	506	10 730	0.04	0.07
Ireland	287	226	188	3 868	0.02 <sup>(2)</sup>	0.04 <sup>(2)</sup>
Portugal	213	143	110	2 552	:	:
Greece	171	142	102	2 316	0.01	0.01
Luxembourg	52	23	42	902	0.02	0.03
EU-15	80 901	54 365	55 016	1 155 685	0.07	0.11

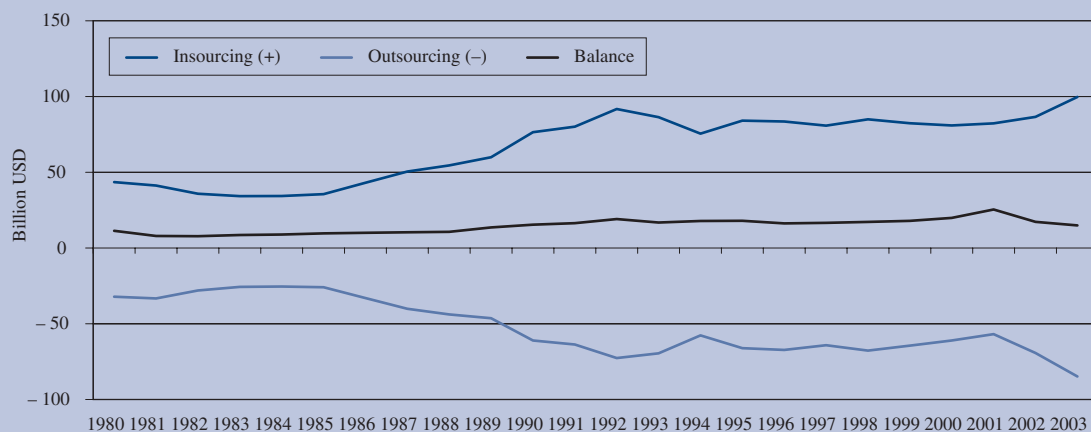
<sup>(1)</sup> FR and NL relative to 2003 employment.

<sup>(2)</sup> IE relative to 2002 service employment.

Market service employment relates to NACE sectors G-K.

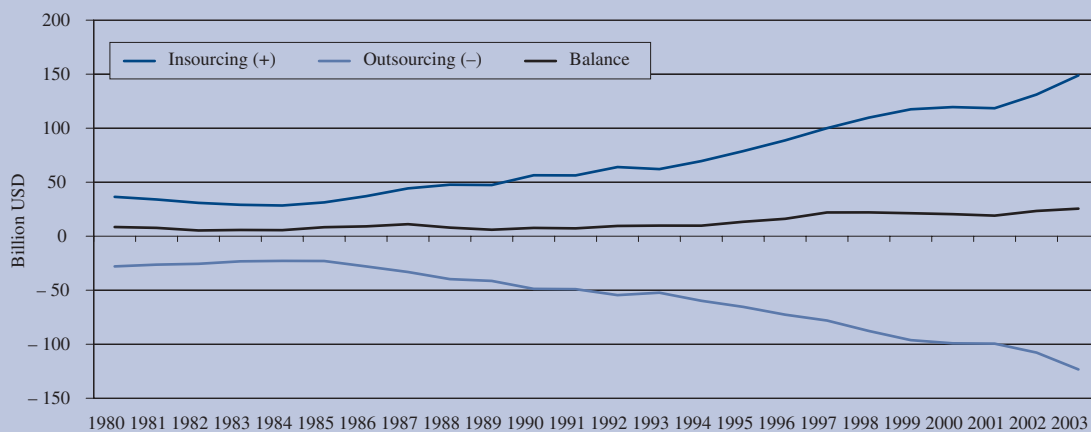
Sources: Forrester Inc., Commission services.

Graph 10: Sourcing of business services — France



Source: IMF IFS.

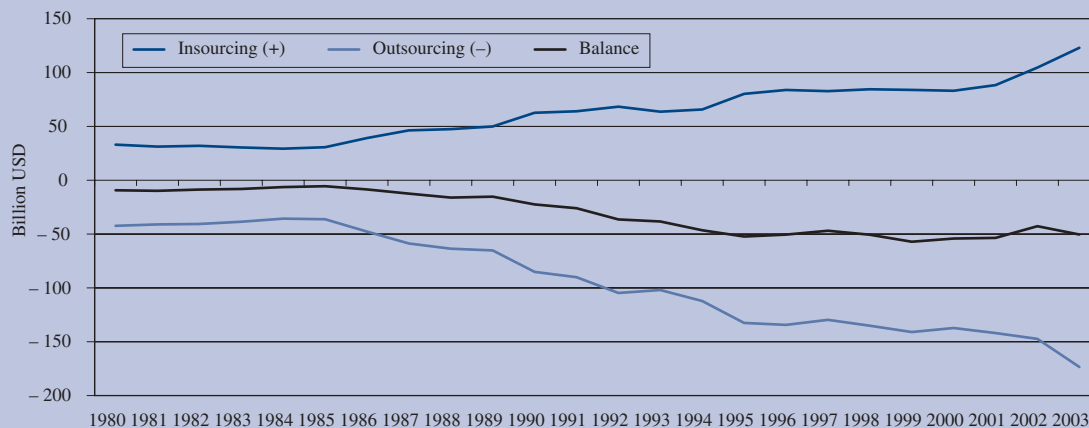
Graph 11: Sourcing of business services — United Kingdom



Source: IMF IFS.

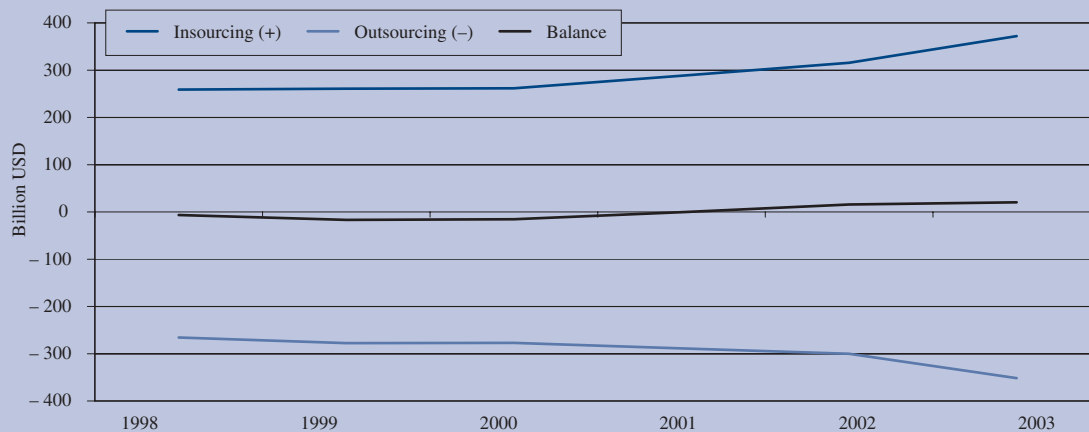
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**Graph 12: Sourcing of business services — Germany**



Source: IMF IFS.

**Graph 13: Sourcing of business services — Euro-12**



Source: IMF IFS.

## 3. Capital mobility

Further economic integration has not only led to increased trade, but also to increased flows of capital across the borders; for a detailed discussion of recent trends in foreign direct investment flows see Chapters 1 and 3 in Part I of this report. Production has clearly become much more international in the last decade and arguably this has had an effect on labour market outcomes. In this section we first discuss the impact of FDI on the local labour market, second we focus on the importance of delocalisation to the low-wage countries in affecting western jobs.

### 3.1. The effects of FDI in the host countries

Foreign direct investment can have an effect on wages in the host country through various channels. First, the traditional general equilibrium effect of an increased capital stock through new (foreign) investment can alter the relative factor payments. An increase in the capital stock *ceteris paribus* will result in upward pressure of the relative price of labour. The effect is similar to the trade effect on wages.

Another channel that has been studied more intensively in recent years is via technological spillover and the accumulation of human capital. Recent developments in growth theory stress the important role played by human capital formation. Grossman and Helpman (1991) and Lucas (1993) argue that on-the-job training is associated with rapid growth when the labour force moves quickly into more productive activities. Aitkin, Harrison and Lipsey (1996) argue that foreign direct investment especially helps in transferring technology or ideas to the host country and hence generate important linkages between human capital formation, on-the-job training and growth. When the investor's knowledge is absorbed by the domestic workers, they become more productive. If this productivity advantage is significant, equilibrium wages could rise in response to increases in FDI. Aitkin, Harrison and Lipsey (1996) find evidence that foreign firms pay, on average, 30 % more than domestic ones,

irrespective of the skill structure of the labour force, the location of the multinational and the sector it operates in. Furthermore, they find positive wage spillover to domestic enterprises in the USA.

Similar studies have been done for other countries. Lipsey and Sjöholm (2001) find spillover effects for Indonesia, Matsuoka (2001) for Thailand, Ramstetter (1998) for a number of Asian countries and Te Velde and Morrissey (2001) for a number of African countries and Skuratowicz (2001) for Poland. They all find that foreign firms pay more than domestic ones. However, in a few cases this extra pay seems to be higher for high-skilled workers than for low-skilled workers, so that FDI is unlikely to be the main explanation for the increasing relative demand of skilled labour. The main argument in all these papers refers to the human capital formation and the superior technology embodied in foreign firms.

A number of recent alternative explanations for the positive correlation between wages and FDI focus on international rent sharing between the parent and its affiliates. Budd and Slaughter (2004) and Budd, Konings and Slaughter (2005) show that, in addition to the profitability of an affiliate in a particular host country, the profitability of the parent firm is also determining the affiliate wages, which gives rise to a wage premium in foreign firms compared to local domestic ones. Thus, it seems that in terms of wage payments, multinational enterprises do not seem to exploit local workers, but rather seem to pay them better relative to the local domestic firms.

However, the effects on the employment-generation potential in the host country have been documented less extensively. While there may be potential technological spillover from foreign firms to local domestic ones, there may also be a competition effect induced by foreign entry that may crowd out investment by local domestic firms. Such a competition effect may, in fact, have a monopolising effect on the market, which could result in



**Box 1: Estimating the relation between relative wages and FDI in Poland**

The relation between relative wages and foreign capital can, for example, be tested with the following model (Skuratowicz, 2001) estimated on a panel for the 49 regions in Poland covering the period between 1993 and 1998.

$$\ln \omega_{it} = \alpha_i + \alpha_1 K_{it}^D + \alpha_2 K_{it}^F + \alpha_3 \ln OUTPUT_{it} + \alpha_3 TIME + \varepsilon_{it},$$

where:

- $\omega_{it}$  represents the skilled workers' wage share in the industry wage bill, a ratio incorporating the effects of both relative wages and relative employment;
- $i$  indexes the region and  $t$  the year (it is assumed that the functional form of the above relation stays the same across regions);
- $\alpha_i$  is the unobservable time-invariant fixed effect that captures regions' heterogeneity;
- $K_{it}^D$  is the domestic industry capital stock in region  $i$  proxied by the value of fixed assets;
- $K_{it}^F$  represents foreign capital in region  $i$ ;
- $OUTPUT$  is proxied by the value of sold industrial production;
- $TIME$  is a dummy to control for common aggregate shocks

The coefficient on the FDI variable ( $\alpha_2$ ) is positive and significant. A 1% increase in foreign capital invested leads to a 0.12% increase in the weight of the skilled workers wage in the total industry wage bill. The domestic industry capital stock (coefficient  $\alpha_1$ ) is not a significant variable. However, besides the foreign capital, output growth might have an impact on the relative wage of skilled workers. The coefficient  $\alpha_3$ , which represents in the model the output elasticity of labour demand for skilled labour, is positive and significant and equals approximately 0.04

less overall job creation. It is shown by Aitken and Harrison (1999) for Venezuela, Konings (2001) for a number of central and east European countries and Damijan (2005) that such a competition effect is in fact dominating. While the effects of foreign direct investment on host country labour markets has been the topic of various papers, surprisingly little attention has been devoted to the role multinationals play in affecting labour market outcomes in the home countries, despite the increased internationalisation of production in recent years. We take this issue up in the next section.

### 3.2. Relocation of production and jobs

#### 3.2.1. Background

One of the most obvious channels through which home (EU) jobs may be affected by increased economic integration is through the employment (re-)allocation deci-

sions of multinational enterprises (MNEs). It is often argued that MNEs are footloose (Caves, 1996; Görg and Strobl, 2002). They operate over different national markets and can reallocate their factors of production across these markets to minimise total costs of production in response to changing local economic conditions, without having to incur major set-up costs. While a number of anecdotes exist confirming this view of relocation, the evidence so far, however, has not been overwhelmingly supportive.

Braconier, Norbäck and Urban (2002) find strong support for vertical FDI, in the sense that more FDI is conducted in countries where unskilled labour is relatively cheap. EEAG (2005) also reports evidence that the direction of outsourcing is related to wage differentials. The reported evidence consists of an inverse relationship between FDI flows and the wage level.

**Box 2: International rent sharing in multinational enterprises**

A large literature has found that economic rents are often shared with workers, profits and wages moving together. This rent-sharing literature has an explicitly domestic focus. Budd et al (2005) argue that, with increased globalisation, this closed-economy perspective may miss important international aspects of wage setting. Budd et al (2005) provide a number of examples to demonstrate how cross-border flows of capital, labour, goods and information may exert strong influences on the nature of profit-sharing between firms and workers. One such example is PepsiCo which implemented a global employee stock ownership plan in which all employees worldwide were granted shares of stock equivalent to 10 % of their pay. To empirically test whether profits are shared across borders within multinational firms, Budd et al (2005) use a rich firm-level panel data set on multinationals with parents and affiliates operating in Europe to estimate the following regression equation:

$$W_{at} = \beta_1 \frac{\pi_{at}}{n_{at}} + \beta_2 \frac{\pi_{pt}}{n_{pt}} + \beta_3 \beta Z_{at} + \varepsilon_{at}$$

where subscripts a, p, and t index affiliates, parents, and time t; w is wages;  $\pi$  is profits; n is employment; Z is a set of other regressors that can vary by affiliate, time, country, and/or industry;  $\varepsilon$  is an error term; and  $\beta_s$  are parameters to be estimated.

They find that not only is  $\beta_1$  positive and statistically significant, which is the standard result in the literature of rent-sharing, but also that  $\beta_2$  is positive and statistically significant, which is evidence of international rent-sharing. In their sample, the average within-firm standard deviation of parent profits is 34.5. Within-firm profits therefore vary year to year by an average of 30 %. They estimate a wage-parent profits elasticity of 0.03, which implies that average year-to-year variation in parent profits causes affiliate wages to vary by nearly 1 % each year. Considering that average annual wage growth is often less than 5 %, a 1 % change that stems solely from variability in parent profitability in a foreign country is striking. This back-of-the-envelope calculation suggests that international rent sharing is sufficiently strong for its implications to extend beyond understanding individual wage outcomes.

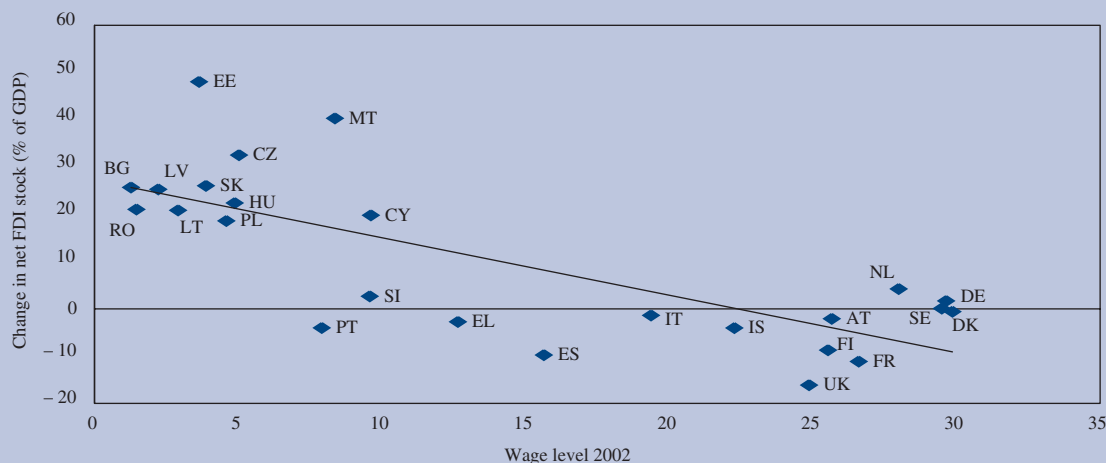
Graph 14 replicates the evidence presented in EEAG (2005) with a larger panel of countries, showing that the relationship found is strongly driven by the differences between western Europe on the one hand and CEECs on the other hand. Within these groups, there is no evidence that lower wages attract more FDI. Thus, while wage differences may spur FDI flows to the CEECs, it is not clear whether there is a general link between wages and the direction of FDI flows.

On the basis of company surveys that have been reported in a number of studies, the consensus seems to emerge that, for most companies, the main driving force for investing in central and eastern Europe is not lower wage costs, but rather the achievement of first mover advantages and the opportunity to get access to a growing market. These investments usually did not imply a relocation of economic activity abroad and/or job loss domestically; they rather induced further growth and job gains in the home firms (e.g. Lankes and Venables, 1996; Abraham and Konings, 1999).

This pattern is also confirmed by recent studies that look at the relationship between relocation of employment and wage-cost differentials. Using data on multinational enterprises Brainard and Riker (1997) for the USA, Bracconier and Ekholm (2000, 2001) for Sweden and Konings and Murphy (2001) for various European countries find no evidence for employment relocation from high-income countries to low-income countries. Rather, employment substitution between high-wage countries seems to take place.

Finally, theoretical work points in the direction that the impact of EU enlargement is rather limited. For instance, Forslid, Haaland, Knarvik and Maestad (2002) develop and simulate a CGE-model, capturing comparative advantage mechanisms as well as intra-industry trade and agglomeration forces. They find that transformation and European integration are of great importance for eastern Europe, while the overall effects for other European regions are small. However, for some individual sectors, such as 'textiles' and 'transport equipment',

Graph 14: Change in net FDI stocks and wage level



NB: The wage data are taken from the structure of earnings statistics (hourly earnings in euro). FDI is the change in the net FDI stock position between 1995 and 2003.

Sources: Unctad, Commission services.

their simulations show potentially strong effects. The intuition is simple. On the one hand there is increased competition from central and east European countries (CEECs), on the other hand enhanced demand in CEECs allows for more exports.

Some data of the relative importance of relocation/off-shoring is available from the European Monitoring Centre on Change which takes note of restructuring plans of firms in the EU countries based on company announcements from newspapers <sup>(1)</sup>. Since January 2002, more than 2 500 cases have been collected, which involve about 1.3 million job losses. Although this number cannot be compared with the decline in industrial employment, it is interesting to note that jobs in industry declined by about 1.7 million employees between the end of 2001 and 2004 <sup>(2)</sup>.

<sup>(1)</sup> In order to be listed, the announced restructuring needs to involve at least one EU country and either entail an announced or actual reduction/creation of at least 100 jobs; or involve sites employing more than 250 people and affecting at least 10 % of the workforce.

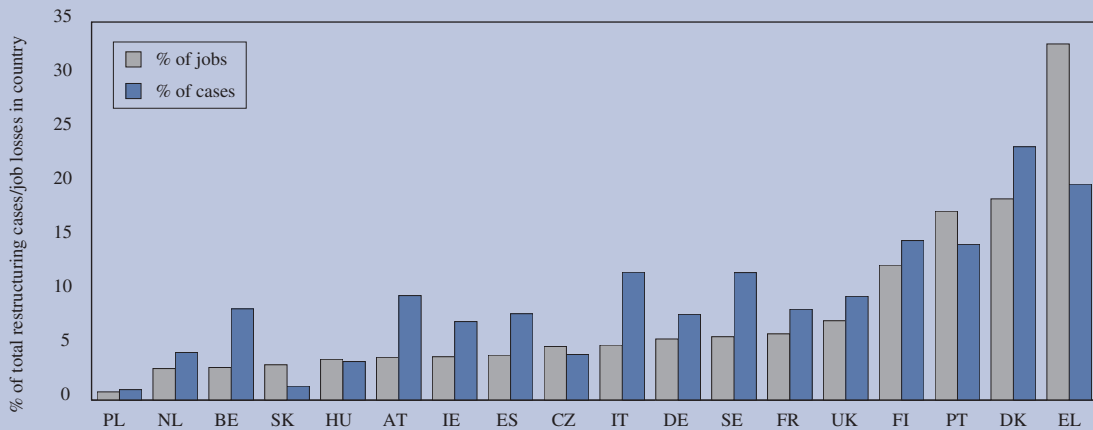
<sup>(2)</sup> These numbers are not comparable because (i) the Restructuring Monitor also included restructuring in service firms, (ii) aggregate data displays the net change in employment (job creation and destruction) while the data quoted from the Restructuring Monitor relates to job losses only, (iii) the restructuring data is biased towards large enterprises (see previous footnote).

The value-added of the data from the Restructuring Monitor is that the cases have been classified, inter alia, by the number of jobs involved and the motivation for restructuring. A weakness stems from the fact that it does not distinguish between actual and announced mass lay-offs. Thus, if there is a bias in companies to announce more lay-offs than actually planned or implemented, the figures lead to an overestimation of restructuring. Bearing this caveat in mind, the share of lay-offs motivated by relocation and off-shoring represents less than 15 % of all cases recorded in the EU Member States except in Denmark and Greece (see Graph 15). The share of jobs involved is, on average, 6 % of all job losses due to restructuring. It is bigger than 10 % in only four countries. Comparing the relative share of cases of restructuring and job losses, it emerges that the share of job losses is lower than the share of cases in all countries except Greece, Portugal and Slovakia. This suggests that the average relocation case involves a smaller number of job losses than job losses due to restructuring for other reasons.

### 3.2.2. New evidence

To test whether employment relocation within European multinational enterprises takes place we follow Konings and Murphy (2003) and Hanson, Mataloni and Slaughter (2005) to estimate labour demand in the parent firm as a function of wages in the parent, but in addition also wages in the affiliates located in the north of Europe

Graph 15: The share of job destruction due to relocation/off-shoring in total restructuring, EU Member States, 2002 to spring 2005



NB: Observations ordered by percentage of job losses. The share of job losses due to relocation, off-shoring was zero in SI, EE, LT and LU.  
Sources: European Restructuring Monitor, Commission services.

(NEU), in the south of Europe (SEU) or central and eastern Europe (CEEC). To this end, we use the Amadeus data set of company accounts to match the financial information of parent firms with their affiliates located in Europe. We focus on French and Belgian parent firms in manufacturing because France and Belgium have a similar accounting legislation. In particular, French and Belgium firms are required by law to submit full or abbreviated company accounts to the Central Bank. The data coverage for France and Belgium is therefore very good and representative. In Amadeus information is provided about the affiliates firms have. We only consider parent firms that have at least a 50 % participation in their affiliates located in other European countries, active either in manufacturing or non-manufacturing.

A standard employment equation is estimated, where employment in the parent firm ( $L^P$ ) is a function of the wage paid in the parent firm, the wage paid in the affiliates, total output of the multinational and the statutory tax rate in the host country (STR).

$$L^P = h^P(W^P, W_{NEU}^A, W_{SEU}^A, W_{CEEC}^A, Y, STR)$$

-    +    +    +    +    +

Where  $W^P$  stands for the parent wage cost per worker,  $W_l^A$  stands for the wage cost per worker of the affiliate located in  $l$  ( $l=NEU, SEU, CEEC$ ),  $Y$  is total output of the

multinational. We also add the statutory tax rate (STR) in each affiliate country as an extra variable to control for potential tax competition between regions (e.g. Vandebussche et al., 2005). The signs underneath the above equation indicate the expected effects of a change in that variable on parent employment.

Table 7 shows the results for Belgium and France. We can note that an increase in the parent wage is associated with a reduction in parent employment, as expected. However, the wages in the affiliates located in the other 'old' EU countries do not seem to matter for parent employment in Belgium. In France, the negative coefficient on wages in the north and the south of the EU suggests that employment between the parent and their affiliates in the old EU is complementary. The wages in the affiliates in central Europe, however, have a positive coefficient, both in Belgium and France. This suggests that some employment substitution takes place between parents and their affiliates located in central Europe. However, the magnitude of the coefficient is quite small. In particular, a 10 % reduction in labour costs in central European affiliates is associated with a 0.3 % reduction in parent employment in Belgium and a 0.2 % reduction in parent employment in France. Given that, on average, labour costs in central Europe are about five times lower than in France or Belgium (or about 75 % lower), the potential effect on parent employment is 7.5 times 0.3 % or about 2 %.

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*Table 7*

**Parent employment and wages in northern, southern and eastern Europe —  
Estimates of first differences (median regression)**

	<b>Belgium</b>	<b>France</b>
$W^P$	– 0.27 (**) – 0.018	– 0.40 (**) – 0.004
$W^A_{NEU}$	0.005 – 0.005	– 0.011 (**) – 0.003
$W^A_{SEU}$	0.012 – 0.017	– 0.012 (*) – 0.007
$W^A_{CEEC}$	0.03 (*) – 0.02	0.021 (**) – 0.007
$Y$	0.23 (**) – 0.01	0.39 (**) – 0.005
$STR$	0.06 (*) – 0.04	0.05 (**) – 0.02
Number of observations	962	2 840
$R^2$	0.08	0.13

*Source:* Commission services.

## 4. Labour market adjustment

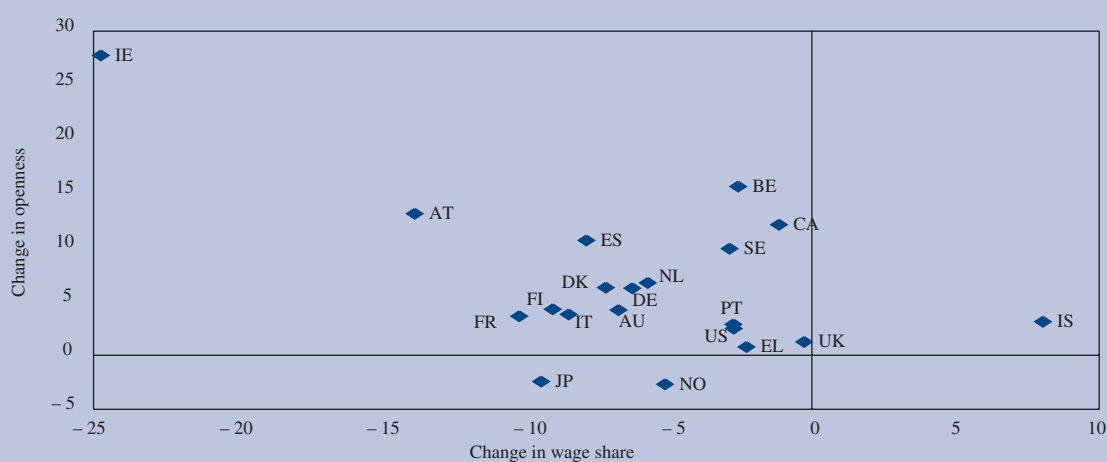
### 4.1. Aggregate wages and working conditions

It is one of the most robust predictions in economics that international integration will be associated with long-run efficiency gains which will show up in rising productivity, more product variety and lower prices, thus ultimately leading to higher real wages and living standards. Nonetheless, increased international competition from low-wage labour-surplus countries seems to fuel recurrent anxieties in a wider public about a strong erosion of the job base and an inevitable 'race to the bottom' in terms of wages, working conditions and social standards. Clearly, neither historical experience nor the available analytical evidence appears to confirm the worst of these fears. However, downward pressure on wages and working conditions should not be ruled out a priori, evidently, for instance, if profit and wage margins become unsustainable under conditions of increased competition. Moreover, the functional distribution of income could be affected as globalisation alters factor sup-

ply intensities and, thus, may have led to a longer-term shift in the balance of power between workers and employers. Finally, some high-profile cases and anecdotal evidence suggest that the mere threat of relocation and off-shoring could weaken the bargaining stance of workers and unions over wages and working conditions.

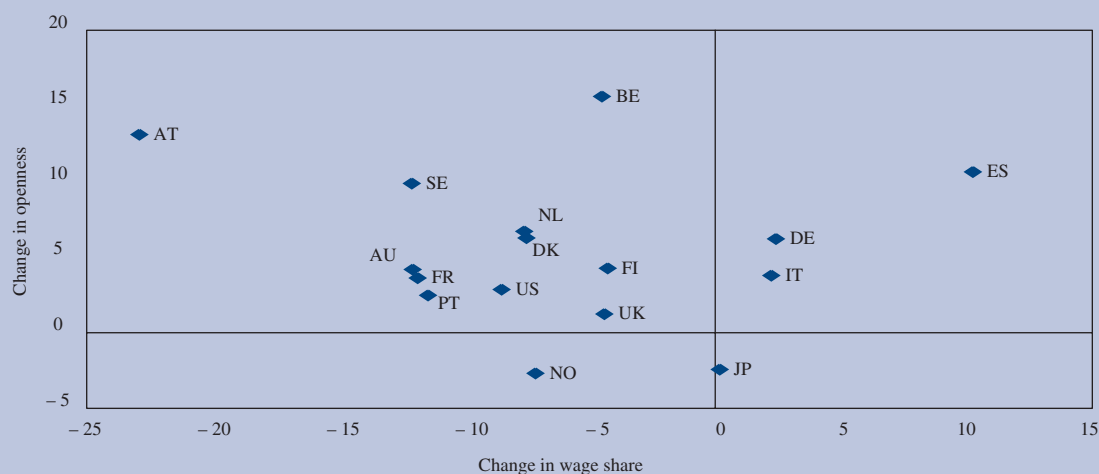
Indeed, some authors have linked the observed degree of wage moderation in developed countries to the emergence of China, India and Russia as trade partners, endowed with a huge labour force. However, it is anything but evident that, at the aggregate level, movements in the wage share can be directly linked to an increase in international competition. Graphs 16 and 17 clearly demonstrate that there is no systematic relationship between the change in openness and the wage share in a cross-country perspective, either for the total economy's wage share or for the wage share in manufacturing. The same observation holds if the length of the period is reduced from two decades to one decade (1992–2002).

Graph 16: Change in openness and wage share, 1980–2002



Source: Commission services.

Graph 17: Change in openness and wage share in manufacturing, 1980–2002



Source: Commission services.

In general, thus, domestic labour market conditions continue to be the main driver of movements in aggregate real wage growth around the productivity trend over the medium to long term. Given the relatively small overall impact of rising international economic integration on employment rates and aggregate unemployment as demonstrated in the previous sections, it should come as no big surprise that the wage share does not appear to have been significantly affected by this process. Moreover, it has proven hard to find any evidence that working conditions have been systematically eroded.

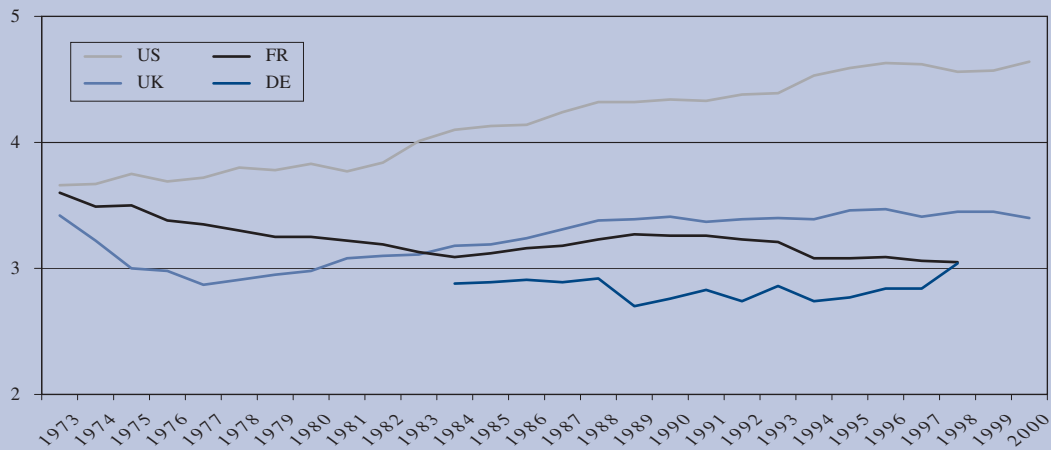
Tentative evidence also suggests that, at least up to the end of the 1990s, deeper international economic integration was not associated with a significant widening of the earnings distribution in Europe. According to OECD indicators (percentile ratios of gross earnings), the dispersion of gross earnings increased significantly in the USA over the 1980s and 1990s, whereas developments were more mixed in European countries. While some countries saw a decline in the dispersion of the earnings distribution (France, Finland and Belgium), others experienced a slight increase in their wage dispersion, albeit of a much lower degree than in the USA (Germany, Italy, the Netherlands, Sweden and the UK). Preliminary analysis of more recent developments suggests that, in particular in the USA, a further widening of the earnings distribution may be primarily due to strong income gains at the very top of the distribution (Gordon, 2005).

In the new Member States where data are available, wage dispersion dramatically increased over the 1990s (Poland, Hungary and, to a lesser extent, the Czech Republic), likely due to the transition process and the strong sectoral reallocation seen in these countries. Both of these factors were also linked to the gradual opening of their markets to trade with the EU-15. In general, the rise in percentile ranges was stronger between the lowest and the top deciles than between the first decile and the median. This would indicate that the situation of low wage earners worsened more relative to high income earners than to medium wage earners.

However, the interpretation of these data calls for some caution, as they cover only a part of the EU, do not extend into recent years (generally ending in the late 1990s), and are not fully comparable across countries. All in all, movements in wage dispersion were less pronounced in the EU-15 when compared to the USA, which is consistent with evidence showing that sectoral wage differentiation has not changed much over time in the euro area<sup>(1)</sup>. Indeed, wage structures appear in general to be more compressed and more rigid in Europe, with the notable exception of the new Member States where wage bargaining is mostly decentralised and carried out at the level of firms.

<sup>(1)</sup> Genre, Véronique, Daphne Momferatou and Gilles Mourre (2005), 'Wage diversity in the euro area: an overview of labour cost differentials across industries', *ECB Occasional Paper*, No 24, February 2005.

Graph 18: Earnings dispersion 90/10 percentile ratio



NB: The xth percentile is defined as the earnings level, where x % of the population earns less than that amount.  
Source: OECD.

The possible factors affecting the distribution of earnings are numerous and difficult to disentangle: relative supply and demand conditions for different skill categories vary over time and across countries, with education and training systems, skill-biased technological progress and international competition acting as important drivers. Obviously, wage-setting institutions (minimum wages, degree of wage bargaining centralisation, trade union density, etc.) play an important role as well. Thus, it is difficult to draw definitive conclusions on the impact of deeper international economic integration on relative wage dispersion in Europe.

Little is known about the actual impact of economic integration on wage convergence within Europe. The sparse evidence available paints the picture of very slow convergence. The EU Economy 2003 Review found that sectoral unit labour costs converged more strongly in the 1980s than in the 1990s; and convergence was stronger in sectors exposed to competition than in those where activity was domestically oriented. At the aggregate level and over the second half of the 1990s, wage growth has converged among euro-area Member States, but since productivity growth did not converge, the countries' position in terms of labour cost competitiveness diverged. Anderson et al. (2000) also assessed wage convergence as a gradual process on EU labour markets. Finally, Egger and Pfaffermayer (2004) present evidence that outsourcing has contributed to narrowing the wage gap of CEECs with EU-15 countries.

#### 4.2. Reallocation of labour

The 'high-road' response to deeper international integration implies further specialisation and diversification into new areas of relative advantage, sustained by a high-skilled and versatile workforce. Obviously, well-functioning labour markets that enable workers to move smoothly from declining to expanding activities have a key role to play in the adjustment process; in practice, this may often mean ensuring a better balance between income support for job losers, adequate job-finding assistance, training, and proper re-employment incentives. However, as argued in other parts of this report, meeting the broader challenge from globalisation requires policy responses that extend far beyond labour-market and social safety-net policies.

The adjustment process with its shift in the sectoral and occupational composition of employment cannot be expected to run without friction. Thus, ensuring a smooth reallocation of labour will help to minimise the hardship for the workers affected by job displacement and the off-shoring of production. In fact, the magnitude of net benefits from economic integration strongly depends on costs of adjustment, which are largely determined by the time displaced workers spend in unemployment and/or inactivity, and any lower income once they are re-employed. Box 3 below, which is based on calculations published by the consultancy firm McKinsey, illustrates that re-employment of



labour is indeed a crucial parameter. Whereas the USA benefits considerably by relocation of services, Germany and France are estimated to benefit much less from foreign investment, basically due to the less successful reintegration of displaced workers into the labour market.

Indeed, costs of adjustment for displaced workers are considerably different in the EU and the USA, as confirmed by analysis from the OECD (2005) on the characteristics of displaced workers. US workers tend to find another job relatively quickly, but earn much less in the new compared to the previous job. Workers in the EU hardly suffer income losses once they are re-employed. However, they are considerably more likely to face the hardship of longer unemployment spells (see Table 8).

- Data from the European Consumer Household Panel suggests that about 40 % of displaced workers in the EU-15 are not re-employed two years later.
- About half of those who are re-employed do not face losses in earnings, while less than 10 % earn less than 30 % of their previous salary.
- This finding differs remarkably from a comparable study on US workers. About two thirds of them are re-employed and the share of those facing substantial earning losses is considerably higher in the USA.
- Comparing re-employment probabilities for displaced workers from a highly competitive international environment with overall displaced jobs

suggests that trade-displaced workers have a slightly smaller probability of being re-employed in both the EU and the USA.

These differences between the EU and the USA seem to be caused to some extent by differences in occupational mobility. Data from the same sources suggest that 44 % of those manufacturing workers who find a new job do so in the same industry in the EU-15, compared to 19 % in the US. Those finding a job in the same industry face an earnings loss of about 3 % in the USA, while those in the EU-15 even record an increase in earnings. Manufacturing workers re-employed in a different industry in the EU-15 are exposed to average earnings losses of 3 %, while those in the USA suffer from losses of about 20 %. The larger decline in earnings associated with changing branch may explain some persistence in the direction of search efforts for a new job. Since almost half the workers who are re-employed find a job in their previous industry, it may well be a rational strategy to focus job search on this industry in the hope of maintaining the previous standards of living.

The analysis of individual characteristics of trade-displaced workers by both the OECD (2005) for the EU and by Kletzner (2001) for the US shows that — relative to other displaced workers — they are older, less educated and had higher tenure in the lost job. These characteristics are usually associated with over-proportional difficulties of finding a job. On the other hand, estimates based on the European Community Household Panel indicate that training increases the probability of finding a new job, especially for those who have received training prior to being laid off.

*Table 8*

**Labour market prospects of displaced workers**

	EU 1994–2001			US 1979–99		
	High compet. manuf.	Total manuf.	Services	High compet. manuf.	Total manuf.	Services and utilities
Share re-employed two years later	52	57	57	63	65	69
Share with no earnings loss or earnings more	44	46	50	36	35	41
Share with earnings losses greater than 30 %	5	7	8	25	25	21

NB: Columns relate to manufacturing with high international competition, total manufacturing and services (and utilities for USA).

Source: OECD (2005) for EU-15 (excluding SE) on the basis of ECHP data. Kletzner (2001) for USA on the basis of biannual displaced worker surveys.

**Box 3: An estimate of the distribution of gains from the outsourcing of services**

A comparison of the gains from service off-shoring in the USA and Germany undertaken by the international consultancy firm McKinsey forcefully demonstrates that rigid labour markets mean that the benefits from globalisation are not fully reaped. The table below gives an intriguing illustration of how the benefit from relocating a service job from the US, Germany or France is distributed among the source and the host country. According to the calculations, the US economy captures USD 1.1 for each USD of corporate spending in India, whereas France would capture 85 cents and Germany just 80 cents for each euro invested in India, north Africa or the central and east European countries.

- The authors of the study calculate that India captures 33 % of the corporate spending, benefiting from local wages etc.
- Under perfect competition, the company would be forced to fully pass-through its cost savings to lower prices, implying that it is the consumer who benefits most from the investment abroad. This amounts to 50–53 % in the USA and 36 % in Germany and France. The cost saving for the European countries is lower because

differences in language and culture are considered to raise the transaction costs involved <sup>(1)</sup>.

- The direct benefits accruing for the source countries in the form of additional exports and repatriated earnings are also higher in the USA than in Germany and France because the USA is more specialised in exporting IT goods and European firms have negligible ownership in central and east European service companies.
- A further benefit for the source economy accrues in the form of redeployed labour. The authors quote estimates for the USA according to which the workers set free through off-shoring move to another job and this reallocation of jobs adds value of 57 cents for every US dollar invested in Indian services. Because of higher unemployment and more rigid labour markets, the authors estimate that benefits from reemployment are considerably lower in Germany and France than in the USA.

<sup>(1)</sup> When applied to CEECs, it is argued that infrastructure and labour costs are higher in CEECs than in India, reducing the magnitude of cost savings by a comparable amount than in the table.

**The distribution of income generated by USD/EUR 1 spent on a service job in a low-wage country (%)**

	India/north Africa, CEEC (host)	Source country of investment		
		US	DE	FR
Wages paid to local workers, profits of local agents, local taxes	33	:	:	:
Corporate savings	:	50–53	36	36
Additional exports to source countries and repatriated earnings	:	7–9	3	5
Sum of direct benefits	33	67	39	41
Redeployed labour	:	57	34	44
Sum of total benefits	33	114–119	73	85

Source: McKinsey (2005)

Strengthening job mobility across regions and occupations is a central element in any strategy to maximise benefits from international economic integration. In view of this, the Commission adopted an action plan for skills and mobility in February 2002. A first progress report in 2004 noted that job tenures tend to be predominantly relatively long, while regional mobility is low in

all EU-15 Member States. These structural features changed only marginally over the last years.

Taking into account the low level of regional mobility, the share of movers within a one-year period increased by one percentage point in Sweden and fell by about the same amount in Italy between 1998 and 2001. In any

Table 9

**Labour mobility in the EU**

	Occupational mobility				Regional mobility	
	Share of employed persons having worked in current job for number of years (in %)				% of employed people (15–46 years) who moved in one year from another region or from another Member State	
	2000		2002		1998	2001
	< 1 yr	> 2 yrs	< 1 yr	> 2 yrs		
Belgium	14.8	75.4	13.2	76.8	1.22	1.08
Denmark	24.5	61.7	22.3	64.4	0.43	0.40
Germany	15.5	73.7	15.0	74.2	1.25	1.45
Greece	13.0	79.3	13.4	78.0	0.58	0.24
Spain	23.9	64.9	22.3	66.4	0.18	0.48
France	16.9	73.2	16.3	73.0	1.77	2.03
Ireland	23.9	62.5	18.5	68.5	:	:
Italy	12.77	78.8	12.5	78.8	1.78	0.71
Luxembourg	12.4	78.6	10.2	79.8	1.18	0.90
Netherlands	21.1	67.7	12.8	74.1	2.01	:
Austria	3.78	93.0	:	:	5.46	:
Portugal	16.4	73.5	16.1	73.4	1.29	1.35
Finland	23.6	67.2	21.6	67.8	1.48	1.35
Sweden	16.6	73.4	15.0	73.6	1.03	2.15
United Kingdom	20.4	66.9	20.1	66.7	:	2.36
EU-15	17.5	72.0	16.4	72.8	1.45	1.50

Source: Commission services.

case, these numbers suggest that actual mobility on EU labour markets has not changed considerably over the last couple of years. It should, however, be acknowledged that the deterioration of the employment outlook may have overcompensated any policy-induced changes towards higher labour market mobility.

In some countries, specific policies directed to trade-displaced workers are in place to supplement more general policies aiming at increasing labour market flexibility and labour mobility. They aim at assisting trade-displaced workers in searching for new jobs and upgrading their skills<sup>(1)</sup>. In this context, they are not dissimilar from active labour market programmes. A rather novel trade-specific issue, which has recently been advocated by some US authors, is the establishment of a wage insurance system<sup>(2)</sup>.

<sup>(1)</sup> For more than 40 years, a targeted programme has existed in the US for trade-displaced workers called 'trade adjustment assistance' (TAA). It offers more generous unemployment benefits and ALMPs than available for other displaced workers. For a brief description, see OECD (2005).

<sup>(2)</sup> See Kletzer (2004); OECD (2005).

- Scope for an insurance solution is derived from the insight that the overall effect of globalisation is a positive-sum game, thus the winners from globalisation may compensate the losers. By reducing earnings uncertainty, such a mechanism may improve the acceptance of trade liberalisation.
- The scheme would entail 'wage insurance' to compensate workers' who earn lower wages after re-employment for some maximum period of unemployment. Entitlement would be based on 'displacement criteria' such as relocation of a company overseas, and apply only to workers who held the job for a minimum time period.
- While the idea of compensation is fairly attractive to economists, one should not overlook that design and implementation of such a system would be no easy task. Incentives to search for and take up jobs, as well as for actively seeking or offering training, may be easily distorted by the availability of compensation for job losses.

## 5. Conclusions

This chapter has examined two main channels through which rising international economic integration and the emergence of new low-cost labour-abundant trading partners on the world scale can have an impact on labour markets in the EU: increased international trade in goods and services and increased flows of capital, mainly in the form of foreign direct investment; this also encompasses phenomena such as growing trade in intermediate inputs and business services and the relocation of production activities abroad. The main findings of the analysis presented above can be summarised as follows.

- From a general perspective, international trade and investment has not been associated with aggregate net employment losses, and there is no indication that more open economies suffer from higher unemployment; however, it is a significant, although far from dominant, factor behind gross job turnover and the reallocation of labour.
- Trade integration is likely to have had a small negative impact on manufacturing jobs in the EU. Estimates of job displacement accounted for by increased international trade range between zero and 20 % of all permanent layoffs. The impact of company relocation on job losses has been almost negligible, in particular when compared to total employment or total restructuring.
- Outsourcing of business services has been growing, but almost in parallel insourcing of business services has been on the rise; in fact, countries such as the USA and UK are net exporters of business services, and for several other EU countries the balance of trade in business services has remained broadly in equilibrium. Accordingly, there is no evidence so far that outsourcing of business services has had a negative impact on employment.
- Evidence is more robust that trade and vertical integration caused a decline in relative demand for

unskilled labour, in particular in manufacturing. While the outsourcing of intermediate inputs has contributed to increased productivity, the available evidence also suggests a quite significant drop in demand for unskilled workers.

- This development has contributed to increasing wage inequality in the USA, estimated to account for as much as one third of the overall increase in wage inequality. The case is less obvious in the EU Member States. Wage inequality has increased little, though the employment prospects of the low-skilled remain unfavourable.
- Domestic labour market conditions continue to be the main driver of movements in real wage growth around the productivity trend over the medium to long term. Overall, the wage share does not appear to have been significantly affected by deeper international economic integration. Despite some high-profile cases, it has not led to a systematic erosion of working conditions either.
- The feasibility of reaping the benefits from globalisation depends largely on the capability to reallocate employment. Displaced workers in the EU suffer from a lower probability of finding a new job compared to those in the USA. In the USA, on the other hand, displaced workers have to accept larger shortfalls in earnings when getting re-employed.
- Search efforts among displaced workers in EU Member States appear to be more strongly geared towards jobs in the same industry than in the USA. Occupational and regional labour mobility is low and has hardly increased over the last years in the EU-15 Member States. Training, however, is likely to increase the probability of finding a new job.

In conclusion, upon closer inspection, many of the allegedly negative implications of rising international trade

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and investment are belied by the evidence. However, policy-makers may be well advised not to dismiss widespread public concerns all too easily. In order to realise the potential gains from this process, production structures will have to move towards further specialisation and diversification into new areas of relative comparative advantage. This process will not be without frictions and can cause considerable hardship for the affected workers. The renewed Lisbon strategy with its focus on employment and productivity has a key role to play, matching the pursuit of efficiency with considerations of fairness.

Obviously, well-functioning labour markets that enable workers to move smoothly from declining to expanding activities are crucial in the adjustment process; in practice, this may often mean ensuring a better balance between income support for job losers, adequate job-finding assistance, training, and proper re-employment incentives, as strongly reflected in the integrated guidelines for growth and jobs recently adopted by the Council of the EU. However, as argued in other parts of this report, meeting the broader challenge from globalisation requires policy responses that extend far beyond labour-market and social safety-net policies.

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# 3. Globalisation, growth and poverty reduction in developing countries

## Summary

Between 1981 and 2001, the share of population living in poverty fell from 33 % to 18 % of the world population. Poverty was substantially reduced in Asia, although the absolute number of poor people there is still high, while the perspectives of poverty reduction in sub-Saharan Africa remain bleak. Most of the progress was achieved in China while in sub-Saharan Africa the absolute number of poor people almost doubled. Poverty in India fell in relative terms, but due to high population growth less so in absolute numbers which — in 2001 — was still higher than in the whole of sub-Saharan Africa. Poverty was less prevalent in other regions of the world. A scenario based on growth projections shows that halving poverty until 2015 at a global level is feasible, but with large differences across global regions. Poverty would be almost eradicated in east Asia by 2015, whereas in sub-Saharan African countries, the number of people in poverty is expected to rise further.

Developing countries have participated in globalisation to varying degrees. Asia and Latin America have increased their shares in global trade and capital flows dramatically since 1980 whereas sub-Saharan Africa experienced falling shares. Tariff barriers of developing countries have come down whereas non-tariff barriers remain high. FDI inflows remain concentrated on only a few large emerging markets, notably in east Asia and Latin America. In sub-Saharan Africa, FDI was mostly in capital-intensive extractive sectors. Remittances and development aid are important sources of external financing in many developing countries, while the outflows from debt service have decreased.

Empirical evidence supports the view that globalisation tends to be associated with higher growth too in developing countries. But this was not the case everywhere, which suggests that trade is a necessary, but not a sufficient, condition for development. Successful cases of development were often export-led, in particular in Asia. Model-based simulations on the effects of global trade liberalisation show that the largest benefits for developing countries can be expected from the agriculture and food sector. They also demonstrate that further reduction of trade protection in both developing and developed countries is in the interest of all players. The direct effects of trade liberalisation on poverty through prices and wages may warrant some social policy measures to soften possible negative effects for the poorest. Similarly, the contribution of FDI to poverty reduction depends to a large degree on the accompanying policies of the host country.

Non-reciprocal preferential systems are giving developing countries good access to markets of developed countries. Due to a number of general factors, but also some of the inherent weaknesses of preferential systems, the trade effects were not as to be expected, especially not in sub-Saharan Africa. Weaknesses such as the north–south bias in developing countries' trade integration are currently being addressed by the EU in the context of negotiations for economic partnership agreements. Other issues such as preference erosion are under discussion at the Doha Round and may require measures to smoothen the required adjustment process in developing countries.

Trade is only one among other determinants of long-term growth, in particular economic policies, institutions

and geography. In order to fully benefit from trade opportunities, they provide the business environment which is required for international competitiveness. In this perspective, significant EU funding is devoted to trade-related assistance to support the capacity in trade policy formulation and the private sector's capability to compete in export markets. Growth accounting also indicates the importance of public and private investment in physical capital, including infrastructure, whereas the importance of human capital is less clear, possibly because of measurement problems.

Overall, globalisation is an important element of successful development strategies to reduce poverty, but other conditions need to be in place, in particular good economic institutions and policies. The EU is supporting this process not only through its development aid, but also by a proactive trade policy oriented at having developing countries take full advantage of globalisation. The crucial importance of good institutions and economic policies for both poverty reduction and fully exploiting the benefits from globalisation underlines the relevance of supporting economic reform and institutional development in developing countries.

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# 1. Introduction

After two decades of development policies focusing on economic growth, based on macroeconomic stabilisation and market liberalisation reforms, the gloomy observation was that, in many developing countries, a large share of the population still lives in extreme poverty. Increasingly, the multi-dimensional nature of poverty was acknowledged, affecting not only income, but access to health, education, sanitation, or environmental sustainability. As a result, poverty reduction has become the leitmotiv of development policies (both at bilateral and multilateral level), together with ownership of reforms by beneficiaries, a concept embedded in the adoption of so-called poverty reduction strategy papers. In this vein, in 2000, the international donor community made renewed commitments in the UN Millennium Declaration, by setting the millennium development goals (MDGs) to substantially reduce poverty until 2015. In parallel, the pace of globalisation has stepped up, notably through trade and capital flows across countries. While many developing countries have clearly benefited from these flows, and allowed millions to be lifted out of poverty, several countries have missed the globalisation train. The Doha Development Round of the World Trade Organisation (WTO) initiated in 2001 tries precisely to overcome this pitfall, but the road ahead remains steep.

The year 2005 saw a number of important international events embracing poverty reduction and globalisation, such as the G8 summit in Gleneagles in July, the UN High Level Event of September, or the preparations for the WTO ministerial meeting in December. The EU figured prominently in all these events and confirmed its leading role in the donor community. Many of these meetings had a focus on Africa where progress and perspectives on poverty reduction are the bleakest and therefore clearly more efforts are required.

This chapter will look at the impact which globalisation may have on growth and poverty reduction in developing countries. Furthermore, it will explore which EU policies are available and needed to support poverty reduction in the presence of globalisation. Given that EU development policies are, to a large extent, concentrated on sub-Saharan Africa and in view of the EU's determination to reinforce its strategy for Africa, this region will be a focus of the chapter although the experience of other developing regions will also be in the picture. The chapter proceeds by presenting some stylised facts on global poverty (Section 2), identifying the impact of globalisation on poverty reduction (Section 3) and describing the relative importance of globalisation among other determinants of long-term growth (Section 4), before concluding in Section 5.

## 2. Some stylised facts on global poverty

### 2.1. The current situation and progress on the millennium development goals

After the Member States of the United Nations unanimously adopted the Millennium Declaration in September 2000, the UN General Assembly recognised the MDGs as part of the road map for its implementation. There are eight MDGs to be implemented by 18 targets and nearly 50 indicators which were established through discussions at international level in the 1990s. This new approach was intended to give a better focus on development results, to allow better measurement of progress and to give guidance for development strategies. While the first seven goals address the many dimensions of poverty, the last goal is about the (financial) means needed to achieve this.

The first and primary target is to ‘halve, between 1990 and 2015, the proportion of people whose income is less than USD 1 a day’. The related indicator is the proportion of population living on less than USD 1 a day (in purchasing power parities, PPP).

World Bank staff (Chen and Ravallion 2004) recently recalculated the performance of this indicator at global level for a number of years between 1981 and 2001 <sup>(1)</sup>.

#### The millennium development goals (MDGs)

1. Eradicate extreme poverty and hunger.
2. Achieve universal primary education.
3. Promote gender equality and empower women.
4. Reduce child mortality.
5. Improve mental health.
6. Combat HIV/AIDS, malaria, and other diseases.
7. Ensure environmental sustainability.
8. Develop a global partnership for development.

Their main measure is a ‘headcount index’, defined as the percentage of population living in households with household consumption per capita below this poverty line.

Some of the results of these estimates are presented in Tables 1 and 2, which give the headcount index as the

<sup>(1)</sup> Given that the poverty line of USD 1 per day was initially set in 1985 PPP, they use — for reasons of data comparability — a poverty line of USD 1.08 per day (or USD 32.74 per month) in 1993 PPP. The most difficult part in terms of methodology was the collection of data from household surveys where coverage is lowest at the beginning and at the end of the series. Figures for the reference years 1981–2001 were estimated by applying the growth rate in real consumption per person from national accounts to the available survey data.

Table 1

#### Headcount index: percentage of population living below USD 1 per day, 1981–2001

	1981	1984	1987	1990	1993	1996	1999	2001
East Asia	57.7	38.9	28.0	29.6	24.9	16.6	15.7	14.9
— of which: China	63.8	41.0	28.5	33.0	28.4	17.4	17.8	16.6
Eastern Europe and central Asia	0.7	0.5	0.4	0.5	3.7	4.2	6.3	3.7
Latin America and Caribbean	9.7	11.8	10.9	11.3	11.3	10.7	10.5	9.5
Middle East and north Africa	5.1	3.8	3.2	2.3	1.6	2.0	2.6	2.4
South Asia	51.5	46.8	45.0	41.3	40.1	36.6	32.2	31.3
— of which: India	54.4	49.8	46.3	42.1	42.3	42.2	35.3	34.7
Sub-Saharan Africa	41.6	46.3	46.8	44.6	44.0	45.6	45.7	46.9
<b>Total</b>	<b>40.4</b>	<b>32.8</b>	<b>28.4</b>	<b>27.9</b>	<b>26.3</b>	<b>22.8</b>	<b>21.8</b>	<b>21.1</b>

Source: Chen and Ravallion (2004).



Table 2

**Absolute number of people (in millions) living below USD 1 per day, 1981–2001**

	1981	1984	1987	1990	1993	1996	1999	2001
East Asia	796	562	426	472	415	287	282	271
— of which: China	634	425	308	375	334	212	223	212
Eastern Europe and central Asia	3	2	2	2	17	20	30	18
Latin America and Caribbean	36	46	45	49	52	52	54	50
Middle East and north Africa	9	8	7	6	4	6	8	7
South Asia	475	460	473	462	476	461	429	431
— of which: India	382	374	370	357	380	400	352	359
Sub-Saharan Africa	164	198	219	227	242	271	294	316
<b>Total</b>	<b>1 482</b>	<b>1 277</b>	<b>1 171</b>	<b>1 219</b>	<b>1 208</b>	<b>1 097</b>	<b>1 095</b>	<b>1 093</b>

Source: Chen and Ravallion (2004).

incidence of poverty and the absolute numbers of poor in the different regions of the world. Over the 20-year period, the number of poor decreased by 390 million from 1.5 billion to 1.1 billion. The percentage of the population living in poverty in developing countries fell from 40 % to 21 %. Assuming that nobody in the developed world lives on less than USD 1 per day, this is a decline from 33 % to 18 % of the world population.

These global results cover very divergent trends across the different developing regions. The headcount index in 1981 was largest in east Asia with 58 % of the people living below USD 1 per day while the progress made there over the last 20 years was also the most dramatic. Within this region, most of the progress was achieved in China where the number of people in poverty fell by more than 420 million and the headcount index decreased from 64 % to 17 %. Poverty reduction in China was highest in the early 1980s and the first half of the 1990s when major reforms in agricultural policy were implemented (although there is also some methodological uncertainty in the surveys of the early 1980s). In south Asia, including India, the headcount index fell from more than half to about a third although, due to high population growth, the absolute number of poor people decreased only by 40 million. In sub-Saharan Africa, where the headcount index increased from 42 % to 47 %, the absolute number of poor people almost doubled between 1981 and 2001. It is also worth noting that the absolute number of poor people in 2001 was still higher in India alone than in the whole of sub-Saharan Africa. In the other regions of the world, poverty was less prevalent and trends are less clear.

Chen and Ravallion (2004) derive further results from additional indicators. Taking a poverty line of USD 2 per day they observe an increase in the global number of poor people from 2.4 billion to 2.7 billion and a less significant decrease in the headcount index from 67 % to 53 %. This reflects both the progress made in reducing extreme poverty (of those living on less than USD 1 per day) and the remaining vulnerability of poor people if economic growth were to slow down in regions with high poverty. Based on the mean income of those living on less than USD 1 per day, they find that the ‘depth’ of poverty in 2001 was highest in sub-Saharan Africa (USD 0.61) and in Latin America (USD 0.70) whereas this value exceeded USD 0.80 in all other regions.

The World Bank (2005a) presented a scenario by combining the above estimates for 2001 with growth projections until 2015 for the different regions (see Table 3). The growth outlook is positive overall, assuming continued strong but moderating growth in Asia. Sub-Saharan Africa is also expected to grow stronger than in the past due to the recent more positive performance, but it is much weaker in per capita terms. This scenario would allow for poverty to be more than halved at a global level, again with large differences across regions and countries. While there is a substantial overachievement in Asia where poverty would be almost eradicated in east Asia, it would be largely missed by most sub-Saharan African countries where the number of people in poverty continues to rise. Out of a sample of 28 sub-Saharan African countries for which household surveys are available, achieving the poverty MDG would require GDP per capita growth rates above 6 % in 17 countries which represent nearly half of the population of sub-Saharan Africa.

Table 3

Projection of poverty in 2015

	Annual average growth rates (2005–15)		Headcount (%)			MDG target	Number of persons (millions) living under USD 1 per day		
	Per capita GDP	GDP	1990	2001	2015	2015	1990	2001	2015
East Asia	5.5	6.3	29.6	14.9	0.9	14.8	472	271	19
— of which: China	6.0	6.7	33.0	16.6	1.2	16.5	375	212	16
Eastern Europe and central Asia	3.6	3.7	0.5	3.6	0.4	0.3	2	17	2
Latin America and Caribbean	2.4	3.6	11.3	9.5	6.9	5.7	49	50	43
Middle East and north Africa	2.4	4.2	2.3	2.4	0.9	1.2	6	7	4
South Asia	4.2	5.6	41.3	31.3	12.8	20.7	462	431	216
Sub-Saharan Africa	1.7	3.6	44.6	46.4	38.4	22.3	227	313	340
<b>Total</b>	<b>3.6</b>	<b>4.8</b>	<b>27.9</b>	<b>21.1</b>	<b>10.2</b>	<b>14.0</b>	<b>1 219</b>	<b>1 089</b>	<b>622</b>
— excluding China	2.8	4.2	26.1	22.5	12.9	13.1	844	877	606

Source: World Bank (2005a).

This picture of the USD 1 per day target is largely reflected in the progress on other MDGs. According to the World Bank (2005a), sub-Saharan Africa is not on track to achieve a single goal and is the only region where child malnutrition is not declining. South Asia, the Middle East and north Africa are off track on six of the goals, while the situation is somewhat better for the rest of the developing world. Given the many dimensions and the complexity of poverty which would require a much broader analysis, this chapter will limit itself to the income dimension of poverty.

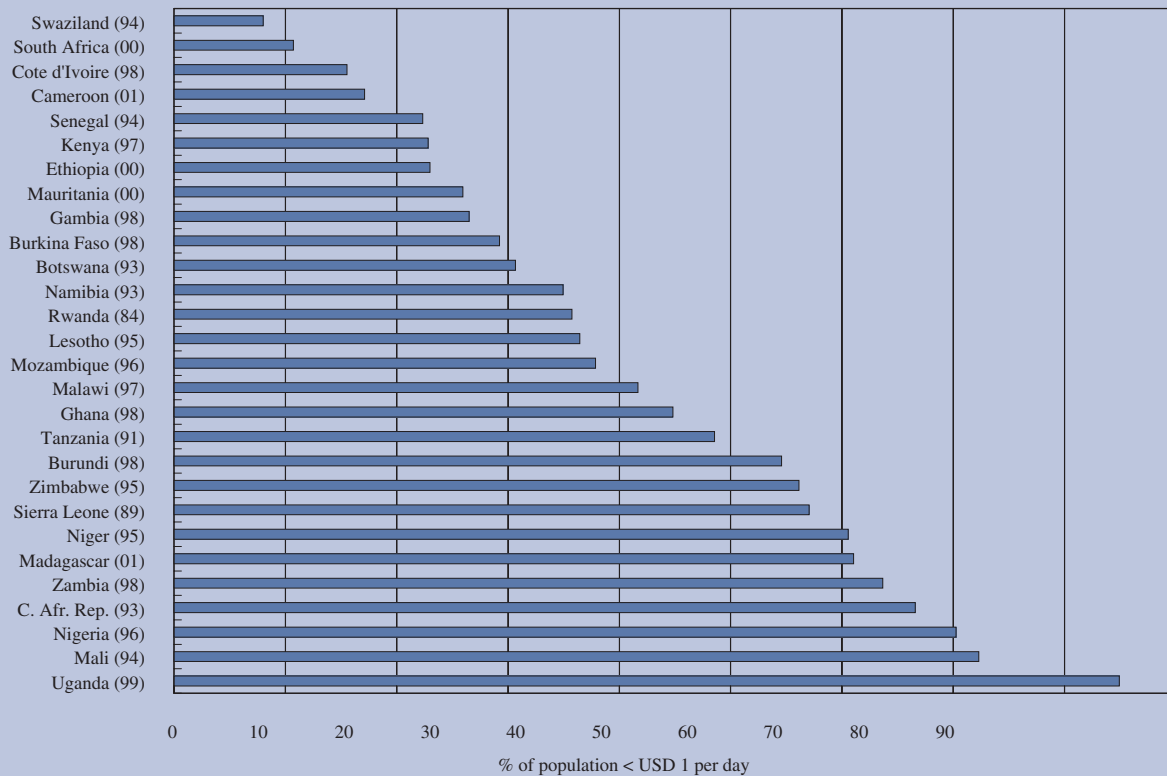
Although the situation of sub-Saharan Africa stands clearly out as being rather dire, the situation varies considerably between the countries in that region. As can be seen from Graph 1, the difference between the shares of population living below USD 1 per day is 10 times higher in the worst-performing country than in the best-performing country. In 10 countries, more than half of the population was poor whereas in another 11 countries less than a third of the population was poor. It can be noted though, that data are from the latest available household surveys so that the situation might have changed considerably in the meanwhile. In Zimbabwe, for example, this was the year 1995 and — judging from the economic performance in recent years — poverty has certainly become much more widespread.

A number of reports have been presented in 2005 taking stock of the progress on MDGs in view of the discus-

sion on their five-year review. Some of them also give estimates on the amount of additional external financing required to achieve the MDGs in all countries by 2015. The UN Millennium Project (2005), chaired by Jeffrey Sachs, made an estimate on the basis of a needs assessment for a sample of five countries<sup>(1)</sup>. Applying the rather similar per capita needs of USD 120–160 to all countries gives an estimate of USD 135 billion (in 2003 prices) of the MDG financing gap. Taking into account that not all official development assistance (ODA) is directly supporting the MDGs and that some countries would not achieve the minimum government thresholds to qualify as beneficiary, the report concludes that ODA would need to increase from USD 69 billion in 2002 to USD 195 billion in 2015. In 2005, initiated by the UK government, the Commission for Africa estimated investment needs of USD 75 billion in Africa by adding up the costs of their different recommendations which imply public expenditure. In view of the assumed limited short-run capacity of absorption of African countries and some internal financing, they urge an additional USD 25 billion of external aid flows per year over the next three to five years. While there have been other estimates in the past, with a similar variation as the ones presented here, there is a consensus that, in addition to substantial efforts by the developing countries' governments themselves, achieving

<sup>(1)</sup> The five countries are Bangladesh, Cambodia, Ghana, Tanzania and Uganda.

Graph 1: Percentage of population in sub-Saharan African countries living below USD 1 per day (in the year of the latest available household survey)



Source: World Bank, PovcalNet database.

the MDGs in all countries by 2015 will be impossible without a substantial increase in ODA from the developed world.

In view of these assessments, the EU decided to increase its targets of ODA relative to GNI from 0.39 % in 2006 to 0.56 % by 2010, of which at least half should go to Africa, and to achieve 0.7 % by 2015. The G8 meeting in July 2005 announced in their conclusions on Africa an increase by about USD 50 billion of ODA from the G8 and other donors between 2004 and 2010, of which USD 25 billion would go to Africa. About 80 % of these funds represent the earlier EU commitments of increasing ODA.

**2.2. The link between poverty and growth**

Given the criticism frequently expressed in recent years against policies that were seen to be overly focused on

economic growth, there has been a vast amount of literature on analysing the link between poverty and growth, notably on whether — and under which conditions — growth is ‘pro-poor’ (1). Income inequality is usually added as a further element of the ‘poverty–growth–inequality triangle’ (Bourguignon, 2003). Definitions matter a lot in this debate since poverty in absolute terms (e.g. a threshold of USD 1 per day in PPP) has to be distinguished from poverty relative to the average income of a country and from inequality as the distribution of income within a country.

Absolute poverty and its reduction will depend on the level and change of income and its distribution. Pro-poor growth can thus arise from three potential sources: (i) growth of average income; (ii) a positive growth elas-

(1) For a short overview on this debate see, for example, Lopez (2004).

ticity of poverty; (iii) a poverty-reducing pattern of growth in relative incomes. Kraay (2004) applied this decomposition empirically to a sample of developing countries in the 1980s and 1990s. The main result was that most of the variation in changes in poverty can be attributed to average income growth while most of the remainder is explained by changes in the patterns of growth in relative incomes; differences in the growth elasticity of poverty play only a minor role. Case studies on 14 developing countries carried out by Agence Française de Développement et al. (2005) show that a 1 % increase in GDP per capita reduced poverty by 1.7 %. The absolute reduction in poverty was largest in rural areas, whereas the relative decline in poverty rates was more marked in urban areas. A further study shows that strong growth between 1998 and 2003 significantly reduced poverty in eastern Europe and the countries of the former Soviet Union (World Bank, 2005e).

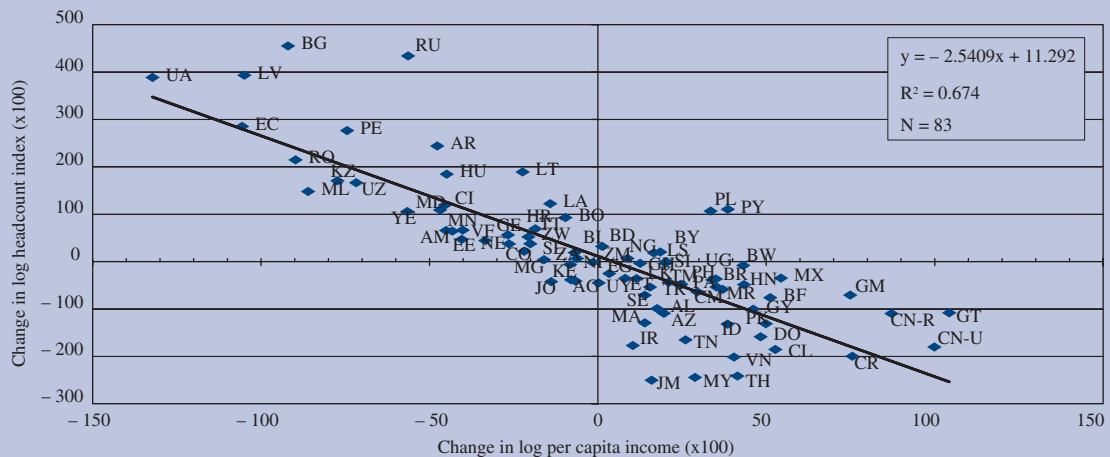
Graph 2 confirms these findings. It shows the change in per capita income and the change in poverty in the period of the first and the latest available household survey for 83 cases. There are only few cases which are falling outside the expected quadrants indicating the negative relation between growth and poverty reduction. The trend-line gives an elasticity of poverty with respect to growth of - 2.5, implying that a one percentage point change in per capita income reduces the poverty headcount index by 2.5 percentage points. Altogether, this implies that policies which promote broad-based growth in income

should be at the core of poverty-reduction strategies. However, this should not be interpreted in a deterministic way and will always depend on country-specific conditions. For example, Tanzania is an interesting case which illustrates how stabilisation and reform efforts translated into higher growth, although this may not become immediately visible in terms of poverty reduction (see box on Tanzania).

There are many possible perspectives on the link between growth and inequality <sup>(1)</sup>. The Kuznets hypothesis and models of skill-biased technological progress suggest that growth, in particular in the early stages of development, will increase income inequality. While there are several arguments related to political economy, social instability and credit constraints which support the hypothesis that inequality has a detrimental effect on growth, there are others based on varying savings rates of different income groups, investment indivisibilities and wage structure which support positive growth effects of income inequality. Empirically, the results on these links are very weak. Dollar and Kraay (2002) showed that inequality, measured as the share of income of the poorest fifth, does not vary systematically with average incomes, which basically means that the poor benefit from growth as much as anyone else in society. Similarly, they find little evidence that greater trade inte-

<sup>(1)</sup> See Lopez (2004) on the following.

Graph 2: Change in income and poverty between the first and the last available household survey



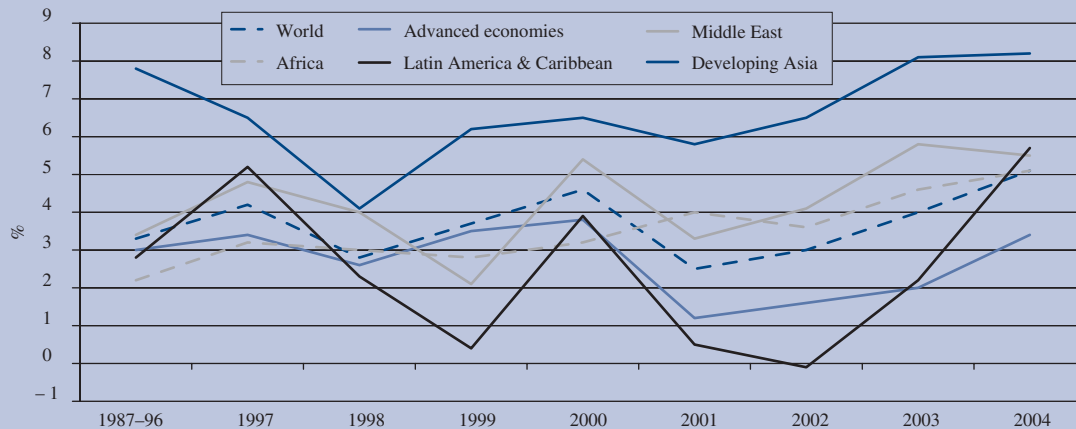
Source: World Bank, PovcalNet database.

gration across countries is associated with increases in inequality within countries. A further interesting empirical finding is that the poverty reduction arising from growth is higher the less unequal the income distribution in a country (World Bank, 2005d).

Having established that growth is essential for poverty reduction — although not necessarily for changes in income inequality — the performance of real GDP growth should give a good indication on how global poverty has changed. Graph 3 shows the strong growth performance of developing Asia, most notably of China and India. The economies of the Middle East also marginally outperformed global output growth in many years, while for Africa this is only the case since 2001. Latin America was lagging global growth in most years and has only exceeded the world's growth rate again in 2004.

In sub-Saharan Africa, real GDP growth per capita was negative from the mid-1970s to the mid-1990s and was lagging global growth rates in most of these years which implies income divergence vis-à-vis other developing and developed regions. Growth was also highly volatile, particularly at short-term to medium-term horizons. The growth performance improved to rates of 3–4 % after the mid-1990s and peaked at 5.1 % in 2004. This recent development was supported by both strong export demand in volume terms and favourable terms of trade developments, not only for oil-producing countries, but also for exporters of non-fuel commodities such as metals, diamonds and food. However, sub-Saharan African growth in 2004 was only just matching that of global output and, due to high population growth, implies only a per capita income growth of 2.7 %. In spite of the improved growth performance since the mid-1990s, real income per capita is now only approximately the same as 30 years ago.

Graph 3: Annual percentage change in real GDP growth, 1987–2004



Source: IMF (2005b).

**Box 1: Tanzania — from ‘self-reliance’ to globalisation**

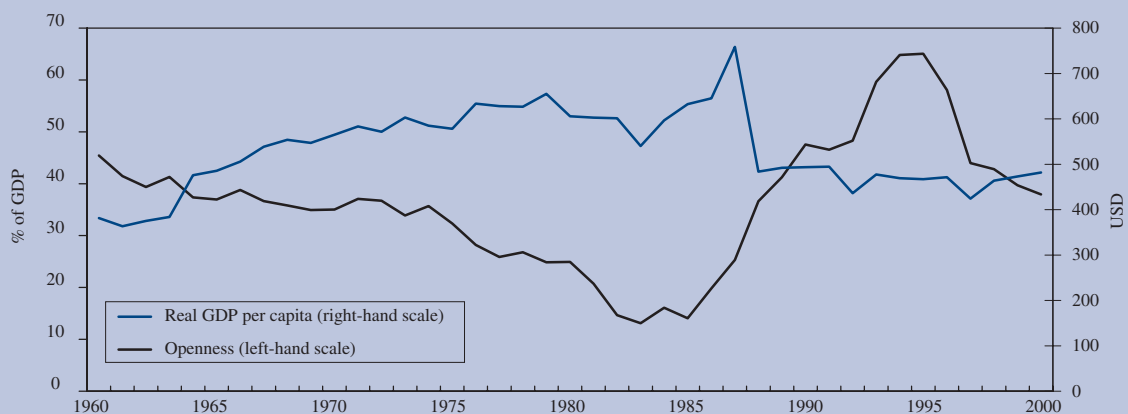
Following independence and nation-founding in the early 1960s, the first President Nyerere proclaimed the concepts of self-reliance and African socialism. He criticised the reliance on foreign aid and industrial development which would not be successful and endanger national independence. An African socialism based on the people and their land would allow economic development to start in the rural areas; a collectivisation of agriculture in local communities (‘ujamaa’) was implemented. Over time, Tanzania became a highly State-controlled economy with monopolistic and heavily regulated industries. Income increased gradually until the mid-1970s, but the economy went into stagnation and recession afterwards and turned from a net exporter into a net importer of agricultural products. A number of factors contributed to the failure of these concepts: (i) the economic system which triggered substantial mismanagement and corruption; (ii) the Kagera war with Uganda in 1979; (iii) external shocks which resulted in major macroeconomic imbalances; (iv) the nearing end of the cold war which meant less support from socialist partner countries.

In 1986, after Nyerere had withdrawn from politics admitting his failure, a new government announced the transformation into a market economy and gradually liberalised prices and external current account transactions in the early 1990s. After 1996, reforms were intensified and resulted in macroeconomic stabilisation and an acceleration of growth. Annual real GDP growth averaged 5 % from 1996 to 2004 compared to 2.7 % between 1990 and 1995 with an upward trend achieving 6.7% growth in 2004. While industry (in particular mining) and services are expanding strongly, growth is held back by the agricul-

tural sector which accounts for nearly half of the country’s GDP. A large part of agriculture is still low-productivity subsistence production with little dynamism. Export growth is strong in traditional products (tea, cotton, coffee, gold, fish) but also in manufactured goods (drinks, textile, cement) and tourism. Nearly 60 % of GDP growth during 1990–2003 came from exports; growth accounting shows that main contributions came from labour and total factor productivity and less from capital (Treichel, 2005). Tanzania has gradually liberalised imports and is regionally well integrated by belonging to both the East African Community (with Uganda and Kenya) and the Southern African Development Community.

Due to fiscal and monetary tightening, inflation fell from an average 30 % in 1990–95 to single digit rates since 1999 and to 4 % in 2004. Fiscal discipline and improved public finance management have kept the budget deficit under control. Trade and current account deficit seem sustainable while foreign reserves are increasing. Following the good record of reform-oriented policies, foreign aid increased substantially and debt relief was granted in the context of the HIPC initiative in November 2001, which helped achieve debt sustainability. Foreign direct investment (FDI) picked up substantially in the course of large-scale privatisation since 1992 (of which about 40 % in the mining sector) reaching 5 % of GDP in the second half of the 1990s but has levelled off in recent years to 2 % of GDP. The banking sector is largely foreign-owned and expanding credit to the private sector by 30–40 % in recent years. Efforts are being made to improve the business environment by reducing corruption and improving the tax system.

**Trade openness and real GDP per capita in Tanzania, 1960–2000**



Source: Penn World Tables.

(Continued on the next page)

*Part II — Assessing economic benefits and risks*  
*3. Globalisation, growth and poverty reduction in developing countries*

*Box 1 (continued)*

The good growth performance has not immediately translated into poverty reduction. Population growth is high — it has long been above 3 % and dropped to 2 % only in the last 10 years — which implies a more limited GDP growth in per capita terms. The most recent household budget survey shows a decrease of the poverty headcount index from 39 % in 1991/92 to 36 % in 2000/01, with a decline from 28 % to 18 % in Dar-es-Salaam and from 41 % to 39 % in rural areas. There is thus a high incidence of poverty in rural areas where income is largely based on subsistence agriculture. Indeed, progress is more visible in the cities than in rural areas also for several other MDG indicators and for infrastructure. Projections suggest that continued real GDP growth of 5 % would be needed to halve poverty

by 2015 (Treichel 2005) while the latest government medium-term strategy ('Mkukuta') envisages 8–10 % growth on average over the next five years. The abolition of school fees at the beginning of 2002 triggered a substantial increase in primary school enrolment, but secondary school enrolment is still low. The situation on health is more mixed with higher vaccination rates for children, apparently little progress on children and maternal mortality, and a life expectancy that has dropped largely due to the high prevalence of HIV/AIDS. The 400 000 officially registered refugees, mostly from the Democratic Republic of Congo and Burundi, are both a humanitarian and economic challenge for the country.

### 3. The impact of globalisation on growth and poverty reduction

In view of these stylised facts on poverty and after having established that growth is essential for poverty reduction, the next step is to assess whether globalisation, broadly defined as the deepening of integration and inter-linkages between countries, harms or facilitates poverty reduction, either directly, or via the impact it has on growth. The main dimensions of globalisation looked at in this section include trade, capital flows, and migration. We first provide a description of globalisation trends (Section 3.1) and then try to assess their impact on poverty reduction (Section 3.2). Section 3.3 looks at EU market access for developing countries.

#### 3.1. Globalisation trends in developing countries

At global level, both trade and capital movements expanded rapidly over the past few decades, and this was also true for

developing countries, while international migration as a share of world population grew more moderately.

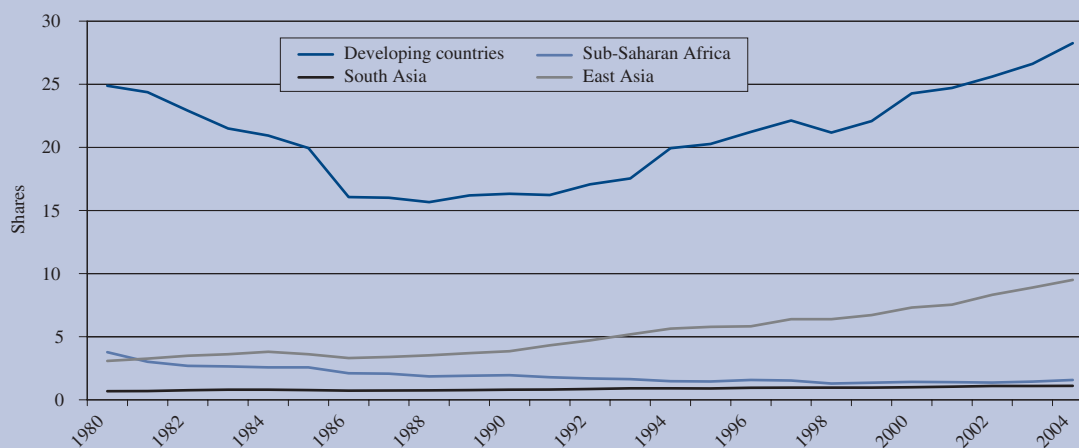
##### 3.1.1. Trade flows

Over the past 25 years, the share of developing countries in world exports of goods increased from nearly 25 % in 1980 to around 28 % in 2004 <sup>(1)</sup>. However, the regional distribution of these exports changed dramatically. While both south Asia and east Asia saw their share increase (threefold for the latter), sub-Saharan Africa witnessed a steep decline from nearly 4 % in 1980 to around 1.5 % in 2004 (see Graph 4).

As a share of their GDP, exports of developing countries grew even faster than those of high-income countries,

<sup>(1)</sup> Based on WTO data.

Graph 4: Share in world exports by region, 1980–2004



Source: WTO online database.



rising from around 12 % in 1970 to more than 30 % in 2002 (see Graph 5). Here, too, sub-Saharan Africa shows a less marked trend, with an increase from 22 % in 1970 to 33 % in 2002, though starting at a higher level. The poorest countries' exports remain concentrated on a few primary commodities, hence exposing producers to the effects of both long-term price decline and commodity price volatility.

Manufactured goods have taken an increasing role in these trends, with shares in total exports reaching levels beyond 80 % in east and south Asia. For all developing countries, since 1970 their share in developed countries' imports of manufactured goods went from a mere 10 % to 45 % in 2003. The surge of trade in parts and components of manufactured goods reflects the growing international specialisation among countries, allowing producers to exploit economies of scale and scope. This process has also been facilitated by increasing trade integration among developing countries, exemplified by the growing number of south-south regional trade agreements signed in recent years, hence spurring south-south trade. Intra-regional trade is highest in east Asia (at around 26 % of GDP in 2002), followed by developing Europe and central Asia (at about 15 %).

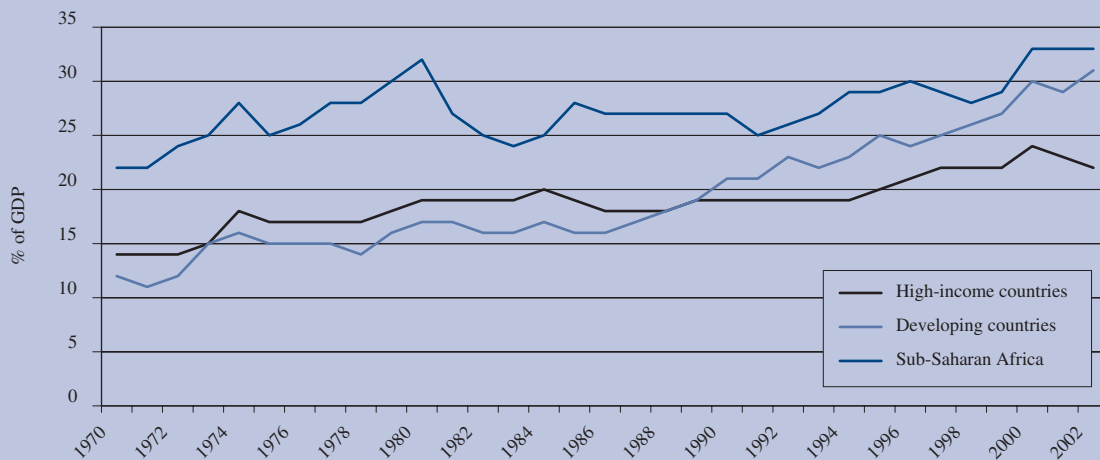
In contrast, in sub-Saharan Africa intra-regional trade merely represents around 5 % of GDP. The proliferation over time of regional economic agreements

throughout the continent, often with overlapping membership and complex tariff schemes, has not always brought the expected benefits. In the major 11 of these arrangements, intra-bloc exports as a share of total exports never averaged more than 13 % between 1997 and 2002. More recently, some efforts are being made to rationalise these agreements, notably by applying common external tariffs. Recent estimates by the UN Economic Commission for Africa indicate that the welfare gains from more effective regional integration in sub-Saharan Africa could be of the order of USD 1.2 billion.

As far as trade liberalisation is concerned, developing countries followed the global trend of tariff decline, driven by regional agreements, WTO accessions, but also genuine autonomous reform. Overall, developing countries halved their most favoured nations (MFN) tariffs between the late 1980s and 2004, from above 25 % to nearly 12 %. Among these, south Asia and sub-Saharan Africa remain the most protected regions, with tariffs above 15 % in 2004 (see Table 4).

Non-tariff barriers (NTBs) have not followed the same trend. Either in the form of price measures (e.g. anti-dumping) or quantitative restrictions (such as licensing requirements linked to health and phito-sanitary standards), they still affect a large portion of imports of devel-

Graph 5: Export-to-GDP ratios by region, 1970–2002



Source: WTO online database.

Table 4

Applied MFN tariffs by region

	Late 1980s	2004
<b>Developing countries</b>	<b>25.4</b>	<b>11.7</b>
East Asia and Pacific	18.8	9.6
Europe and central Asia	10.2	7.3
Latin America and Caribbean	22.4	10.4
Middle East and north Africa	17.3	12.4
South Asia	68.9	17.7
Sub-Saharan Africa	25.1	15.3
<b>Developed countries (OECD)</b>	<b>7.0</b>	<b>4.1</b>

Source: World Bank (2005a).

opening countries (see Table 5). Anti-dumping investigations in particular are increasingly being used by developing countries against other developing countries; these account for nearly 60 % of all anti-dumping measures against developing countries, of which almost 30 % are directed to China.

3.1.2. Capital flows

Capital flows to developing countries increased three-fold between 1990 and 2004, from more than USD 98 billion to USD 324. Throughout the period, the relative importance of official flows (loans and grants) and private flows changed dramatically. While the former dropped from nearly 57 % of total capital flows in 1990 to 7 % in 2004, private flows grew substantially, going from 43 % to 93 %. Foreign direct investment (FDI) represented the bulk of private flows, at around two thirds on average, but reaching more than 90 % in some years. Equity flows (portfolio investment) stood on average at only 11 % of total private flows (see Table 6).

Table 6

Net capital flows to developing countries, 1990–2004

	Average 1990–2000	2001	2002	2003	2004
<b>Total (billion USD)</b>	<b>220</b>	<b>205</b>	<b>201</b>	<b>282</b>	<b>324</b>
Official flows (%)	25.8	26.8	18.6	11.2	6.9
Private flows (%), of which:	74.2	73.2	81.4	88.8	93.1
— debt flows	25.5	– 20.3	2.3	29.5	36.2
— equity flows	12.5	4.0	3.5	9.9	8.9
— FDI	62.0	116.3	94.2	60.6	54.9

Source: World Bank (2001 and 2005c).

Table 5

Non-tariff barriers by region, 2002

	Frequency (% share of tariff lines)	Coverage (% share of imports)
<b>Developing countries</b>	<b>27.2</b>	<b>34.3</b>
East Asia and Pacific	44.0	32.8
Europe and central Asia	14.6	23.9
Latin America and Caribbean	26.9	44.4
Middle East and north Africa	49.5	51.6
South Asia	12.1	28.6
Sub-Saharan Africa	24.4	28.8
<b>Developed countries (OECD)</b>	<b>22.0</b>	<b>24.1</b>

Source: World Bank (2005a).

On a global scale, developing countries only attracted around 30 % of worldwide FDI between 1990 and 2004 on average, but their share increased from 17 % in 1990 to almost 31 % in 2004, with peaks of 40 % just before the east Asian crisis of 1997/98. This reflected improved investment climate conditions, eased restrictions on foreign ownership, privatisation, and also proactive FDI policies, with the creation of export-processing zones or the provision of tax exemptions for foreign investors. FDI to developing countries allowed them to be increasingly integrated in the international production chain.

FDI in developing countries, however, is highly concentrated, with only five countries (Brazil, China, India, Mexico and the Russian Federation) having attracted more than 40 % of all flows between 1990 and 2003. Among developing countries' regions, east Asia and Latin America attract most of FDI, while south Asia and sub-Saharan Africa lag behind (see Table 7). In recent

years, however, both these regions have seen a surge in FDI, reflecting strong investment in India's services sector, as well as in the oil and gas sectors of a few African countries (Angola, Chad, Equatorial Guinea and Sudan).

An interesting phenomenon is the growing importance of FDI outflows from developing countries (most notably from the major five FDI recipients) going to developed countries, but also other developing countries. According to estimates of the World Bank (2005c), FDI outflows rose from USD 3 billion in 1991 to USD 16 billion in 2002, and are estimated to have reached USD 40 billion in 2004. Between 1997 and 2001, south-south flows accounted for around a third of total FDI to developing countries. Given the poor data quality and coverage, these are probably underestimates of this new phenomenon.

China in particular is playing an increasing role. Its outward FDI flows averaged USD 3 billion between 2000 and 2003, about 25 % up on the average annual outflows of the early 1990s (Unctad 2004). Over half of the USD 3.6 billion of flows in 2004 went into the mining sector, while about a quarter to the services sector. In geographic terms, Latin America is the top receiver of Chi-

nese FDI (around 50 %), followed by Asia (around 33 %) and Europe (10 %). Chinese FDI is also growing to sub-Saharan Africa, most notably to resource-rich countries such as Angola and Liberia, or to Ghana for the production of bicycles.

Official capital flows, which include bilateral and multilateral loans (concessional and non-concessional) and grants, show a declining trend in the past four years (see Table 6), almost halving between 2001 and 2004. Indeed, while grants have increased by a cumulative USD 20 billion over the period, net lending declined by USD 52 billion. Therefore the acceleration of the shift from loans to grants was more than offset by important repayments to the IMF and the World Bank by large developing countries such as Argentina, Brazil, Turkey, China and India.

More generally, indebtedness of developing countries as a group has improved since the wave of financial crises of the 1990s, even though differences persist between regions (see Table 8). Low-income countries have seen the largest reduction in burden indicators, also thanks to debt relief initiatives such as that for the heavily indebted poor countries.

Table 7

**FDI inflows by host region, 1990–2004**

	Average 1990–2000	2001	2002	2003	2004
Developing countries (billion USD) of which in %:	134	220	156	166	223
— Sub-Saharan Africa	3.5	6.7	6.3	8.5	5.7
— Latin America and Caribbean	34.1	40.1	32.5	28.2	30.2
— South Asia	1.7	1.8	2.9	3.2	3.1
— East Asia	32.1	21.5	38.3	34.9	31.0
— Central and eastern Europe	9.0	12.0	20.1	12.6	11.0

Source: Unctad website.

Table 8

**Indicators of external debt, 1997 and 2003**

	All countries		Low-income countries		Middle-income countries	
	1997	2003	1997	2003	1997	2003
Total debt stock/exports	135.1	104.7	236.3	147.9	123.3	98.6
Total debt service/exports	18.8	17.2	17.7	12.0	18.9	17.8

Source: World Bank (2005c).

Probably a better measure of development resources available to developing countries is the notion of official development assistance (ODA), which includes grants and concessional loans (i.e. with a grant element of at least 25 %) undertaken by the official sector and with the primary objective of promotion of economic development (OECD definition).

Over the 1990–2000 period, ODA trends have been disappointing. In contrast to the trends of other capital flows, ODA stayed at USD 55 billion (Graph 6). After 2002, ODA trends have more clearly picked up, partly due to the commitments taken at a UN Conference on Financing for Development in Monterrey in March 2002. As already indicated in Section 2.1, new commitments have also been announced in view of the UN summit of September 2005.

It is worth noting that, for poor countries, ODA is a much more important source of capital compared to all developing countries (see Table 9). Poor countries on average received more than USD 16 billion ODA between 2000 and 2004, compared to USD 12 billion in remittances, USD 6 billion FDI, and no portfolio investment at all.

### 3.1.3. Migration

Together with the movement of goods and capital among countries, the movement of people is often considered as another aspect of globalisation. The focus of this section

Table 9

**Financial flows into developing countries in USD billion, average 2000–04**

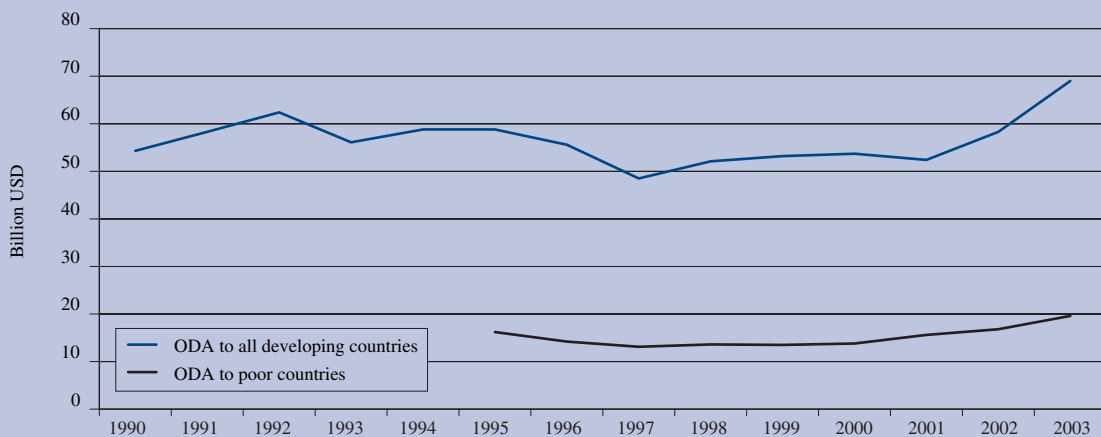
	All developing countries	Poor countries
FDI	162.46	6.02
Portfolio investment	15.16	0
Private creditors	31.12	- 0.98
ODA (concessional loans + grants)	62.40	16.45
Remittances	100.44	12.22

Source: World Bank (2005c).

is not on the trend of migration flows themselves, or the design of migration policies, but rather on one of the financial outcomes of migration, that is the flow of remittances from migrants back to their countries of origin. In the past few years, much interest has been generated on the subject, with a number of World Bank reports devoted to it (including the 2006 global economic prospects), and several international commitments to reduce the transaction costs of remittances.

Remittances can constitute an important part of foreign exchange earnings of poor countries. They also appear to be more stable flows compared to other private flows. Official balance of payments figures point to significant

Graph 6: Trends in official development aid (ODA) in USD billion, 1990–2003



Source: OECD (2005).

amounts, growing from USD 77 billion in 2000 to USD 126 billion in 2004 in all developing countries, with remittances being second only to FDI and often two to three times the volume of ODA. Apart from increasing migration during the 1990s, this sharp rise in recorded migrant remittances is also attributed to improved data collection and an ongoing shift toward formal transaction systems (World Bank, 2005a; Freund and Spatafora, 2005). Nevertheless, informal flows are still significant, especially in sub-Saharan Africa where transaction costs are highest. A recent study suggests that informal remittance flows would account for 35–75 % of official flows (Freund and Spatafora, 2005). Thus, estimates which try to include unofficial channels of transmission not included in balance of payments statistics arrive at figures up to USD 200 billion in 2004.

The OECD (2005), however, points to some of the problems with remittances data, mostly due to differing reporting practices among countries, or underestimation because of large funds remitted informally. The comparison to ODA flows is also misleading for various reasons: total remittances figures are for all developing countries (low and middle-income) including those that are not eligible for ODA; remittances are counted from all sources, including from other developing countries (OECD estimates show that only around half come from aid donors); finally, while remittances are counted in gross terms, ODA is net (of principal and interest repayments). By making these adjustments, the OECD comes with an estimate for 2000 of USD 34 billion, around half of ODA, rather than the two-thirds factor mentioned above.

Remittances are also concentrated on few countries (India, Mexico, the Philippines and Turkey). Central America and north Africa receive substantial flows, while remittances to sub-Saharan Africa are negligible (USD 1 billion) compared to ODA (USD 20 billion).

Overall, the importance of remittance flows for developing countries should not be overestimated and not regarded as a ‘panacea for development’.

### **3.2. The impact of globalisation on poverty**

This section will assess to what extent the integration of developing countries into the globalised world through trade, investment and migration is beneficial to poverty reduction. Most of the literature has addressed the issue in an indirect way: if globalisation affects growth, and

growth is good for poverty reduction, applying transitivity would yield that globalisation is good for the poor. This analysis has been useful, but another approach has been to look into the direct impact of globalisation on poverty reduction, by trying to provide a conceptual framework (McCulloch et al., 2001), and by looking at cross-country evidence and country case studies (Harrison, 2005). Both these approaches will be reviewed in turn.

#### **3.2.1. The indirect approach**

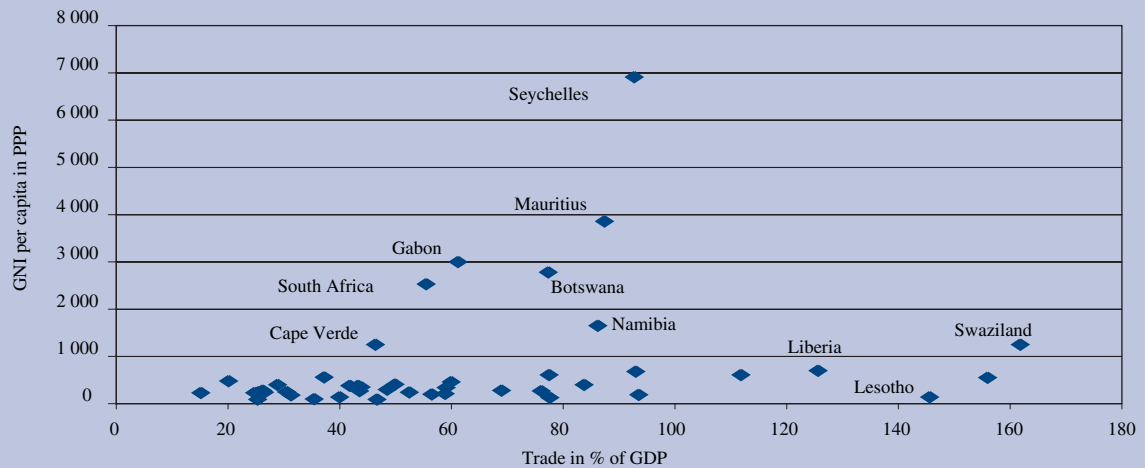
In economic theory the positive welfare effects arising from trade and specialisation according to comparative advantage have long been established. More recent literature emphasises the importance of market size, economies of scale, competition and transfer of technology with less clear predictions on the distributional effects of trade liberalisation, in particular for small and peripheral economies.

While empirically there is a clear positive association between trade and growth (Dollar and Kraay, 2004), the precise effects of trade on growth are difficult to demonstrate due to a number of methodological problems including the measurement of openness and the need to control for other variables which have an influence on growth performance (Rodriguez and Rodrik, 2000).

For sub-Saharan African countries, Graph 7 shows that there is no clear correlation between trade openness and income per capita. Countries with similarly low income can have very different degrees of openness, probably depending on a number of factors such as country size, natural resources or capital inflows which allow importing of the most needed goods. However, those countries with a higher income tend to have a certain degree of openness or, in different terms, higher levels of income in sub-Saharan Africa are not achieved in a closed economy. This indicates that trade is not a sufficient condition for development, but rather one of the necessary conditions among others for a sustained growth process.

A number of studies used a modelling approach to assess the macroeconomic impact of trade. The World Bank (2004) quantified the income effects of a hypothetical scenario of global trade liberalisation. In high-income countries, average tariffs would be cut to 5 % for agricultural and food products and to 1 % for manufacturing goods; for low and middle-income countries the rates would be 10 % and 5 % respectively (<sup>1</sup>). Using a trade model to simulate how tariff reductions increase global

Graph 7: Trade openness and income per capita in sub-Saharan Africa, 2002



Source: World Bank, *World development indicators*.

trade, merchandise trade would rise by 10 % globally and exports from developing countries by 20 %. The largest percentage increases would be for trade in agriculture (32 %) and food (nearly 50 %) which contribute two thirds of the static gains. In 2015, there would be a rise in income levels by 1.5 % in developing countries and by 0.5 % in rich countries. Dynamic effects from increases in productivity and FDI would add another 2.7 % of income in developing countries and 0.98 % in rich countries. Given the large gains for the developing countries, poverty in terms of the number of persons living on less than USD 1 per day would be reduced by 61 million of which more than 40 million in sub-Saharan Africa. Adjustment costs would mainly fall on farmers in rich countries who would have to lose the most from the reduction in agricultural protection.

A further model-based simulation of trade liberalisation scenarios broadly supports these results (Francois et al., 2005). A global CGE model is used which features world trade and production, scale economies and imperfect competition as well as intermediate linkages between sectors. The two scenarios compared — one at global level and another in OECD countries only — simulate 50 % reductions of import tariffs, border measures, export subsidies

and domestic agricultural support as well as trade facilitation of 1.5 % of the value of trade. Global liberalisation would expand trade by 11 %, and by 21 % for developing countries, whereas OECD liberalisation would increase trade by only 5 % both at global level and for developing countries. The explanation for this surprising result is that developing countries' exports to developed economies increase much less in the OECD scenario because developing countries' failure to liberalise trade precludes specialisation gains and the related freeing of resources which would have allowed stronger expansion into export-oriented industries. In sectoral terms, processed foods, textiles and clothing as well as agricultural products would see the highest increase in trade due to their currently high protection in OECD countries. Income effects from improved allocation, terms of trade effects and pro-competitive effects largely correspond to these trade effects. Relative to the baseline, income would increase by 0.5 % in the case of global liberalisation and by 0.3 % in the case of OECD liberalisation, with roughly similar effects for the EU. Developing countries would gain much more from global liberalisation than from OECD liberalisation — for sub-Saharan Africa the effects are 1 and 0.1 % respectively — because of the high allocative effects of their own liberalisation. One exception is China where, in both scenarios, the strong expansion of textile and clothing production might not only cause negative terms of trade effects but also induce a contraction in other manufacturing sectors.

(<sup>1</sup>) In addition, maximum rates would be cut to 10 and 5 % in rich countries for agriculture and manufacturing and to 15 and 10 % respectively in developing countries.

While the overall benefits of reducing distortions on world markets for agricultural products are large in these simulations, the distributional effects are less evident. At least initially, there could be higher world market prices for the respective products and the impact will vary across countries, depending mainly on whether a country is a net exporter or a net importer. Due to the currently artificially low prices of subsidised products, many developing countries are actually net importers of most products even if they might have a comparative advantage in the protected production. However, since poverty is most prevalent in rural households which are usually ‘net exporters’ of food (i.e. they produce more than they consume), there is most likely an overall positive effect on poverty reduction from the reduction in agricultural subsidies in the developed world (Cline, 2004).

Another channel through which globalisation can spur growth (and hence poverty reduction) is via FDI. Technological and know-how transfer, employment creation and productivity growth are among the most cited factors of growth brought by FDI (see de Mello, 1997; Blomström and Kokko, 1997). FDI can also improve access of local producers to international markets, hence increasing a country’s export capacity. At the microeconomic level, the role of linkages between foreign and local firms is also important: local suppliers benefit from foreign investors’ management skills, and they may also have to meet higher standards of quality.

With respect to developing countries, research has shown that a number of enabling factors are necessary to allow these FDI interactions to fully play their role: a minimum level of absorptive capacity (i.e. education levels) of the labour force to benefit from technological transfer (Borenzstein et al., 1998); trade openness (Balasubramayam et al., 1996); or the maturity of financial markets (Alfaro et al., 2004).

South–south FDI in this respect may have a slightly different impact from the north–south one: investing companies may be more prone to use managers indigenous to the region, rather than from developed countries, hence being more beneficial. On the other hand, precisely because they bring less advanced technology, which is better suited to poor countries, it may take away some of the benefits from technological transfer that would have occurred, with less benefits for growth.

More recently, another strand of the literature has looked into the causality relationship between FDI and growth (de Mello, 1999; Hansen and Rand, 2004; Chowdhury and Mavrotas, 2005). While all find a positive association between the two, the direction of causality is not always univocal. Chowdhury and Mavrotas (2005), for example, focus on three major FDI recipients (Chile, Malaysia and Thailand) and find that, in the case of Chile, GDP causes FDI, while for both Malaysia and Thailand there is strong evidence of a mutual causality. The authors argue that this uncertainty on the causal relationship casts doubts on the validity of policy prescriptions that only emphasise the importance of FDI for growth, rather than recognising key factors such as the quality of human capital, infrastructure and governance.

Finally, the broad third dimension of globalisation, migration, can also contribute indirectly to poverty reduction through the impact it has on growth. The main channel this operates is via the ‘brain gain’.

In theory, migration of skilled workers (‘brain drain’) increases the return to education in the sending countries, which leads to higher investment in education, with a positive effect on growth and welfare, the ‘brain gain’. However, recent research (Schiff, 2005) showed that the ‘net brain gain’ (the difference between the brain drain and brain gain) can always be negative. In the presence of unskilled migration, which reduces the return to education, and ‘brain waste’, when skilled workers only find a low-quality job in the host country, the brain gain is diminished. As a result, policies that limit the migration of skilled workers (such as in the health or education sector), by reducing the brain drain, could have a positive overall impact on the net brain gain.

Another channel of the impact of migration on growth is via remittances. The evidence reviewed in World Bank (2003) shows that remittances offset some of the output losses deriving from highly skilled worker emigration, and can even more than compensate for net fiscal losses. Remittances also have positive effects on savings and investment (hence on growth), and provide the hard currency required for importing scarce inputs. Migrant communities abroad that provide an anchor for business and trade can also be seen as beneficial for the receiving economy. The evidence on the impact on income inequality is mixed. An equalising effect was found for Mexico, while for Pakistan only richer workers could emigrate and send remittances back, hence increasing inequality.

### 3.2.2. The direct approach

As Section 3.1 shows, greater integration of developing countries into the global trading system occurred thanks to large tariff declines and a growing network of regional trade agreements. Trade liberalisation policies can therefore be seen as the main drivers of globalisation of developing countries. In this context, a conceptual framework to assess the direct impact of trade liberalisation on poverty reduction can be useful (see McCulloch et al., 2001; Winters et al., 2004). The basic approach is to identify the channels through which the effects come into play. The (poor) household is taken as the object of study, given that this is where poverty reduction will be measured. In a nutshell, the framework tries to assess *ex-ante* the impact on households of trade policy reforms, via the impact it has on enterprises, distribution channels and government policies. In a forthcoming publication on 'Globalisation and poverty', a number of authors have tried to look more closely into the empirical evidence on some of these direct links; their main findings are summarised in Harrison (2005) <sup>(1)</sup>.

A first transmission channel of trade liberalisation is via the prices of goods and services. Price changes that result from trade liberalisation will affect households' incomes depending on whether households are net sellers or net buyers of certain goods/services and whether new markets will be created. Different family members may suffer a different impact if, for example as a result of a price and hence income shock, children may have to stop going to school to provide more labour. Similarly, the effects can differ between rural and urban poor.

The price channel is particularly useful in assessing the impact of trade liberalisation on poverty, given that in many developing countries wages do not constitute the primary source of income. The study of Ashraf et al. (2005) shows, for example, that the impact of the liberalisation of the corn market in Mexico caused an import surge and a price fall of Mexican corn. However, given that the majority of poorest corn farmers are net consumers, they benefited from the price drop. In addition, net sellers were compensated through a government transfer scheme, which shows the importance of complementary policies to minimise adverse impacts. A study on Zambia by Balat and Porto (2005) looks at the impact of liberalisation of the maize market; while the resulting price increase led to con-

sumption losses, these were offset by gains from switching from subsistence to market production.

Another direct channel is via the impact on wages and employment, bearing in mind that poor households are more likely to supply unskilled labour. If a trade reform boosts the demand for labour-intensive goods, this may increase both wages and employment. The impact on poverty, however, will depend on whether the poor are strongly represented in the type of labour for which demand rises (skilled vs. unskilled). For those resource-rich countries (many in sub-Saharan Africa and Latin America), trade liberalisation may indeed boost the more capital-intensive extraction of natural resources rather than labour-intensive production, with less impact on poverty.

Moreover, the standard theoretical prediction <sup>(2)</sup> that north-south trade would benefit unskilled workers in developing countries (hence poverty) may not always hold. In the presence of imperfect sectoral labour mobility, the 'specific-sector' model may best be adapted to describe the labour market situation in many developing countries, where workers are attached to a specific sector, hence showing a very low labour mobility (Davis and Mishra, 2005). Those sectors hit by trade liberalisation (i.e. suffering import competition) would therefore suffer lower labour demand, with consequent lower wages, and labour rigidities would prevent workers moving into the expanding sectors. If these declining sectors are those where poor workers are concentrated most, poverty will rise.

This logic is confirmed by the studies on Colombia (Goldberg and Pavnik, 2005) and India (Topalova, 2005), which relate the incidence of poverty to large tariff cuts. Topalova in particular finds that the gains from trade liberalisation were less likely to benefit the poor living in rural areas, since trade reforms mostly affected their sector, but that overall activity associated with exports and foreign investment is positively correlated with poverty reduction. The studies also stress and show the importance of complementary reforms for minimising the adverse impact on the poor, such as labour market reforms (to increase flexibility), or the existence of social safety nets.

<sup>(1)</sup> All papers of the forthcoming book quoted in the text are available at <http://www.nber.org/books/glob-pov>

<sup>(2)</sup> Referred to in the Heckscher-Ohlin framework as the 'Stolper-Samuelson theorem'.



The evidence for Mexico (Hanson, 2005) shows that, in the aftermath of the 1995 peso crisis, regions more exposed to globalisation fared better in terms of poverty than those less exposed. In Poland (Goh and Javorcik, 2005), large tariff reductions in some sectors led to large wage increases, thanks to productivity increases, with evident benefits for workers. Overall, these studies point out that expanded exporting activities can be associated with increasing incomes for the unskilled and the poor, especially when accompanied by policy reforms.

A third channel of the impact of trade liberalisation on poverty reduction is via government revenues. Winters et al. (2004) argue that the perceived negative impact of tariff reductions on government revenues need not be that large. For example, by simultaneously reducing tariffs and removing exemptions, revenues could actually increase. They also claim that, ultimately, it is a political decision whether the poor should suffer from revenue cuts or not. In this context, some cross-country evidence conducted on a sample of 79 developing countries over the period 1962–97 shows that a reduction in tariff barriers is associated with a significant reduction in infant mortality and increase in life expectancy (Prasad et al., 2005).

Apart from the impact it can have on growth, discussed previously, and as with the discussion on trade liberalisation, FDI can also exert a direct impact on poverty, notably via the employment, wages and training channel, but also possibly via the prices and government revenues channels. In contrast to the large literature on FDI and growth, research on the direct links between FDI and poverty is still relatively scarce, especially on the empirical evidence.

In theory, poor workers may benefit from increased labour demand by foreign investors, but in practice evidence shows that, on average, foreign firms hire more skilled workers rather than unskilled (Jenkins, 2005; ODI, 2002), so the impact for the (unskilled) poor of labour creation by foreign firms remains limited. In this respect, south–south FDI may present less of these shortcomings, insofar as it brings less sophisticated technologies, hence requiring less skilled workers.

Employment creation via the backward linkages implied by FDI (i.e. through the use of local suppliers) may arise, but again this is more limited in those sectors such as textiles and electric goods, heavily dependent on imported inputs. Given that multinationals also pay higher wages

(and more so for skilled workers), they may contribute to increasing wage inequality. Similarly, benefits in terms of human capital training, although positive per se on the overall host economy, may not be equally shared by the poorest segments of the population. The skill-bias of FDI is even more evident in extractive industries (oil, minerals), which in Africa still account for more than half of foreign investment, and for which positive poverty-reducing effects do not always materialise (Unctad, 2005).

With market-seeking FDI, multinational companies may make available a whole new range of cheaper products and services, some of which may also benefit the poor. While it is certainly not clear that increased affordability of most-cited products such as beverages, cigarettes and soaps would reduce poverty, FDI in utilities (e.g. water supply and sewerage services), telecommunications and transport can make a substantial contribution to poverty reduction by improving access and reducing service provision costs (Aaron, 1999).

Finally, FDI can bring potential government revenue gains which, in turn, can be used for anti-poverty measures. However, these gains can be limited by a number of factors. Competition to attract foreign investors often leads to a race to the bottom, with a series of tax holidays and tax incentives which reduce those revenues. Also, multinational companies are able to use various types of transfer pricing in order to reduce profits, hence taxes payable, as well as tax havens.

A main conclusion from the discussion above is that FDI brings both gains and costs to the host economy, and it would be up to policy-makers to recognise them and design policies accordingly.

Remittances can have a straightforward impact on poverty reduction. The international evidence on the use of remittances reviewed in Lopez-Cordova and Olmedo (2005), and based on a survey conducted by the Inter-American Development Bank, shows that most of remittances cover daily expenditures such as food, rent and utilities (between 46 % and 84 % of remittances), as well as education and healthcare (between 2 % and 17 %). Other studies (Adams, 2004; Adams and Page, 2005) directly relate remittances to poverty reduction and find a positive relationship, though the impact is small. This result could also reflect the fact that it is often wealthier middle-class families, not poor families, who can afford the investment and risk of emigration.

The relatively modest amount invested in business activity found in the survey (between 1 % and 10 %) may cast doubts on the role of remittances as a catalyst for development per se. On the other hand, spending on education, nutrition and health can be considered as an important investment that promotes long-term growth.

From a policy perspective, the recent international efforts to reduce costs of transferring money for migrants are important, but one should acknowledge that larger efficiency gains would only be exploited when banking sectors become fully functioning in developing countries, which is more for the longer term.

### **3.3. Market access for developing countries**

In view of the importance of globalisation for poverty reduction, it is pertinent to assess the contribution of trade policies to the trade integration of poor countries. In the context of the ongoing WTO trade negotiations, members have agreed to put the issue of development at the centre of negotiations by launching the Doha Development Agenda (DDA). The DDA aims at establishing rules that support development and increase developing countries' opportunities to take advantage from further trade liberalisation. Market access plays a dominant role in this respect.

Since the 1970s, non-reciprocal preferential trade arrangements (PTAs) have been introduced as an important complement to development aid in order to foster trade and development of developing countries by providing them with a relative advantage in terms of market access. Most developed countries have a generalised system of preferences (GSP) which substantially reduces MFN tariffs for developing countries. In the EU, in addition to the GSP, the (currently) 77 ACP countries (of Africa, the Caribbean and the Pacific) which have signed the Cotonou Agreement, are benefiting from enhanced preferential treatment in terms of market access. Since 2001, the EU has been providing duty- and quota-free access to the least developed countries (LDCs) under the 'everything but arms' (EBA) initiative (see box for further details on the EU's system of preferences). The USA provides improved market access, beyond its GSP, under the African Growth and Opportunity Act (AGOA) to those sub-Saharan African countries which fulfil a number of criteria on governance and economic policies (currently 37). In addition to its GSP, Japan also provides duty and quota-free access to LDCs.

Given the special treatment of agricultural products in preferential schemes and their importance for developing countries, they deserve particular attention. Indeed, the unweighted average tariff on agricultural products in the EU was 17.3 % in 2002 (MFN rates), while GSP and ACP beneficiaries faced lower rates of 15.3 and 6.9 % respectively. The rather low unweighted margin of GSP preferences (i.e. the difference between MFN rate and preferential rate) can be explained by the observation that, in most developed countries, full preferences are given usually to products with low MFN rates while partial or no preferences are given to products with higher MFN rates (Brenton and Ikezuki, 2005). The preference margin under the Cotonou Agreement is, however, significantly larger for the ACP countries as full or partial preferences are also given to some tariff lines with higher MFN rates. For LDCs, the preference margin is highest following the introduction of duty- and quota-free market access.

Graph 8 depicts the degree to which preferences are actually used under the different regimes in the EU. Only 3 % of ACP exports enter the EU under non-zero MFN tariffs, while the corresponding shares are higher for other countries. For China, which is covered by the general GSP scheme, the share is 45 % which makes it the least preferential developing country partner. However, at the same time, China is the second largest beneficiary with a share of more than 11 % of all preferential imports under the EU's GSP. Altogether, 79 % of developing countries' exports entered the EU duty-free. The share of LDC products entering the EU duty-free increases to more than 95 % when Bangladesh and Cambodia, where textiles companies are faced with problems to comply with the rules of origin, as well as Myanmar, which is currently not eligible for preferences, are excluded from this calculation.

In the light of these preferential systems, how did actual exports from developing countries to the developed countries perform? One fifth of all developing countries' exports go to the EU. The EU accounts for 31 % of sub-Saharan Africa's exports (excluding South Africa) and for about 63 % of LDCs' exports to the Quad (USA, Canada, Japan and the EU) as well as 70 % of their agricultural exports. Countries benefiting from EU GSP and free-trade arrangements, including Chile, Mexico, South Africa and Maghreb/Mashrek countries, increased their exports to the EU roughly proportional to the EU's total imports which more than tripled since 1980<sup>(1)</sup>. However, imports from ACP countries have more or less

*Graph 8: Share of exports to the EU subject to full MFN duties in %, 2003*



Source: Commission services.

stagnated since 1980 so that the share of EU imports from the ACP in total EU imports has fallen from 6.7 % in 1976 to 3.0 % in 2002. This different performance is reflected in the product composition where Asia has strongly expanded into exporting manufactured products while sub-Saharan Africa still exports predominantly unprocessed primary products. In most sub-Saharan African countries, five or less products account for more than 90 % of their exports. For example, oil, diamonds and cocoa represent over half of all EU imports from sub-Saharan Africa.

Bearing in mind that trade preferences are only one explanatory factor among many other economic, geographic or historical factors, the overall disappointing effects that preferential market access had (in particular in Africa) point to some general weaknesses of PTAs. First, preferences do not just imply transfers to the beneficiaries, but induce changes in their behaviour. The higher the preference margin, the higher the risk that distorted market signals lead to departures from optimal production methods and to shifts from production in sectors of comparative advantages towards those with the highest preferences. This reduces developing countries' incentives and possibilities to overcome the export dependency on only few products and hampers the overall integration into the international division of labour. In

addition, if commodities with a higher preference are restricted by quotas (e.g. sugar and bananas to the EU) preferences cannot lead to an increase in trade in these products. Furthermore, the stronger the deviation from production structures according to comparative advantage, the greater the risk of being hurt by a reduction in preferences.

Second, and related to the previous point, is the problem of preference erosion. When MFN tariffs are reduced in the context of multilateral trade liberalisation, the value of preferences diminishes. In the EU, for example, 673 tariff lines became MFN zero-duty between 1999 and 2003. Textiles and clothing, bananas and sugar are currently prominent examples of how trade liberalisation can erode preferences for developing countries (see box on the EU sugar market reform). Yang and Gupta (2005) review a number of studies which find that the overall impact of preference erosion on African countries is likely to be small and concentrated in a few countries dependent on sugar, bananas and textiles. Net effects are, in particular, smaller the more trade creation emerges from multilateral trade rounds. However, the stronger the beneficiaries have departed from producing according to comparative advantages, the larger the adjustment costs needed following preference erosion. As adjustment capacities are often relatively low due to weak capital market, obstacles to labour mobility, missing safety nets and training facilities (Bureau et al., 2005) some

(<sup>1</sup>) For most of the following data, see European Commission, DG Trade, 2005.

developing countries might face difficulties in reallocating production.

Third, tariff escalation across the value chain in industrialised countries needs to be mentioned as a development problem for two key reasons (see Table 10). First, it creates a disincentive to diversify into higher value-added production for which trade is rapidly expanding (World Bank, 2003). Also, in response to this, the EU proposes — within the Doha Round — a significant reduction of tariff escalation in developed countries on products originating in and of particular interest to developing countries. It should be noted, however, that tariff escalation is not an issue under initiatives which give duty- and quota-free access to LDCs. Second, while PTAs might be adjusted to reduce tariff escalation, countries with a positive developing path and with diversified and higher value-added production might suddenly be faced with higher tariffs once no longer eligible for a more favourable PTA ('graduation').

Fourth, in order to avoid trade deflection from non-eligible countries, rules of origin are defined which vary between PTAs with regard to, among other things, the regional sources of inputs ('cumulation') when calculating the minimum local content of value-added. Since these rules of origin might be more difficult to fulfil for countries with small domestic markets which may lack the required local inputs or the administrative capacity to prove the local content, this may partly explain the low utilisation rates of preferences in some cases (see Manchin, 2004).

Fifth, there are a number of distributional issues. Compared to multilateral trade liberalisation, trade preferences lower world welfare — the costs for the preference-granting countries are higher than the benefits for the beneficiaries. Furthermore, some relatively poor countries might be excluded from PTAs and the value of the preferences <sup>(1)</sup> given might not always correspond to the per capita income of developing countries. Since LDCs have overall lower exports, they do not have a high value of exports and if they are not specialised in a high preference margin sector, the value of preferences of non-LDCs can be higher. Indeed, some non-LDCs have higher trade-weighted preference values than some LDCs because they can make better use of them given their more advanced stage of development. If these non-LDCs already have a strong position on world markets, they might work towards a further reduction of preference margins in trade negotiations in order to reinforce their position. Finally, there is the question of whether the exporter or the importer captures the rent arising from exporting into a protected market under a preferential regime. In a situation of monopsony power in a large developed country, the exporter in the developing country might only get a minor share of this rent.

Sixth, north-south PTAs create a 'hub and spoke' bias towards trade with the northern hemisphere. In addition, industrialised countries use export support measures to

<sup>(1)</sup> The trade-weighted preference value is defined as the savings in tariffs per unit of commodity times the quantity of this commodity actually exported to the preference-granting country.

Table 10

Tariffs escalation along the value chain in %

	EU			USA			South Korea			Japan		
	Raw	Inter mediate	Final	Raw	Inter mediate	Final	Raw	Inter mediate	Final	Raw	Inter mediate	Final
Coffee	7.3	—	12.1	0.1	—	10.1	5.2	—	8.0	6.0	—	18.8
Cocoa	0.5	9.7	30.6	0.0	0.2	15.3	5.0	5.0	12.3	0.0	7.0	21.7
Sugar	18.9	30.4	36.4	2.0	13.8	20.1	(a)	19.3	50.0	25.5	11.6 (b)	(a)
Fruits	9.2	13.3	22.5	4.6	5.5	10.2	49.6	30.0	41.9	8.7	13.2	16.7
Vegetables	9.9	18.5	18.0	4.4	4.4	6.5	135.4	52.2	34.1	5.0	10.6	11.6
Seafood	11.5	5.1	16.2	0.6	3.2	3.5	15.6	5.8	20.0	4.9	4.3	9.1

(a) All lines are specific.  
 (b) 56 % of lines are specific.

Source: WTO integrated database used in World Bank (2004).

foster their exports, partly in the same products and partly to the south. Both policies might hamper the development of regional south–south trade. The EU is actively tackling these issues by proposing the abolishment of all export support measures and by explicitly promoting south–south integration in forthcoming EPAs (see box on EU preferences) and negotiations with, for example, Mercosur. Also, the overall goal of reducing in particular the highest MFN rates helps in this respect, as would tariff reductions in the LDCs themselves.

In the context of multilateral trade negotiations, PTAs will remain important, but will lose their value due to the abovementioned preference erosion following reductions in MFN tariff rates in developed countries. The EU proposes advancing meaningful liberalisation across all non-agricultural products, which represent over 70 % of developing country exports, notably by eliminating tariff peaks and high tariffs, and significantly reducing tariff escalation. This also includes proposals to eliminate all export restrictions on raw materials and to make deeper cuts for tariffs on products of interest to developing countries, in particular textiles, clothing and footwear, bringing them within a narrow common range as close to zero as possible.

In order to achieve a good compromise for the overall package, the principle of ‘special and differential treatment’ for developing countries becomes important. WTO agreements contain provisions which give developing countries special rights. Any new rule must take account of the prevailing circumstances of developing countries. The EU approach is to increase flexibility vis-à-vis the developing countries, without creating a two-tier WTO. This should ensure that developing countries, according to their specific situation, are better able to apply any new rule negotiated in the Doha Round and integrate better into the global economy as a result. However, it should be recalled that developing countries would gain the most from multilateral negotiations if they themselves make strong efforts in lowering MFN tariffs. Regarding services, the EU takes into account the level of development of individual members by requesting commitments in fewer sectors and modes of supply from developing countries. The offer of the EU responds in particular to requests and interests of developing countries, notably by a significant offer on temporary entry of foreigners to provide services, but also for sectors of particular export interest to developing countries, such as business and professional services. The EU also

offers to widen the scope of sectors covered and the duration of stay.

Market access also has to be assessed together with the impacts of export subsidies and of producer price protection in some industrialised countries. Protection of domestic producer prices is a precondition for establishing PTAs which extend the benefits of price support from domestic farmers to PTA countries. The economic drawbacks of price support are, however, extended as well and price support in major markets may lower world price levels. This reduces the revenue of net exporting countries, but it also reduces the bill for the net importing countries. Developing countries are represented in both groups, but many sub-Saharan African countries are net importers. Export subsidies are one element of domestic price support and are criticised for creating unfair competition, for example in meat markets in west Africa or in milk markets in Jamaica and India. While, in a comparative static view, net importing countries might gain from the refund, its existence and variation over time might negatively impact on the development of sustainable local agricultural production and might reduce the degree of intra-regional trade by depriving some countries with production potential from exporting to neighbouring countries.

The removal of all export refunds could be one element of an outcome of the Doha Round. While the regional effect could be significant by removing unfair competition, the global effect would be sizeable only if renouncing export refunds goes along with overall reduction in price support, which seems particularly necessary in the sugar and dairy sectors. The impact for sub-Saharan African countries could be a slight welfare loss in the short term, but an increase in agricultural production could reduce the import dependency in the medium term (e.g. Bureau et al. 2005). In this respect, the EU presented a proposal calling for improved market opening and reduction of trade-distorting support, in particular for products of special interest to developing countries:

- reduction of trade-distorting domestic subsidies by almost two thirds and elimination of all agricultural export subsidies;
- duty-free and quota-free access for all farm exports from the world’s poorest countries;
- rich countries to give access at zero duty to at least 50 % of their imports from developing countries;

- significantly reducing tariff escalation on products originating in and of particular interest to developing countries;
- a 'food security box' including provisions to support the agricultural sector, notably for food security and rural development purposes, and to preserve key food through a special safeguard.

To sum up, preferential systems are giving developing countries, and particularly LDCs, good access to markets of developed countries. Due to a number of factors dis-

cussed in other parts of this chapter, but possibly also including some of the inherent weaknesses of preferential systems, the effects regarding trade performance are not as to be expected, most of all not in sub-Saharan Africa. Weaknesses such as the north-south bias in developing countries' trade integration are currently being addressed by the EU. Other issues such as tariff cuts by developing countries, tariff escalation, preference erosion or agricultural export subsidies are under discussion at the Doha Round and may require measures to smoothen the required adjustment processes in the developing countries.

#### Box 2: The EU differentiated system of preferences

The intention of preferential trade arrangements (PTAs) is to foster trade of developing countries by providing them a relative advantage in terms of market access. PTAs allow third countries (usually developing countries) to export selected products into a market at lower import duties than imports from elsewhere that fall under the most-favoured-nation (MFN) tariffs. Preconditions for high preference values for beneficiaries are high MFN tariff levels in the donor countries. The latter are, however, subject to demands for reduction within WTO negotiations and are often combined with other trade-influencing instruments (e.g. export support measures). Although PTAs are in conflict with the equal treatment principle of the MFN system, they can be WTO-compatible if, for example, they benefit developing countries. Similar to other OECD countries, but with significantly higher preference value, the EU has a differentiated system of preferences for developing countries.

- The generalised system of preferences (GSP) from which currently 179 countries benefit is a unilateral commitment of the EU which is not subject to negotiations and offers zero import duties for non-sensitive products and a reduction of duties (usually 3.5 percentage points) for sensitive products. In 2001, a free and unlimited market access for the least developed countries (LDCs) was introduced for all products except for arms and munitions ('everything but arms', EBA) <sup>(1)</sup>. Quotas and duties on bananas as well as rice and sugar are exempted and gradually

phased out until 2006 and 2009 respectively. In mid-2005, a new 'GSP plus' for especially vulnerable countries with good governance entered into force.

- The 77 ACP countries enjoy enhanced trade preferences under the Cotonou Agreement since 2000.
- 23 bilateral, country-specific free trade agreements (FTAs) have been signed with countries in north Africa and the Middle East as well as South Africa and Mexico.

These systems apply different rules of origin. Under the Cotonou Agreement, sourcing from all other ACP countries (or the EU) counts as local, whereas under the GSP, with the exception of four regions (ASEAN, CACM, Andean Community and SAARC), only the country itself (or the EU) is considered to be a local source.

Following a WTO decision which found the trade provisions of the Cotonou Agreement discriminatory against other LDCs, these will have to expire at the end of 2007. ACP countries will then either have to sign up for free trade arrangements with the EU ('economic partnership agreements', EPA) or fall under the GSP. Negotiations on six regional EPAs (of which four are in Africa) started in 2003. They are based on the principles of reciprocity by gradually opening up the partners' markets for European products, of supporting existing regional trade arrangements among ACPs, and of giving special treatment to the 39 least developed ACPs. The element of regional integration aims at fostering south-south integration and avoids the usual hub-and-spoke character of bilateral north-south agreements.

<sup>(1)</sup> There are currently 50 LDCs of which nine are non-ACPs. ACP LDCs are also eligible for EPA.

**Box 3: The EU sugar market reform as an example of preference erosion**

The current EU sugar policy: (i) guarantees artificially high prices at three times above the world market level (European Commission, 2005c); (ii) restricts Member States' production with quotas; (iii) implies a burden for the EU budget of about EUR 1.5 billion on export subsidies in 2005. Price support implies a burden for consumers and a significant welfare loss for the economy as a whole (Wichern, 2004). Such a situation is not in line with wider EU policy objectives and is no longer in conformity with the reoriented common agricultural policy based on more market orientation and support which is decoupled from production. Furthermore, the last WTO 'panel' (following a complaint by Australia, Brazil and Thailand) obliges the EU to alter the Common Market Organisation for sugar. Finally, LDCs are gaining free market access under the EBA initiative and would increasingly force all EU sugar producers to cut production. The Commission has, therefore, proposed a sugar market reform with a 39 % reduction of the intervention price with the objectives to achieve a more competitive EU sugar industry and a new market balance and flanking measures allowing for compensation of EU farmers. The quota system will be applied until 2014/15. The estimated net welfare gain for the EU of the proposed reform would be clearly above EUR 1 billion per year (e.g. EuroCARE 2003). Furthermore, the EU will reduce the export refunds paid for sugar and isoglucose (EUR 1.3 billion in 2004), thus helping competitive sugar-producing countries (many of which are developing countries) to take advantage of new market opportunities. The current sugar regime expires on 30 June 2006.

Eighteen ACP countries have guaranteed export quota and benefit from the EU's preferential price system under the ACP sugar protocol signed in 1975. Those countries exporting with preferences in high-tariff markets such as sugar, bananas or beef, while hardly exporting other agricultural products to the EU, enjoy a high value of preferences as a share of their exports to the EU. For 11 countries, the sugar preference alone derives a value of more than 20 % of their agricultural export value to the EU (Brenton and Ikezuki, 2005). At the same time, many of these countries are far from being competitive on the world market for sugar. In the context of the EBA agreements, 50 least-developed countries (most of them ACP countries) will get duty-free access for their sugar exports from July 2009 and would be able to export about 3.5 million tonnes of sugar to the EU (at the current EU price). The main beneficiaries of the ACP sugar protocol (more than 62 % of the 1.3 million tonnes quota) are Mauritius, Fiji and Guyana which are partly dependent on sugar production and exports to the EU. Sugar represents between 15 % and 23 % of their total exports and 72–84 %

of their sugar exports go to the EU. For example, 17 % of Guyana's GDP is produced in the sugar sector for exports to the EU. Given that their production costs are between the EU price and the world market price, their production is mainly for the EU market while they import themselves for their own consumption. It is often the wealthier ACP countries that benefit most from the preferences. In 2001, the largest benefit per capita from preferential access to EU sugar markets went to relatively rich ACP countries such as Mauritius (EUR 138 preference value per person), Barbados (EUR 63) and St Kitts and Nevis (EUR 126). These countries received more than 40 % of the preference value while being significantly better off than other beneficiary countries and also compared to major non-beneficiary countries (e.g. Brazil and South Africa) which are suffering from the trade diversion that trade preferences imply.

The loss in preference value for the ACP countries following the reform would amount to about EUR 300 million in 2010 when simply taking the reduction in the intervention price for white sugar times the quota for ACP/India. As the EU is currently about 125 % self-sufficient in sugar production, the elimination of export subsidies in the sugar sector is only feasible with this reform. For the ACP sugar part, which so far needed to be re-exported in net terms, it saves the abovementioned EUR 300 million which the EU would have to pay for re-export subsidies without the reform. However, the actual economic loss for the ACP countries is significantly lower. Nearly 20 % of the preference quota currently goes to countries with total production costs staying at or above EU price levels. These countries are, thus, marginal producers at our current price level and their economic gain from the preference today is also marginal. Already now these countries would be well advised to diversify production to other commodities. For countries which are competitive on the world market, the economic gain equals the preference value; this holds for nearly 15 % of ACP quota beneficiaries. For all the other ACP beneficiaries, the economic gain is less than the preference value as their production costs are between world market price level and the current EU support price. Production cost studies show a rather wide range of estimates. Assuming weighted total production costs of EUR 350 to 450/t of raw sugar and an average freight and fobbing to the EU harbours of EUR 45/t for ACP countries, one arrives at a range of EUR 50 to 150 million for the economic loss of the ACP preference quota following the reform. When using an assumed weighted average of the variable costs of ACP countries' sugar production of about EUR 300/t, the short-run economic loss would be about

*(Continued on the next page)*

*Box 3 (continued)*

EUR 220 million. This example indicates that preferential access in commodities facing a high MFN tariff seems very beneficial at first sight, but as it might distort production decisions in the beneficiary countries, the effective welfare gain could be lower. Preference erosion is therefore not only a problem of welfare losses for the beneficiaries, but also a problem of adjustment needs and associated costs following preference erosion. As generally the welfare loss in preference-granting countries from PTAs is higher than the gain in the beneficiary countries, any situation of preference erosion is a situation of net gains for all where the former preference-granting country could use part of its gains to support the adjustment needs in the beneficiary countries. In this line, the Commission proposed assistance of EUR 40 million for 2006 to help the 18 ACP countries adapt to the reform through diversification and restructuring measures. Further assistance from EU development assistance is envisaged in the context of the new financial framework 2007–13, which should provide more efficient development assistance than the ACP sugar protocol could achieve.

On preference erosion in general, Subramanian (2003) finds that a 40 % MFN tariff reduction by the Quad countries would be likely to lead to a less than 2 % reduction of exports for LDCs as a whole. However, the loss would be significant in a few countries, but still small in abso-

lute value and in relation to exports. Only one country (Malawi) may face a loss exceeding 10 % of exports (although other studies also conclude for Malawi a reduction of less than 7% (e.g. IMF 2004). Focusing on the impact on middle-income developing countries, Alexandraki and Lankes (2004) similarly conclude that preference erosion is heavily concentrated in a subset of preference beneficiaries — primarily small island economies dependent on sugar, bananas and (to a lesser extent) textiles. The most vulnerable middle-income countries (e.g. Mauritius, Belize, Guyana) could lose more than 10 % of total exports and up to 5.8 % of GDP. However, these results must be qualified. First, the assumptions are depending on supply elasticities and the elasticities of substitution between imports from preference beneficiaries and those from other countries. Second, imports can also be affected by preference erosion. Third, the general equilibrium effects of preference erosion need to be considered in assessing the welfare effects, because the exchange rate may well depreciate in response to export losses. More importantly, multilateral liberalisation that leads to preference erosion as a by-product is likely to result in overall welfare gains for current preference beneficiaries, although short-term adjustment costs may occur. Finally, as the impact of preference erosion represents a permanent shock that often occurs gradually and can be anticipated, it can be dealt with effectively.



## 4. The relative importance of globalisation among other determinants of long-term growth

While globalisation was shown above to have overall positive effects on development, this still leaves open the question of how important this is compared to other determinants of development and long-term growth. One approach is to look at factor accumulation and technical progress (Section 4.1). In addition to trade, more recent literature tends to emphasise institutions and policies as well as geography as important drivers of growth (Sections 4.2 and 4.3). Section 4.4 presents some studies which evaluate the full range of possible determinants.

### 4.1. Factor accumulation and technical progress

Standard growth theory is based on the view that growth results either from the accumulation of the production fac-

tors labour and capital or from technical progress. The empirical translation of this theoretical approach is to estimate the relative contributions from investment and employment as well as the residual total factor productivity. This growth accounting gives a first idea of what was contributing to long-term growth in global developing regions between 1960 and 2000.

Table 11 shows that the good growth performance in Asia and the Middle East was largely driven by high investment and productivity. This was not the case in sub-Saharan Africa and Latin America and largely explains their lagging growth <sup>(1)</sup>.

<sup>(1)</sup> These results of Ndulu and O'Connell (2005) are broadly in line with those of other authors such as Bosworth and Collins (2003) or Tahari et al. (2004).

Table 11

#### Growth accounting in global regions in %, 1960–2000

	Growth in real GDP per worker	Growth contributions of:		
		Capital per worker	Education per worker	Total factor productivity
Sub-Saharan Africa (18)	0.61	0.36	0.25	0.00
Latin America and Caribbean (21)	0.92	0.41	0.34	0.18
South Asia (4)	2.54	1.11	0.32	1.11
East Asia and Pacific (7)	3.95	2.11	0.49	1.35
Middle East, north Africa and Turkey (9)	2.52	1.19	0.44	0.90
<b>Total (59)</b>	<b>1.54</b>	<b>0.76</b>	<b>0.34</b>	<b>0.43</b>

NB: Number of countries in brackets.

Source: Ndulu and O'Connell, 2005.

Indeed, in sub-Saharan Africa there was no contribution at all from total factor productivity while there were moderately positive, and nearly equal, contributions from physical and human capital accumulation. Only in five sub-Saharan African countries (Botswana, Equatorial Guinea, Mauritius, Swaziland and Uganda) was factor productivity growth more than 1 % (Tahari et al., 2004). However, the recent increase in growth from 1997 to 2002 was accompanied by a pickup in productivity growth. But strong population growth of about 3 % between 1960 and 2002 in sub-Saharan Africa meant that the average growth rate of GDP of 3.3 % hardly translated into per capita income growth.

Low investment is a particular feature, explaining to a large degree the weaker growth performance of sub-Saharan Africa during the last decades. Since investment is often made to introduce new technology, this at the same time affects progress in productivity. Private investment had increased gradually from below 10 % of GDP in the 1960s to more than 11 % in the mid-1970s, but fell back again until the mid-1980s when it increased towards a level of 13 % of GDP in the second half of the 1990s. Total investment relative to GDP averaged 21 % in sub-Saharan Africa during 1960–2002 which compares to a rate of about 25 % in all low-income countries in the world. Only about half of the total investment in sub-Saharan Africa (about 11 % of GDP) was financed by domestic savings. The deepening of financial intermediation, together with development aid and FDI, therefore has an important role in filling this financing gap and in transferring technology. In 2003, domestic credit from the banking sector, relative to GDP, was higher than in many other developing regions, but interest rate spreads exceeded by far those elsewhere. Where risks on investment are high, this must be compensated

in the return on investment. Development aid accounted for nearly 30 % and FDI for 11 % of gross capital formation in sub-Saharan Africa.

Low public and private investment affect the quality and stock of infrastructure, which has an important effect on growth via the costs of trading. In the absence of adequate transport infrastructure, transport costs can become prohibitive for market access and trade. Geographic conditions and a low population density can make investment into infrastructure more costly. Table 13 indicates that the situation of road networks is rather poor in sub-Saharan Africa with only 13 % having a paved surface. While statistics are not always easily available, there is also anecdotal evidence on transport costs in Africa. Shipping a car from Japan to Abidjan (Côte d'Ivoire) costs USD 1 500 whereas shipping the same car from Addis Ababa (Ethiopia) to Abidjan costs USD 5 000 (IMF, 2005a). Average transportation costs are reported as USD 7 600 in sub-Saharan Africa, USD 4 600 in Latin America, USD 3 900 in east and south Asia and USD 2 100 in the Middle East and north Africa (Ndulu and O'Connell, 2005).

Communication infrastructure is also important for trading in order to gather information and to make payments. Table 13 shows that sub-Saharan Africa is lagging considerably behind other developing regions in terms of costs of Internet use, mobile phone use and fixed telephone lines. However, mobile phone penetration has been rising in many developing countries in recent years and is an important step forward towards more efficient trade. The World Bank (2005a) projects investment needs for infrastructure capital and maintenance in sub-Saharan Africa, including water and energy, of USD 17–

Table 12

**Indicators on the financial sector, 2003**

	Domestic credit by banking sector (% of GDP)	Interest rate spread (lending rate minus deposit rate in percentage points)
Euro area	125	4.0
East Asia and Pacific	151	5.2
Europe and central Asia	38	6.5
Latin America and Caribbean	45	9.3
Middle East and north Africa	70	5.2
South Asia	53	7.3
Sub-Saharan Africa	75	12.4

Source: World Bank, *World development indicators*.

Table 13

**Indicators on transport and communication infrastructure, 2003**

	Internet total monthly price (USD per 20 hours of use)	Mobile phones (per 1 000 people)	Telephone mainlines (per 1 000 people)	Paved roads in % of total network (latest years 1997–2002)
East Asia and Pacific	31	195	161	23
Europe and central Asia	26	301	228	90
Latin America and Caribbean	33	246	170	27
Middle East and north Africa	31	102	135	64
South Asia	30	23	39	43
Sub-Saharan Africa	64	51	11	13

Source: World Bank, *World development indicators*.

22 billion a year which compares to the current USD 6 billion public investment (of which roughly half is donor-financed) and USD 4 billion private investment.

The growth contribution from the education of workers was lagging less significantly in sub-Saharan Africa compared to other global developing regions, but this should be considered as a particular shortcoming of the whole developing world vis-à-vis the developed world. Table 14 shows that sub-Saharan Africa had comparable enrolment ratios for primary education, but it is considerably lagging behind for enrolment ratios in secondary and tertiary education. Human capital, as measured by indicators of education and health, certainly had a limiting effect on growth. The IMF estimates that, in countries where HIV/AIDS has a prevalence rate of 8 %, growth is reduced by 1 % because of costs to the health system and less labour market participation. In sub-Saharan Africa, the HIV/AIDS rate stands currently at about 7 %.

The difficulty is then to identify those determinants which explain the differences in investment and productivity growth. The main answers given in the literature on the main drivers of long-term growth are (apart from trade) policies and institutions as well as geography.

#### 4.2. Policies and institutions

There has been an increasing recognition of the importance of good economic policies and institutions (or good governance) for long-term economic development. Governments and their policies largely determine the business environment and thereby ultimately the pros-

Table 14

**Gross enrolment ratio in % of relevant age group, 2002–03**

	Primary education	Secondary education	Tertiary education
East Asia and Pacific	113	66	15
Europe and central Asia	101	89	49
Latin America and Caribbean	123	87	25
Middle East and north Africa	97	65	13*
South Asia	97	49	11
Sub-Saharan Africa	95	22 (*)	3 (*)

(\*) 1990/91.

Source: World Bank, *World development indicators*.

pects for a sustained process of economic development which needs to be based on the private sector. The general hypothesis is that, the less the benefits of a property right accrue to its owner, the lower the incentives to work, invest or innovate. Rodrik et al. (2002) therefore maintain that ‘the quality of institutions trumps everything else’. When controlling for institutions, their results show that trade integration has no direct effect on incomes and that geography has only weak direct effects, while both have positive effects on institutions. Furthermore, they argue that institutions should be seen as the long-term outcome of policies and the two should not be considered as alternative variables. Easterly and Levine (2003) also find that institutions matter most for the long-term level of income whereas geography and poli-

cies do not if their effects on institutions are controlled for. The IMF (2003) presents cross-country calculations suggesting that the improvement of an aggregate measure of institutional quality by one standard deviation, while controlling for all other potential growth variables, would result in an increase of 1.4 percentage points in average annual growth in GDP per capita. However, Glaeser et al. (2004) believe that, rather than good institutions causing growth, it is actually growth and human capital which improve the quality of institutions.

The IMF (2005d) investigated which variables influence institutional transitions defined as significant, sustained institutional changes in two indices of political and economic freedom. Apart from accountability, education, reforms in neighbouring countries and (with a negative sign) development aid, trade openness turned out as an important factor associated with institutional transitions <sup>(1)</sup>. The results suggest that a shift from autarky to full trade liberalisation increases the probability of institutional transition by 15 percentage points. The related hypothesis is that the higher importance of export sectors and import competition reduces rents and increases pressure from the business sector for institutional innovations. The study concludes that the external environment in the form of providing external anchors, designing development aid and promoting transparency has an important role in supporting institutional change.

Political instability and armed conflicts are the most visible expression of weak institutions with highly negative effects on economic and social development. In Africa, they are frequently related to the combination of weak economic performance and high ethnic fragmentation of countries where borders were established rather arbitrarily. A decreasing trend in the number of conflicts in Africa has contributed importantly to the recently improved growth performance.

Macroeconomic stability is a further important element of the business environment. Continued reform and stabilisation efforts in many sub-Saharan African countries have considerably improved macroeconomic performance. While at the same time output volatility also fell in sub-Saharan Africa, it is still much higher than in other developing regions and affects output growth negatively. High risks to the return on investment, low trade integra-

tion, underdeveloped financial systems and volatile fiscal policies contribute to the higher output volatility (IMF, 2005a). Regarding consumer price inflation, the situation has recently improved with an average rate of 9.1 % in 2004 which is the lowest for almost 30 years. Central government fiscal balances went down from a high of - 3.8 % of GDP in 1999 to - 1.1 % of GDP in 2004. Due to strong exports, current account deficits also came down to more sustainable levels.

A database by the World Bank covering six dimensions of governance <sup>(2)</sup> in more than 200 countries between 1996 and 2004 (Kaufmann et al., 2005) gives a strong observed correlation between income and governance with a coefficient of around 0.8. In sub-Saharan Africa, the Central African Republic, Côte d'Ivoire and Zimbabwe show a large decline in several governance indicators, while Gambia, Ghana, Nigeria, Sierra Leone and Tanzania had large improvements in one or more of the composite indicators.

A further frequently used indicator of governance and institutional quality is the corruption perception index surveyed each year by Transparency International. It ranks countries in terms of the degree to which businesspeople and country analysts perceive corruption to exist among public officials and politicians. There is again a very strong correlation between income and perceived corruption. A further observation is that many oil-rich countries have extremely high perceived levels of corruption. Still, several African countries (including Botswana, Ghana, Mauritius, Namibia and South Africa) have scores which are in the order of some southern and eastern European countries.

The regulatory framework affects the costs and risks of the private sector. The World Bank's Doing Business database provides indicators on specific regulations that enhance or constrain business investment, productivity, and growth. The dataset for 2004 covers 155 economies and 10 topics which are given in the top row of Table 15. Under each topic, up to five indicators are given of which the table presents only one per topic (as well as GNI per capita).

Overall, the conditions for doing business correlate strongly with income. OECD countries tend to have the

<sup>(1)</sup> However, these results have to be regarded with some caution because of possible problems of endogeneity, i.e. institutional change may in itself facilitate moves towards trade liberalisation.

<sup>(2)</sup> The six dimensions are: (i) voice and accountability; (ii) political instability and violence; (iii) government effectiveness; (iv) regulatory quality; (v) rule of law; (vi) control of corruption.

best business environment while sub-Saharan Africa has the worst conditions for most of the topics. The database also reports that about 42 % of output in sub-Saharan African economies is produced in the informal sector compared to an average of 16 % in the OECD. Starting a business, for example, takes 19 days in the OECD and 63 days in sub-Saharan Africa and Latin America. While nine of the 10 countries with lowest ranks across all indicators are African, Rwanda was among the top 12 reformers last year and South Africa and Mauritius are among the top 30 countries where doing business is easiest. Trading across borders in sub-Saharan Africa takes the highest numbers of documents, signatures and days of all regions in the world.

Hence, institutions and policies other than tariffs and non-tariff barriers may impede trade. Customs procedures, border delays, bribes and general insecurity on transit roads can make trading very expensive or risky. Crossing a border in Africa is estimated to be equivalent to the cost of more than 1 000 miles of inland transportation compared to 100 miles in western Europe <sup>(1)</sup>.

Also for these reasons, developing countries seize the opportunities arising from improved market access to

rather varying degrees, Africa being at the lower end. Development aid to help developing countries benefit more from improved market access by increasing their trade capacity and softening adjustment costs from trade liberalisation is therefore an essential approach. Measures include improvements in trade logistics and customs procedures, trade-related transport infrastructure, capacity-building for policies that improve international competitiveness and support to those who are particularly affected by progress in trade liberalisation.

The EU devotes significant funding to trade-related assistance (TRA). Using a rather narrow definition, the EU provided almost EUR 700 million of new commitments for TRA in 2004 <sup>(2)</sup>. The ACP and Middle East and north African countries account for the largest share of this support (around 25 % each). About one third of TRA is used to build capacity in trade policy formulation and implementation and two thirds is directed to the private sector in the form of trade promotion, market development and business support services. At the G8 summit in Gleneagles, Commission President Barroso pledged to increase EU aid to support the trading capacity of developing countries to EUR 1 billion per year.

<sup>(1)</sup> Aris (2004) as quoted by World Bank (2005b).

<sup>(2)</sup> See European Commission (2005b).

Table 15

Conditions of doing business, 2004

	Starting a business	Dealing with licences	Hiring and firing workers	Registering property	Getting credit	Protecting investors	Paying taxes	Trading across borders	Enforcing contracts	Closing a business	
	GNI per capita	Duration (days)	Time (days)	Hiring costs (weeks of wages)	Time (days)	Credit Information Index	Disclosure Index	Total tax payable (% gross profit)	Time for export (days)	Time (days)	Cost (% of estate)
OECD: high income	32 000	19	150	32.6	33	5.0	6.0	46.1	12	232	7.6
Middle East and north Africa	5 870	45	216	62.4	52	2.0	5.5	35.1	33	432	13.4
East Asia and Pacific	4 745	51	153	46.1	60	2.0	5.7	31.2	25	393	27.6
Europe and central Asia	3 916	36	251	32.8	127	2.5	4.5	50.2	31	393	14.0
Latin America and Caribbean	3 084	63	206	62.9	76	4.5	4.1	52.8	30	461	17.0
South Asia	806	35	195	75.0	124	1.8	4.1	35.3	33	385	7.3
Sub-Saharan Africa	766	63	251	53.4	117	1.5	5.4	58.1	48	434	20.0

Source: World Bank, Doing Business database.

In order for trade reforms and growth strategies to lead to poverty reduction, they have to be part of a wider development effort such as the 'poverty reduction strategy'. In collaboration with other donors and international agencies, the EU makes efforts to assist developing countries with a better mainstreaming of trade into the wider development strategies. Reflecting recommendations from a recent evaluation of TRA, comprehensive trade needs assessments will be prepared for all countries with European cooperation programmes when appropriate and agreed to with the partner countries.

In this context, a priority for business in ACP regions is to reduce trade costs within the region in order to cut red tape (in the form administrative costs and delays, but also corruption) at intra-regional border crossings. European partnership agreements (EPA) negotiations with the EU are increasing the focus on regional trade integration, and will lock in commitments (e.g. on simplification, transparency and cooperation) by extending them progressively to trade with the EU.

The African Union and the New Economic Partnership for African Development (NEPAD) are recently making efforts to promote good governance across the continent. The African peer review mechanism started in 2004 within which countries open up to an examination of their political, economic and corporate governance by fellow African countries. Four countries have now commenced reviews and 23 countries have signed up.

### **4.3. Geography**

Several authors argue that geography is the most important determinant and point to its influence through resource endowments, productivity and access to markets. Sachs (2003) contests the view of the predominant role of institutions over geography by showing that, if a different geographical variable (malaria transmission) is used, geography does play a significant role even if the quality of institutions is controlled for. The Commission for Africa (2005) regards both the difficult geography and poor governance as the ultimate reasons for underdevelopment in sub-Saharan Africa.

Climatic conditions often spring to mind when discussing the effects of geography on development. However, in cross-country regressions, climate (measured, for example, as distance from the equator or as share of land in tropical area) turns out as a weaker explanatory variable for growth than usually expected when other varia-

bles are controlled for. This is mainly because technology, for example air-conditioning or irrigation, can overcome the adverse effects of climatic conditions. Using tropical diseases such as malaria as an indicator for geography is questionable in that it also reflects the state of a country's health system and prevention which is itself dependent on national income. Nevertheless, in poor economies where a large share of the population relies on subsistence farming, climatic conditions matter and can contribute to substantial negative shocks, for example in the form of food shortages.

Geography may also influence development prospects through environmental conditions. Many developing countries have to cope with types of natural environment (such as rain forests, lakes or deserts) which are extremely sensitive to changes in the form of human intervention or climatic conditions. Population pressure and poverty often increase the need for unsustainable ways of exploiting nature and can, in turn, aggravate poverty by deteriorating environmental conditions. Reducing poverty can thus contribute to allowing a more sustainable use of the environment as a source of income.

The availability of natural resources is a further geographic feature which can be important for development. Indeed, oil-rich countries tend to perform better than non-oil countries, notably with windfall revenues in periods of rising oil prices and oil demand. However, the literature on the 'curse of resources' illustrates why the link is less obvious than usually assumed for mainly two reasons. First, a surge in exports of natural resources can lead to a real exchange rate appreciation from which the external competitiveness of the non-resource sectors of the economy will suffer ('Dutch disease'). Second, natural resources in the presence of weak institutions can be a source of conflicts. In poorer countries, large rents from extracting natural resources often allow the establishment of a system of patronage under an autocrat by looting the revenues and weakening governance. Thus, the combination of low income and institutional fragility make these countries particularly prone to conflict (Collier and Hoeffler, 2005). The extractive industries transparency initiative (EITI), started in 2002, aims to address some of these problems. This initiative encourages regular publication of all oil, gas and mining payments by companies to governments and all revenues received by governments from oil, gas and mining companies. Payments and revenues are then reconciled by an independent administrator, applying international auditing standards, whose opinion is made public.

The geographic position and topography of a country can also provide obstacles to economic development. A landlocked position tends to increase transport costs and makes a country sensitive to developments in neighbouring countries. Ndulu and O’Connell (2005) report average growth rates of real GDP per capita from 1961 to 2000 in sub-Saharan Africa of 0.9 % for a sample of coastal countries, 0.8 % for a sample of resource-rich countries and 0.3 % for a sample of landlocked countries<sup>(1)</sup>. Still, cross-border transport infrastructure and regional trade arrangements should allow for reducing considerably the problems of a landlocked position.

Finally, geography can have an indirect growth effect through trade. The gravity model, which basically uses the variables distance and market size (in terms of purchasing power), is a very powerful model to predict empirically the trade volume between two countries. Hence, the closer two countries and the bigger their economies are, the more they can be expected to trade with each other. In sub-Saharan Africa, the long periods of weak growth from the mid-1970s to the mid-1990s

could have partly been the result of a lack of economic dynamism in neighbouring countries and therefore may have contributed to leaving almost a whole continent in economic stagnation.

#### 4.4. The empirical significance of the determinants

As the above discussion shows, the exact role, direction of causality and interplay between these determinants of long-term growth are extremely difficult to identify and may even vary case by case. In Asian countries, development was typically export-driven, but this was only possible once the necessary basic reforms of policies and institutions had taken place to create sufficient incentives for investment in export industries. China and India give strong evidence on how these factors interacted (see box on China and India). Institutions that support efficient contract enforcement and keep trade costs low can have a positive effect on trade openness (WTO, 2004, pp. 176ff.). Dollar and Kraay (2003) demonstrate the methodological difficulties of disentangling the partial effects of trade and institutions on growth. Sachs (2003) believes that ‘the development process reflects a complex interaction of institutions, policies, and geography’ and is unlikely to be explainable by two or three variables alone.

<sup>(1)</sup> Surprisingly, the lists of landlocked countries in Africa vary considerably among authors depending on whether the Democratic Republic of the Congo and countries at the Red Sea are considered to be landlocked.

#### Box 4: The globalisation experiences of China and India

China and India are often cited as two success stories of globalisation. Both have enjoyed rapid growth occurring alongside increasing integration into the global economy. However, their individual experiences have differed greatly, with each exhibiting its own model of economic development. China has relied on manufacturing exports as a key anchor for its sustained acceleration in growth and integration. Globalisation has benefited India most visibly by supporting the rapid development of the service sector, which is now a key engine of growth in the Indian economy. If success is viewed in terms of accelerating GDP growth, the evolution of GDP per capita, an increasing share of global trade, and the magnitude of FDI inflows, China would appear to have been more successful than India in all areas (see table).

Market-oriented reforming and the movement from autarky to international economic integration began in both countries following the failure of self-sufficiency policies in the 1970s. In 1978, after years of State control of all productive

assets, China embarked on a major economic reform programme. Reforms were broad-based, including not only liberalisation of foreign trade, but also reform of the agricultural sector, encouraging the formation of rural enterprises and private business, intensive investment in industrial production, and education of the workforce. These reforms were instrumental in increasing productivity, the driving force behind the Chinese economic boom (Hu and Khan, 1997). Reforms in India towards industrialisation were undertaken more gradually, and external liberalisation started later than in China, triggered primarily by a balance of payments crisis in 1991. Prior to the crisis, India had (since the 1970s) been reforming with a view to enhancing the competitiveness of domestic industry, while maintaining protection against foreign competition. It has been asserted that pro-business reforms in the 1980s were crucial to raising the profitability of domestic industry, setting the scene for pro-market reforms in the 1990s (Rodrik and Subramanian, 2005; Panagariya, 2004).

*(Continued on the next page)*

Box 4 (continued)

The slower global integration of India compared to China is often attributed to the government's relative tardiness in removing external barriers to trade and investment. Since 1978, China has been implementing an 'open door policy'. Tariffs have been brought down steadily and non-tariffs barriers greatly reduced. Average tariffs were reduced from about 55.6 % in 1982 to around 12.7 % in 2002 (Yang, 2003). Over time, exchange rate controls on trade transactions were relaxed and exchange rate distortions reduced. China also developed policies to further attract FDI inflows, which already benefited from a wealthy Chinese diaspora close by in Asia. FDI inflows supported the creation of new factories and jobs, boosted export growth and led to important transfer of technologies. In India, reforms were also geared towards further opening the economy to trade and investment including the dismantling of import controls, reducing customs duties, abolishing licence controls on private investment, lowering tax rates, breaking up public sector monopolies, and rupee devaluation. But only in the 1990s was tariff reform addressed more systematically. The 1990s saw a compression of tariff rates, with the top rate falling from 355 % in 1990 to 20 % by 2004. India's FDI regime has been gradually liberalised since 1991, and is no longer particularly restrictive by international standards. Therefore, the cause for the underperformance of FDI in India relative to China may not simply be rooted in FDI-specific policies, but rather, in broader business climate factors (IMF, 2005c). The *Global Competitiveness Report 2004* of the World Economic Forum suggests that inadequate infrastructure, bureaucracy, corruption and restrictive labour regulations are among the key constraints to doing business in India.

A key factor behind the different responses to globalisation has been the policies undertaken to promote the manufacturing/service sector in each country, and the importance of investment in these sectors. China implemented industrial reforms at a faster pace than India. China's initial reform in the late 1970s began in the rural areas. Agricultural reform raised yields and boosted rural incomes. Farmers were also encouraged to set up factories in their rural counties, moving many people from traditional agriculture into higher valued added manufacturing and contributing strongly to China's rapid industrialisation. The industrial sector's share of GDP rose significantly while the share of agriculture fell (see table). China pursued major reforms in the labour market, notably increasing flexibility for hir-

ing and firing. The government invested massively in infrastructure, enabling the effective use of cheap labour. Better infrastructure also contributed to attracting FDI. Finally, the focus of education policy on improving basic education standards helped to create a large pool of workers with elementary education, which was highly advantageous to the development of labour-intensive manufacturing.

In India, there has been a lack of systematic reform in the agricultural sector, set against a slower pace of industrial reform. Industry remains constrained, notably by inadequate infrastructure, high indirect tax rates and labour market rigidities, which deter job creation in the formal sector. Significantly slower industrial growth has reflected declining investment, concentrated in manufacturing and agriculture. The investment decline is partly due to fiscal crowding out, with large fiscal deficits for several years. On the other hand, the Indian service sector has performed extremely well, in particular the business (including IT) and communication sectors. Factors that could explain the relatively stronger performance of the services sector in India include more generous tax incentives relative to the industrial sector, the liberalisation of financial services, and reforms in the 1990s notably including the opening up of telecoms, which enabled a reduction in prices of telecom services and supported increasing external demand for IT services. Labour restrictions and infrastructure constraints may also have disadvantaged industry more than services. While India lags behind China in terms of primary and secondary education, it has achieved better scores in higher education, resulting in a large number of English-speaking highly-skilled graduates, which also supported growth in the IT sector.

China and India provide persuasive evidence that increasing openness to foreign trade and investment can lead to faster growth when coupled with complementary reforms. Both experiences support the findings of cross-country studies that, in general, countries that liberalise also see acceleration in growth. However, these economies did not integrate with the global economy simply by eliminating barriers to international competition. Both countries implemented policies which exposed domestic producers to sufficient competition to make them more efficient. Such policies were a key factor behind the different responses to globalisation in China and India, in terms of the structural evolution of the economy.

(Continued on the next page)



Box 4 (continued)

**Main indicators on China and India, 1990 and 2003**

	1990		2003	
	India	China	India	China
GDP growth (average over 1981–90 and 1991–2003)	5.8	9.3	5.6	9.7
GDP per capita, current USD	384	332	559	1083
GDP per capita, PPP, current USD	1 380	1 310	2 670	4 580
Share of world GDP (nominal)	1.4	1.7	1.6	3.9
Share of world GDP (PPP)	4.3	5.7	5.7	12.6
Share of world trade (%)	0.6	1.7	0.9	5.6
Gross domestic savings (% GDP)	23.1	39	24.2	42.7
Gross domestic capital formation (% GDP)	26.3	34.7	23.3	44.4
FDI inflows (billion USD)	0.2	3.5	4.3	53.5
Share of agriculture (% GDP)	32	27	22	15
Share of industry (% GDP)	28	42	27	52
Share of services (% GDP)	41	31	51	33

Sources: IMF, World Bank, Asian Development Bank, Morgan Stanley, Unctad.

Since this issue can only be solved empirically, many cross-country regressions were made to identify which are the most important determinants for long-term growth. Growth regressions across 84 countries in the world between 1960 and 2000 by Bosworth and Collins (2003) confirm the significance of initial income, thus pointing to an ongoing process of conditional convergence. The quality of government institutions, life expectancy and population and geographical location are also strongly correlated with variations in growth. The authors themselves question the weak correlation between educational attainment and growth by referring to possible measurement problems of educational quality. Macroeconomic policy and trade openness are found to have only a limited association with growth. However, when comparing different country groups over time, indicators of geography and predisposition to trade do appear to have become more important since 1980.

A further study (Tsangarides, 2005) compares growth determinants in Africa to those in the world. The main result is that there are several growth determinants that turn out strongly robust for both Africa and the world, in particular initial income, investment, the macroeconomic and political environment, terms-of-trade shocks and geographical factors. Africa differs from the world in that political instability, weak institutions and debt service also turn out as strongly robust determinants. The education and aid-to-GDP variables are only mildly robust. While trade openness is also only a mildly robust

determinant for world growth, it only just misses the strongly robust cut-off value for the Africa sample.

In trying to explain Africa's dismal economic performance, Artadi and Sala-i-Martin (2003) compare the values for eight robust long-term determinants of growth for Africa to those for the OECD <sup>(1)</sup>. Table 16 shows Africa's substantial gaps for these determinants based on indicators for the relative price of investment goods, human capital, geography, trade openness, public consumption and conflict. The last column uses the empirical estimates by Sala-i-Martin et al. (2004) to compute the additional annual growth rate that Africa would have had if it had had the OECD values. Better human capital and geographical conditions would have had the highest growth effects. More openness would have added 0.67 % of annual growth which gives it some importance for long-term growth. The variables on investment and institutions had the lowest effects, but still would have

<sup>(1)</sup> Sala-i-Martin et al. (2004) identified these determinants by using a methodology (which they call 'Bayesian averaging of classical estimates') to determine the importance of 32 selected variables in cross-country growth regressions. The results from 98 countries between 1960 and 1992 identify four variables which have a great deal of explanatory power (income level in 1960, fraction of GDP in mining, an openness index and the fraction of Confucians), a second group of seven variables which have somewhat weaker explanatory power, another five variables which are marginal, and the remaining 16 variables which have only weak explanatory power. Out of these, Artadi and Sala-i-Martin (2003) have taken eight variables which are robust and differ between Africa and OECD.

Table 16

Determinants of growth in Africa and OECD

Variable	Africa	OECD	Foregone annual growth GDP per capita (%)
Price of investment goods (relative to consumption goods)	123	70	0.44
Human capital (i) (primary school enrolment)	0.42	0.97	1.47
Human capital (ii) (life expectancy)	42	68	2.07
Human capital (iii) (malaria prevalence)	0.80	0.00	1.25
Geography (fraction of area in the tropics)	0.85	0.03	1.21
Openness (Sachs-Warner index)	0.10	0.66	0.67
Public spending on consumption (% of GDP)	0.16	0.07	0.40
Conflict (ethno-linguistic fractionalisation)	0.58	0.12	0.52

Source: Artadi and Sala-i-Martin (2003).

made a difference of half a percentage point of growth each.

Correlations of growth episodes in sub-Saharan Africa in the 1980s and 1990s with a number of possible explanatory variables show a strong association with trade along with somewhat better macroeconomic policies and institutions, debt reduction as well as increases in investment and productivity (IMF, 2005a). When narrowing down to accelerations sustained over 10 years, the strongest correlations are for trade and investment, lower debt burden, higher aid inflows and more democratic institutions.

Some studies try to directly identify which policies reduce poverty by supporting pro-poor growth. Overall, there is some empirical support that macroeconomic stability, education and infrastructure are not only promoting growth but also reducing inequality (Lopez, 2004). The 14 country case studies on pro-poor growth (Agence Française de Développement et al., 2005) also identified macroeconomic stabilisation and structural reforms, such as price liberalisation and trade reforms, as main drivers of pro-poor growth. These typically helped make agricultural activities more productive and improved non-agricultural employment opportunities in urban areas depending on a number of country-specific factors.

While the list of studies could be much further extended, those presented here already give an idea on the main results of recent research. Although many of these studies are based on cross-country regressions which represent the methodological state of the art, they can suffer from circular causality and from insufficiently capturing

the dynamics and complexity of growth processes. Bearing this in mind, the results can be tentatively summarised as follows.

- Initial income per capita usually turns out as the strongest determinant of growth when controlling for other determinants, implying that poorer countries tend to grow faster in a process of conditional convergence.
- Investment in physical capital is closely correlated to growth, and underlines the important contribution from external financing by FDI, development aid and remittances. The empirical results for human capital are somewhat unclear, possibly because of measurement problems.
- Institutions, economic policies and geography are important determinants of long-term growth, and they explain a large part of the weak growth performance of Africa.
- Openness to trade is an important determinant, but often somewhat less significant than other determinants, probably because its contribution to growth depends to some degree on the business environment as provided by institutions, economic policies and geography.

In short, globalisation is essential for long-term growth and poverty reduction but only in the presence of reforms that improve economic institutions and policies as well as the adverse effects of geography. A weak busi-

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ness environment is likely to imply foregoing the opportunities of open export markets and having more to struggle with import competition.

The Commission's communication on trade and development in 2002 is broadly in line with the above analysis. It identified the essential elements to ensure a better contribution of trade to economic growth and sustaina-

ble development through the integration of trade and development strategies: (i) sound macroeconomic policies, effective economic and social governance, and human capital development, including the promotion of core labour standards; (ii) better market access and balanced trade rules to underpin domestic reform; (iii) trade-related assistance and capacity building to help developing countries with these tasks.

## 5. Conclusions

This chapter looked at the impact which globalisation may have on growth and poverty reduction in developing countries. Given that EU development policies are, to a large extent, concentrated on sub-Saharan Africa and in view of the EU's determination to reinforce its strategy for Africa, this region was a particular focus of the chapter although the experience of other developing regions was also taken into account.

Poverty has been substantially reduced in Asia, but the situation in sub-Saharan Africa remains unsatisfactory. China and India made the biggest contributions to reducing the number of poor people, whereas the situation improved only in a few sub-Saharan African countries. Literature and data point to a strong link between poverty reduction and growth, while growth is not necessarily accompanied by higher within-country income inequality. The better growth performance in many sub-Saharan African countries in recent years gives reasons for some hope for future development, but due to high population growth the increases in per capita income remain limited.

Developing countries have increasingly been integrated in the global trade, capital and migration flows over the last decades. Globalisation, however, has spread in few of them, with sub-Saharan Africa largely marginalised, and most of the gains in terms of higher growth accruing particularly strongly in Asia. Untapped potential of further global trade liberalisation remains large, especially among developing countries themselves. Globalisation can also directly affect poverty reduction, notably via transmission mechanisms involving prices, employment, wages and government revenues. The empirical evidence shows the importance of having in place appropriate complementary policies to minimise adverse impacts when they occur.

Non-reciprocal preferential systems are giving developing countries good access to markets of developed countries. Due to a number of general factors, but also some of the inherent weaknesses of preferential systems, the trade

effects were not as to be expected, especially not in sub-Saharan Africa. Weaknesses such as the north–south bias in developing countries' trade integration are currently being addressed by the EU in the context of negotiations for economic partnership agreements. Other issues, such as preference erosion, are under discussion at the Doha Round and may require measures to smoothen the required adjustment process in developing countries.

In empirical studies, initial income per capita, physical investment and human capital turn out as important factors, but this is insufficient to answer the question why growth is persistently lower in some countries or regions than in others. Economic institutions, policies and geography are among the main drivers of long-term growth, and their absence explains a large part of the weak growth performance of Africa. Openness to trade is also an important determinant, but making full use of its possible contribution to growth depends, to a large extent, on the business environment in a country. The experience of several Asian countries demonstrated how economic reforms and export-led growth can trigger a sustained process of economic development. Trade-related assistance to support capacity-building in trade policy, customs and transport as well as to soften adjustments to trade liberalisation can therefore be an important contribution for developing countries to better benefit from the potential of globalisation.

Overall, globalisation is an essential element of successful development strategies to reduce poverty, but it needs to go along with other conditions, in particular improvements in economic institutions and policies. The EU is supporting this process not only through its development aid, but also by a trade policy oriented at having developing countries fully participate in global markets. The crucial importance of good institutions and economic policies for both poverty reduction and fully exploiting the benefits from globalisation underlines the relevance of supporting economic reform and institutional development in developing countries.

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# Part III

## Specific studies



# 1. The internationalisation of research and development: trends and drivers

## Summary

Although robust trends are difficult to identify, given the complexity of the processes and the imperfectness of the available data, a review of existing internationally comparable indicators confirms that, although the majority of research and development (R & D) is still done at home, the internationalisation of R & D is a slow but real process. R & D internationalisation is still mainly an intra-Triad phenomenon with the EU — but especially the USA — as major locations for foreign R & D, while US — and especially EU — firms have the largest shares of foreign R & D. More recently the trend toward internationalisation has become more truly global, with China a new hot spot for R & D location intentions.

Although many actors are involved, the R & D done abroad by large technology-intensive international firms is pivotal for discussing the impact of the R & D internationalisation process for science and technology (S & T) policy. The empirical evidence on changing drivers for international innovative strategies, suggests that, although technology sourcing motives are becoming a major force for firms locating R & D abroad, both demand (close to local markets) and supply-related

(access to S & T resources) motives remain heavily intertwined.

Being able to draw policy implications from the trends towards more internationalisation of R & D for technology sourcing motives, requires examining whether and when countries are likely to benefit from these phenomena, as host or home to multinational enterprises (MNEs) engaged in international R & D. The empirical evidence confirms that positive spillovers on the host economy are not straightforward. Technology spillovers from the MNE to the local economy not always materialise, depending on the MNE's willingness and capacity to prevent know-how leakage; the host country's firms' technology gap relative to foreign subsidiaries and the host country's indigenous capacity to absorb foreign technologies. In order to benefit from the technology acquired abroad by MNEs, economies should develop their absorptive capacity and networking with these technology sourcing multinational firms. At the same time, to compensate for the internationalisation of R & D investment by its domestic firms, institutions and R & D workers moving abroad, a country should be able to simultaneously attract innovative companies, R & D institutes and R & D workers from abroad.



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# 1. Introduction

The internationalisation of R & D is a key dimension in the globalisation of the economy, with major impact on economic development and public policy. Although some of its aspects are well discussed and documented <sup>(1)</sup>, the processes are complex. The existence of the phenomenon is generally accepted, but its importance, the trends and its impact not yet clearly understood.

This chapter considers available evidence and knowledge on internationalisation of R & D. The chapter addresses the following core questions.

- What are the prevailing trends in the internationalisation of R & D (Section 3)?
- What are the drivers for internationalisation of innovative strategies of multinational companies (Section 4)?

The chapter closes with a section on policy implications (Section 5). A first section characterises the phenomenon of R & D internationalisation, identifying the processes and the actors involved. It serves to derive the indicators that can be used to measure and analyse the phenomenon in the following sections.

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<sup>(1)</sup> Both the OECD and the EC have ongoing activities monitoring the internationalisation of R & D. The European Commission DG Research produces the *European report on S & T indicators and Key figures*. See also Eurostat, *Statistics in Focus 7/2005*.

## 2. Internationalisation of R & D: characterising the phenomenon

The internationalisation of R & D materialises through a wide variety of complex processes, ranging through the following.

- *The internationalisation of science and technology development* at public or private research institutes or universities. This occurs mostly through the international mobility of S & T students and researchers, as well as international collaboration among S & T researchers (as witnessed by joint publications or joint projects).
- *The internationalisation of technology development and innovation* by firms who develop R & D activities internationally, simultaneously home and abroad.
  - The R & D done at home uses inputs from abroad, through the recruiting of foreign S & T employees and/or through accessing existing knowledge located abroad by formal licensing agreements or informal knowledge acquisition mechanisms.
  - The R & D done abroad allows using locally available S & T human resources and source locally available know-how.
- *International collaboration in S & T*, where partners (firms and research institutes) from more than one country jointly research and develop technological know-how and innovations.

- *The international exploitation of technology*. Even if R & D is concentrated in the home country and uses only home country resources, firms are exploiting their innovations on world markets, through licensing their technologies abroad or selling their innovations on foreign markets.

The internationalisation processes thus include on the input side the international mobility of human capital (S & T employees and researchers) as well as the international mobility of physical and financial capital when R & D facilities are controlled from abroad. On the output side, the internationalisation process includes the international mobility of technology directly and indirectly, through the international production and sale of new products and services.

The internationalisation of R & D involves all relevant S & T actors, not only the large technology-intensive international firms, but also small high-tech start-ups and non-R & D-active firms who rely for their innovations on externally acquired know-how. Beyond firms, research institutions (private or public research labs, universities, etc.), S & T researchers and S & T intermediaries and policy-makers are important as well in these internationalisation processes. Nevertheless, the R & D done abroad by large technology-intensive international firms is pivotal for discussing the impact of the R & D internationalisation process for S & T policy. In view of the importance of multinational firms as driving forces in R & D internationalisation, the chapter will concentrate on these firms.



# 3. Trends in internationalisation of R & D by firms

The OECD 'Handbook on economic globalisation indicators' project, streamlining indicators on globalisation, has identified the following priority indicators on the internationalisation of industrial R & D: expenditures and number of researchers of foreign-controlled affiliates and parent companies (Section 3.1). Also included in the 'economic globalisation project' are indicators on the international exploitation of technology: trade in high-tech products<sup>(1)</sup> and technology balance of payment data (Section 3.5)

Beyond these priority indicators, this section will also briefly review the internationalisation of R & D by using patent data. This will allow discussion of the internationalisation of technology creation as measured through international (co)patenting and (co)inventing (Section 3.2). The issue of international cooperation in R & D will be further explored by using data on cooperative agreements in R & D (Section 3.4).

## 3.1. International R & D expenditures by firms

Two types of indicators can be constructed on the basis of 'R & D expenditures by foreign affiliates of MNEs in the host market'. As a percentage of total R & D expenditures of the host market, it reflects the importance of inward R & D FDI from a host market perspective. When expressed as a share relative to the total expenditures by the firm at corporate level, it expresses the extent to which the firm has decentralised R & D or not. When expressed relative to total home market R & D expenditures, it maps the importance of outward R & D FDI from a home market perspective.

<sup>(1)</sup> For an analysis on trade in high-tech products, see elsewhere in this review.

Indicators on the basis of the OECD AFA database concentrate on inward R & D FDI. The share of foreign affiliates in R & D for a host country reflects the size of their R & D effort relative to that of domestic firms (lower panel of figure). In Ireland, for example, foreign affiliates carry out relatively more R & D than national firms. In most other EU countries, as well as in the USA, and particularly in Japan, the opposite is true.

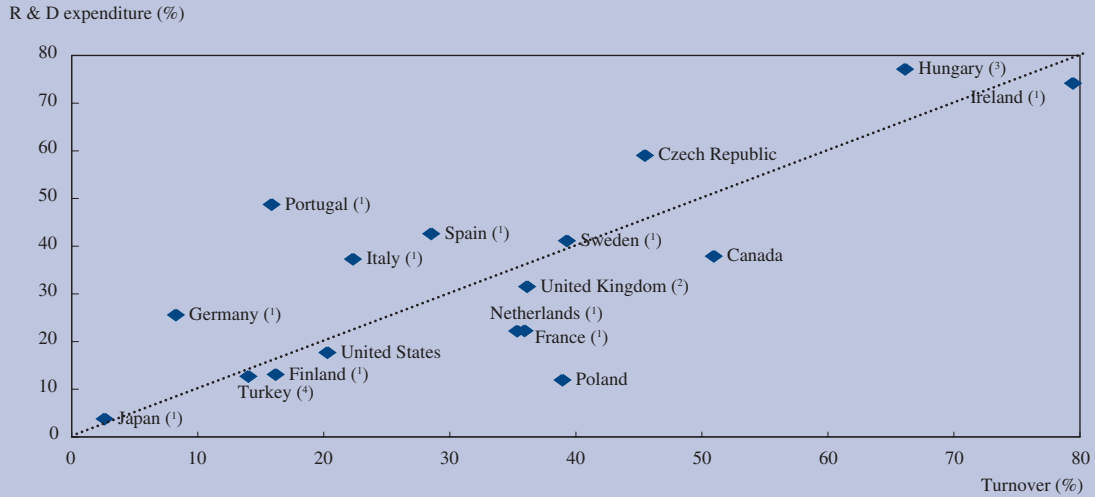
The share of foreign affiliates in domestic industrial R & D (upper panel of the figure) varies widely across countries, ranging from slightly more than 10 % in Finland to over 70 % in Hungary and Ireland. These differences primarily reflect the contribution of foreign affiliates to industrial activity. For instance, the share of foreign affiliates in manufacturing production or turnover is high in Ireland and low in Japan.

In many countries, the share of foreign affiliates in R & D is smaller than their share in manufacturing production, as in the USA, France and the UK (upper panel of the figure). Hence, R & D activities are still less internationalised than production. This suggests that most research still remains at corporate headquarters.

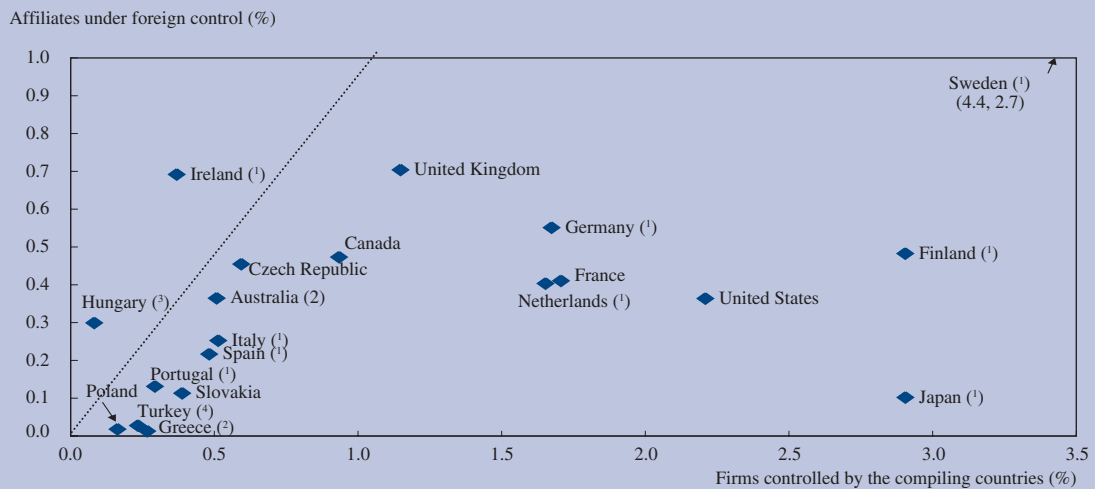
But nevertheless, the percentage of R & D carried out abroad is increasing rapidly. Total R & D expenditures of foreign affiliates increased between 1991 and 2001 by more than 50 % in the OECD area (OECD, 2004; DG Research, 2005). R & D expenditures by affiliates of foreign companies are increasingly contributing to R & D spending in most EU Member States, reflecting the growing importance of inward R & D FDI. The share of foreign affiliates in total R & D expenditure by enterprises has risen most noticeably in the new Member States such as Slovakia, the Czech Republic and Hungary, but also in the EU-15, in the UK, Sweden and Portugal. For the UK, the rise in share for foreign affiliates is substantial, from 32 % to 45 %. This confirms the UK as (continuing to be)

Graph 1: Internationalisation of manufacturing R & D, 2002 or latest year available (see footnote)

Share of R & D expenditure and turnover of affiliates under foreign control in total manufacturing R & D and turnover, 2002



R & D intensities (2) of affiliates under foreign control and firms controlled by the compiling countries, 2002



NB: (1) 2001, (2) 1999, (3) 1998, (4) 2000. (2) R & D expenditures as a share of value-added in industry.  
Source: OECD, AFA database, March 2005.

an interesting location site for MNEs and their associated knowledge investments. In Finland, France, Germany, Japan and the USA, the shares are much smaller, and the increase was less marked but still substantial. In other countries, the shares remained relatively constant, as in Ireland which indicates that R & D by affiliates of foreign companies has increased in line with domestic R & D.

Since the mid-1990s, the USA has experienced a gain in its share of R & D spending done by non-US affiliates in the USA. A large part of this shift came from EU companies

having affiliates on US territory. Between 1997 and 2002, R & D expenditures of US-based affiliates of EU manufacturing firms increased by 54 % in real terms, from approximately EUR 8 billion to more than EUR 12 billion (EUR 2001 PPS). US firms increased their R & D expenditure in EU-based affiliates by 38 %, from EUR 7.6 billion to EUR 10 billion (EUR 2001 PPS). During that period, foreign R & D investments in the US were mainly targeted at high-technology areas. Pharmaceuticals and communication equipment alone accounted for more than half of the R & D expenditures by foreign affiliates in 2000.

Furthermore, US outward R & D investment grew over recent years in all major regions of the globe, but growth has been fastest outside the EU-15, particularly in emerging countries such as China, where US outward R & D investment increased by 25 % per year since the mid-1990s (against 8 % per year in EU-15). As a result, the EU-15 share in total US outward R & D investment has been declining since the late 1990s. These trends are expected to continue as long as new actors build up their science and technology infrastructures and open their markets to foreign entrants (Research DG, 2005).

### 3.2. Internationalisation of technology development using patent data

Next to R & D expenditures, the trend of R & D internationalisation can also be analysed using data on patenting by firms. As firms progressively relocate their production and research facilities abroad as part of their internationalisation strategies, an increasing share of patents is owned or applied for by firms of a country that is not the inventor's country of residence.

Section 3.2.1 identifies foreign applicants on the basis of the location of the applicant only. Section 3.2.2 takes a broader consolidated perspective and identifies the extent to which knowledge invented in-country, is owned by MNEs not only directly, through the foreign assigneeship but also indirectly, through the assigneeship of a local subsidiary of a foreign firm.

#### 3.2.1. Foreign applicants and domestic inventions (inward R & D FDI) and domestic applicants and foreign inventions (outward R & D FDI)

In terms of patenting activities, on average, a bit more than 10 % of all inventions in any EU country were owned or co-owned by a foreign resident in 2000, a modestly increasing trend relative to 1992. This increasing trend holds for most countries, but there is an important cross-country difference in terms of levels. Foreign ownership of domestic inventions is high in small open countries like Luxembourg, Hungary, Belgium, Ireland (see OECD, 2004, EC Research DG, 2003, 2005).

Likewise, EU countries owned less than 10 % of inventions made in a different country from the owner's in 2000, again only modestly increasing compared to 1992. Domestic ownership of inventions made abroad is high in small open countries. For example, more than 36 % of all inventions owned by residents of Ireland were made abroad. This share

is also high in the Netherlands (32 %) and Sweden (28 %) (see OECD, 2004; EC-DG Research, 2003, 2005).

Guellec and van Pottelsberghe (2001, 2004) further analyse econometrically the country differences in foreign ownership of domestic patents. The authors show that the countries that are larger and the countries that are more intensive in R & D are less 'internationalised' at least in relative terms. Two countries are more likely to be linked by cross-ownership if they are geographically close to each other, if they have a similar technological specialisation and if they share a common language.

#### 3.2.2. Patenting by MNEs: foreign ownership of patents

Patent information regarding the country of residence of the assignee and of the inventor provides a useful, but incomplete, insight into the ownership of patented inventions. It is incomplete because there is no information about the ownership structure of the assignees. The previous section considered as 'domestic' the assignees which are based in the reporting country. However they might be subsidiaries controlled by foreign MNEs (multinational companies), and should therefore be considered as a foreign ownership of domestic inventions. Especially in view of the pervasiveness of MNEs in the technological landscape, correctly taking into account foreign ownership may lead to a more pervasive pattern of R & D internationalisation than has been documented in the previous section.

The EU *Third S & T indicator report* (2003) identifies foreign ownership of patents including foreign-owned subsidiaries. In relative terms, when one looks at the percentage of European patents invented in a country by affiliates of foreign multinationals, Belgium and Spain stand out with the highest presence of technological activity by foreign companies. Four out of five European patents invented in Belgium are controlled by foreign-owned firms. (see also Cincera et al., 2005). Especially in these countries, taking into account foreign ownership of patents rather than foreign applicants, considerably increases the inward R & D FDI dimension, as compared to the previous section. Likewise for outward R & D FDI, the Netherlands, UK, Sweden and Belgium have more than a third of their patents invented by their multinationals' affiliates abroad. For the Netherlands, this figure is almost 50 %, leading to a much higher importance of outward R & D FDI than as measured in the previous section.

Criscuolo and Patel (2003) analyse the patenting activities of the largest US, Japanese, and European MNEs

between 1996 and 2000, repeating the analysis of Patel and Pavitt (1992) for 1969–86. These studies also use a consolidated firm approach to assign foreign ownership. Although European companies show on average a higher tendency to relocate their R & D activities abroad with respect to their Japanese and US counterparts<sup>(1)</sup>, the degree to which European companies have internationalised their activities varies considerable across countries. This study also shows that MNEs from small countries, such as Belgium, the Netherlands, Sweden and Switzerland, are the most internationalised in their R & D operations, while MNEs from large European countries (the exception being the UK) are less so. There has been a modest increase in the last 15 years in internationalisation of technological activities. Most of the growth has occurred for MNEs from small European countries. Despite the growing internationalisation of R & D activities, especially by EU MNEs, the results obtained in this study suggest that home-based technological activities of large firms from large countries continue to have a big influence on the activities of their home countries.

At the sectoral level, EU MNEs in pharmaceuticals, electrical and electronics, IT-related activities, instrumentations, and food, drink and tobacco appear to undertake more than half of their technological operations outside their home countries (Crisuolo and Patel, 1992).

### **3.3. Trends in internationalisation by firms: where are the major new spots?**

Analysis of historical R & D expenditures and patents, being restricted by lags in data availability, is not likely to be picking up the most recent developments in R & D internationalisation. We have to revert to survey data to uncover some of the more recent trends.

In contrast to the triadisation documented above, survey data suggest that R & D investments abroad are becoming more truly global. If the US has long been a host for European and Japanese foreign research (as well as Europe for American and Japanese firms) the emerging markets and most notably China, are currently also attracting an increasing share of overseas outlays by MNEs. (for more on R & D and FDI in China, see annex).

<sup>(1)</sup> The magnitude of these trends may, however, be affected by the use of patent data from the USPTO, which may underestimate the foreign patenting activities of US MNEs and overestimate the patenting activities of EU and Japanese MNEs in the US.

- A survey of investor intentions more generally (not restricted to R & D) (Unctad, 2004), found that more than 70 % of the largest MNEs expect FDI to increase, but unequally distributed among host countries. On the whole, developing and transition countries appear to figure more prominently in investment plans. Within the central and eastern European countries, Poland figures prominently, while within Asia, China is expected to receive (even) higher FDI flows than today.
- Ernst & Young's European Attractiveness Survey 2005 puts the UK still as the lead destination for FDI in general within the EU. While the UK continues to hold this leading position, its market share has fallen slightly between 2004 and 2005. This decline is attributed to fewer expansion projects and fewer US companies investing in the EU, with US companies a traditional strong investor in the UK. With respect to R & D, the most preferred site ranked on R & D quality and capacity within the EU nevertheless remains Germany at 32 % (up from 26 % in 2004). Whereas, in 2004, the UK had a similar score to Germany (26 %), this had dropped to 20 % in 2005.
- A global survey conducted by The Economist Intelligence Unit in 2004 showed that top companies' favorite location for planned R & D investment was China followed by the USA and India.
- A recent survey from the German industry confederation (DIHK) reveals that 15 % of the 1 554 firms considered already own R & D facilities abroad while 17 % intend to invest in R & D activities abroad over the next three years. The study also reveals that German investment in R & D is mostly concentrated in the EU-15 (47 %), followed by central and eastern Europe (31 %) and finally in Asia and North America (28 % each).

### **3.4. International collaboration in R & D: a phenomenon on the rise?**

International S & T collaboration is an important phenomenon<sup>(2)</sup>. Companies are increasingly carrying out joint R & D projects with the best possible partners, who can be other firms or science partners. This search for best partners is done on a global scale. A trend in the

<sup>(2)</sup> Teece (1997) and Mowery (1992), for example, emphasise that alliances is a particularly effective mechanism for linking external technology sources.

internationalisation of R & D is the rising number of cooperation agreements or alliances since the 1980s between partners residing in different countries (e.g. Hagedoorn and Schakenraad, 1994).

The formation of research joint ventures enables companies to pool resources and risk, exploit research synergies and reduce research duplication. It creates investment 'options' in emerging technology fields (Hagedoorn et al., 2000). From a traditional transaction cost economics perspective, one would expect that companies are somewhat hesitant to enter into R & D partnerships with foreign companies due to the lack of control over long distance, lack of trust between companies from different countries and the high asset specificity of R & D. However, as increased international competition has led many companies to follow a strategy of gradual internationalisation, one can assume that this experience gradually also opens the way to non-domestic R & D partnerships (Hagedoorn and Narula, 1996).

The empirical evidence on international collaboration in R & D shows that, since the 1980s, the number of newly established international strategic technology alliances has increased considerably (Hagedoorn, 2001), in line with the general boost in technology alliance activities <sup>(1)</sup><sup>(2)</sup>. In relative terms, one could expect that, in the context of the overall importance of internationalisation to companies and their partnerships, the share of international R & D partnerships in the total number of R & D partnerships should also have increased during the last four decades. However, the past 40 years indicate a somewhat irregular and slightly downward trend in the share of international R & D partnerships. R & D collab-

oration is dominated by companies from the world's most developed economies, paralleling the worldwide distribution of R & D resources and capabilities. The dominance of North America, particularly the USA, also reflects the leading role that this continent plays in R & D and production in major high-tech industries. This dominance had not only led companies from other countries to actively search for R & D partnerships with North American companies, most of the recent R & D partnerships are formed between companies within the USA. The largest share of R & D partnerships in the MERIT-CATI database is intra-North America, followed by the EU–North America and the intra-EU alliances as the third biggest category. But while the intra-North American were 23.5 % in 1980–89, this has increased to 41.4 % in the 1990–98 period. Also the EU–North American category has increased slightly in importance: from 21.6 % to 25.2 %. An interesting observation is the decline in importance of intra-EU cooperation in the MERIT-Cati database: from 19 % in 1980–89 to 11.3 % in 1990–98 (Hagedoorn, 2001).

The growing relative importance of intra-US R & D partnerships also largely explains why international partnerships, despite a strong growth in absolute numbers, still take only about 50 % of all R & D partnerships and why the trend towards a further internationalisation appears to be stagnating.

A somewhat similar picture emerges for EU innovation active companies engaged in cooperation. The Eurostat-CIS survey for these firms contains information on the extent to which innovative companies have collaborative R & D agreements by geographic origin of the partner.

Taking the different waves of the CIS survey data at face value <sup>(3)</sup>, they do not seem to be picking up an increasing trend of collaboration in R & D for innovating firms. The importance of close geographic proximity for selecting partners explains that most of the cooperative agreements in R & D are still found to be with national partners, and that the international partners for EU firms are mostly other EU firms <sup>(4)</sup>. Within the subset of non-EU partners, triadisation and more particularly the EU–US dominance in international partnering is confirmed.

<sup>(1)</sup> The MERIT/CATI database contains information on nearly 10 000 cooperative agreements involving about 3 500 parent companies and covering the period 1960–98, reported in specialised journals (Hagedoorn and Schakenraad, 1990).

<sup>(2)</sup> Co-inventions of patents is another indicator often used to assess international cooperation in science and technology activities. It is, however, an imperfect proxy for collaboration among firms. It only picks up collaboration which results in co-patenting. And since it also may involve multiple inventors from the same company located across its various subsidiaries, it reflects, at the same time, inter- and intra-firm international collaboration. In 1999–2000, 6.6 % of OECD resident patents (filed at the European Patent Office) were the result of international collaborative research, as compared with 4.1 % in 1991–92. When intra-EU cooperation is netted out, international collaboration in patenting is lower in the European Union (7 %) than the US (11 %). In Japan (3 %), international cooperation in science and technology is rather limited. Internationalisation tends to be higher in smaller OECD countries. This could partly be due to the domestic pool of researchers being limited because of the size of the country, which implies that researchers must look abroad for collaboration. The patent data show an increase in international cooperation. For a majority of countries, the share of patents with foreign co-inventors is higher in the late 1990s compared to the early 1990s.

<sup>(3)</sup> Comparisons over time across different versions of the CIS survey need to be handled with care, given structural breaks in the methodology and survey design in several countries, particularly with regard to the identification of innovation active firms.

<sup>(4)</sup> The design of the EU framework programmes is one of the drivers stimulating intra-EU cooperation.

However, the CIS results are not picking up an increasing EU–US collaboration trend in relative terms, on the contrary.

Similar results are obtained for US data, based on RJVs notified for the NCRA (EU *Third S & T indicator report*, 2003). Membership to these RJVs is mostly US, with about three quarters of the participating firms in the period 1985–99 being from the USA. Hence, international partners account for one quarter, where the most important non-US participating countries are the EU and Japan, again indicating the intra-Triad scope. Within the EU, the UK is the most dominantly present as partner to US-NCRA-RJVs.

### 3.5. International exploitation of technology through international licensing: who is buying and who is selling technology internationally?

Firms are not only developing innovations internationally, they are also exploiting their innovations on world markets, through licensing their technologies abroad, or selling their innovations on foreign markets. In this section, we will concentrate on the international exploitation of technology through licensing. Directly selling technology through licensing agreements internationally will be reflected in the balance of payment data.

The technology balance of payments measures disembodied international technology transfers: licences, patents, know-how, and research and technology assistance. Although the balance reflects a country's ability to sell its technology abroad and its use of for-

eign technologies, a deficit does not necessarily indicate low competitiveness. In some cases, it results from increased imports of foreign technology; in others, it is due to declining receipts. Likewise, if the balance is in surplus, this may be the result of a high degree of technological autonomy, a low level of technology imports or a lack of capacity to assimilate foreign technologies. In addition, since most transactions also correspond to operations between parent companies and affiliates, this may create distortions in the valuation of the technology transfer. Thus, additional qualitative and quantitative information is needed to analyse correctly a country's deficit or surplus position.

In the EU, technological receipts and payments increased sharply during the 1990s. Overall, while the US maintained its position as a net exporter of technology as compared to the rest of the world, the European Union, however, continued to run a deficit on its technology balance of payments <sup>(1)</sup>.

The financial transactions measured by technology balance of payment data encompass those between different firms as well as within MNEs. However, it is important to note that the infra-firm transactions dominate the picture. Hence, TBF data mainly reflect the international

<sup>(1)</sup> When zooming in on individual countries, the UK has a positive TBP and its surplus is the most important, expressed as a percent of its GDP. Belgium, Denmark, Japan and the US also have a positive technology balance of payment. Germany runs a TBP deficit. Ireland's impressive deficit in technology payments is due to its strong presence of foreign affiliates which import technology from their parent companies (Source: OECD, STI Scoreboard).

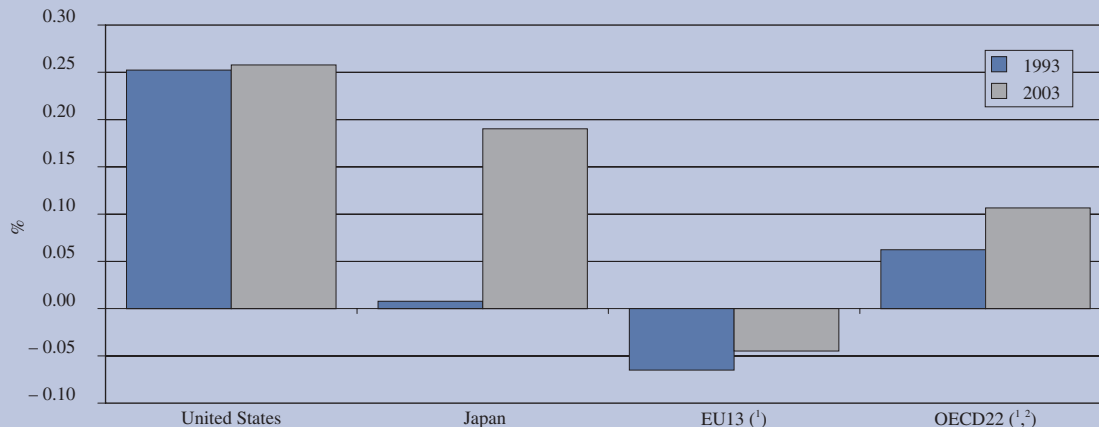
Table 1

#### Nationality of partners as percentage of cooperating firms (%)

	EU innovation active cooperative firms			
	1996–98 (CIS-II)		1998–2000 (CIS-III)	
	Manufacturing	Services	Manufacturing	Services
National partners	84	74	82	86
EU partners	50	37	41	27
US partners	25	29	12	14
Japanese partners	9	12	6	5
Innovative firms cooperating	26	24	17	22

Source: Own calculations on the basis of Eurostat, New Cronos.

Graph 2: Technology balance of payments as a percentage of GDP, 1992 and 2003



<sup>(1)</sup> Including intra-area flows. Excluding Denmark and Greece. Data partially estimated.

<sup>(2)</sup> Excluding Iceland and Turkey.

Source: OECD, TBP database, April 2005.

technology transfer within the MNEs R & D network (EU ETAN report, 1998). Unfortunately, for most OECD countries, TBP data are not disaggregated into affiliated and unaffiliated transactions. For the USA, however, the Bureau of Economic Analysis (BEA) provides such disaggregation. In the US, most technological transactions take place within MNEs, although the importance of arm's length transactions between unaffiliated parties has been increasing from 1986 to 2000. Between 1986 and 1992, US MNEs and US affiliates of foreign MNEs together sold 79 % of all technology exports and bought 67 % of all technology imports. However, the figures also show that US MNEs sell vir-

tually all of the MNE technology exports, while US affiliates of foreign MNEs purchase most of the MNE technology imports. Between 1986 and 1992, 97 % of all MNE technology exports were sold by US MNEs to their foreign affiliates, while 3 % was sold by affiliates in the USA to their foreign parents. The reverse pattern holds for imports: 9 % of all MNE technology imports were purchased by US MNEs from their foreign affiliates, while US affiliates purchased 91 % of all technology imports from their foreign parents. In short, technology trade is not only dominated by MNEs, but also flows from parent firms to their foreign affiliates. (OTA, 1994).

#### Box 1: Summary of main findings

Most R & D still remains located in the home market. Nevertheless, the trend towards more internationalisation of R & D is increasing, but slowly.

R & D internationalisation is still mainly an intra-Triad phenomenon with the EU, but even more the USA, as major locations for foreign R & D, while US and especially EU firms have the largest shares of foreign R & D.

More recently, the trend toward internationalisation has increasingly become more truly global. The emerging markets are currently also attracting an increasing share of overseas R & D outlays by MNEs.

Despite the interest in international R & D collaboration, the data fail to confirm a strong relative increase in internationalisation of R & D collaboration. Furthermore the internationalisation process is still characterised by triadisation.

Firms are increasingly exploiting their innovations on world markets, through licensing their technologies abroad, as witnessed in the balance of payment data. But, especially, the international technology transfers within the firms' R & D networks (intra-company transfers) has grown considerably.

## 4. Drivers for multinational firms to internationalise R & D: what are the benefits, where are the pitfalls?

Given the large technology-intensive multinational firms as important driving forces behind the internationalisation of R & D, it is important to understand why firms source and exploit technology abroad. This section presents insights from the economic literature, as well as the evidence from empirical analyses documenting and explaining the changing drivers for internationalisation of R & D for multinational firms. It reviews the international business literature on global innovative strategies, describing the potential benefits and costs on internationalisation of R & D by multinational firms. It also provides empirical evidence on motives for firms to internationalise R & D and how they have organised their global innovative strategies.

### 4.1. Changing innovative strategies of transnational companies

In the early literature on multinationals, following the seminal product life-cycle model of Vernon (1966, 1977) and the eclectic paradigm of Dunning (1988), multinational activities originate out of the R & D activities of the firm. To exploit the fruits from these intangible assets beyond the home market, firms may prefer to set up or acquire affiliates in host markets through FDI rather than selling technology internationally through licensing. FDI allows the multinational to appropriate more benefits from its innovations, given the high transaction costs involved when transferring technology through market mechanisms.

According to this perspective, the home market is the preferred location for performing R & D activities. Innovating firms will therefore concentrate their R & D efforts at home where they can benefit from both the availability of scientists and engineers with the required

skills, and proximity to and, interaction with, potential customers. Economies of scale in R & D activity and agglomeration effects, as well as the need for the coordination and control of expensive and risky investments are also reasons for keeping R & D and the initial stage of production in the home location.

As firms increasingly locate production closer to their customers and suppliers, they need R & D laboratories to adapt the technologies and products developed at home to local conditions. In this type of R & D facility, technological knowledge tends to flow from the parent firm's laboratory to the foreign-based facility so that the technological advantage of the affiliate primarily reflects those of the home country (where the core of innovation activities continues to be concentrated) and foreign R & D units tend to exploit the existing parent-company technologies. This type of R & D site has been termed 'home-base exploiting' (HBE) (Kuemmerle, 1997), or 'asset-exploiting' (Dunning and Narula, 1995).

In this HBE-perspective, subsidiaries play a role only in incremental innovations: adjusting products and processes to (changing) local needs. Motives for R & D decentralisation relate to market proximity where it is important to be close to 'lead users' and adapt products and processes to local conditions. Supply-related motives, i.e. those related to the creation and renewal of core capabilities by allowing access to a wider range of scientific and technological skills, are less important in this perspective.

In the mid-1980s to the early 1990s, a number of studies reported an increasing trend in foreign R & D activities. The product-cycle model could not account for the importance of supply factors that appeared to be driving



some of this R & D investment abroad. The new evidence gathered during this period showed that MNEs were establishing foreign R & D facilities, driven increasingly more by supply-related motives, in an attempt to tap into knowledge and technology sources in centres of scientific excellence located worldwide.

This strategy is based not only on the wish to increase the efficiency of the firm's R & D process, but also to absorb technological spillovers from the local public knowledge base, or from specific technological know-how present in the host locations, that could benefit the MNE at corporate level. These decentralised R & D activities have been defined as 'home-base augmenting' (HBA) (Kuemmerle, 1996) or 'asset-seeking' R & D activity (Dunning and Narula, 1995). Pearce and Singh (1992) label these as the 'internationally interdependent labs', whose role is in the long-term basic research of the group, and who will have close collaboration with other similar labs. In such investments, firms aim either to improve their existing assets, or to acquire (and internalise) or create completely new technological assets by locating R & D facilities abroad. Foreign R & D labs provide access to location-specific advantages that are not as easily available in the home base and that may be associated with the presence of a lead market (Meyer-Krahmer and Reger, 1999). Knowledge flows tend to proceed from the foreign laboratory to the central home laboratory.

Location decisions for this type of R & D facility are based not only on the technological infrastructure of the host country, but also on the presence of other firms and institutions, which may create externalities that investing firms could absorb. Such externalities may result from spillovers of information from other R & D units, access to trained personnel, established links with universities or government institutions, and the existence of an appropriate infrastructure for specific kinds of research.

One could argue that, to access local sources and to transfer know-how, firms need not necessarily be present through affiliates in the local market. International collaboration or presence in local markets through exports can be an alternative to access globally dispersed know-how (see *supra*). Nevertheless, if networks are mainly informal and tacit, then embeddedness is important, spillovers will be localised and being present close to the source will be important for accessing know-how. Jaffe, Trajtenberg and Henderson (1993) using patent data show that proximity matters and that being close to

an external information source increases the impact of spillovers from that source on own know-how<sup>(1)</sup>.

Which role subsidiaries will play in the innovative process of the MNE, depends on the level of technological capabilities and the strategic importance of the host market. On the one extreme, subsidiaries can play a purely implementing role for projects where they hold low levels of technological expertise and low strategic importance of the market. In this case the technology transfer is one of pure import into the local market. As soon as the location holds a high level of technological capability for a particular innovative project, it can be assigned a contributing role to develop generic central know-how or even play a more crucial leading role as 'centre of excellence', with a 'global product mandate' (Rugman and Poynter, 1982). In those cases, the transfers of know-how are multiplex, with the subsidiary responsible for sourcing know-how in other units of the MNE (including headquarters), but also accessing external sources. For an effective global innovative strategy, know-how needs to flow across units and locations within the MNE. This requires working on effectively linking R & D units, mobility and transfer of people, building long-distance interpersonal communication and providing adequate reward systems and responsibilities (Westney, 1997; Bartlett and Ghoshal, 1997).

In summary, the recent literature suggests a shift towards subsidiaries that are R & D active, not just in incremental, adaptive innovations, based on development activities, but also in drastic innovations, creating basic generic know-how, where the subsidiary is as active as headquarters in external linkages. Supply-related motives, related to the presence of scientific and technological skills, become more important as location factors.

#### 4.2. Empirical evidence on drivers for MNEs to internationalise R & D

A number of recent studies using R & D expenditures and patent data have documented the growing internationalisation of R & D activities by MNEs. These were already reviewed in the previous section. A number of other empirical studies, based on surveys and case studies, have investigated into more detail the firm's motivations in carrying out R & D abroad. Two types of studies

<sup>(1)</sup> Note that collaboration between affiliates and local firms will not show up as international but as national collaboration in the data.

**Box 2: Costs and benefits of internationalisation of R & D for the MNE**

*Potential benefits – Why would the MNE do R & D at affiliate level?* Closer to 'lead' markets, integration with local production, responsiveness to local regulations; Access to foreign centres of excellence; greater efficiency in production and innovation not only for the foreign subsidiary but for the rest of the company as well (intra-firm transfers).

*Potential costs – Why would the MNE keep R & D at home?* Reduced economies of scale and scope, disadvantage of being outsider in the host country innovation system; increased obstacles in the internal knowledge transfer due to inter-unit geographical and technological distance; leakage of key technology to foreign competitors.

can bear light on these issues: firstly, studies using indirect evidence on motives from analysing the pattern of patents and R & D expenditures across countries, sectors and/or time periods; secondly, there are the surveys which directly bring evidence on motives for internationalising R & D from the respondents. However, these surveys concentrate mostly on specific countries, sectors and/or time periods.

**4.2.1. Motives for R & D decentralisation: market or technology access?**

Using a sample of 220 firms with the highest volume of patenting outside the home country between 1990 and 1996, Patel and Vega (1999), comparing the technological strength of home versus host markets, find that the home base exploiting strategy is one of the most implemented strategies especially by firms in electronics and metals, while firms in chemicals, pharmaceuticals, mining, food and materials are relatively more engaged in home base augmenting activities. Le Bas and Sierra (2002) repeat a similar analysis on the basis of patents applied by 350 firms to the EPO during 1994–96 and find a stronger evidence in favour of the home base augmenting strategy: in 22 out of 30 technological fields this strategy dominates (for example in chemistry, pharmaceuticals, biotechnology and oil refining).

The study by Cantwell and Janne (1999) addresses a similar research question focusing on the international research strategy of 72 European MNEs active in three major industries (chemicals and pharmaceuticals, metal products and mechanical engineering, and electrical equipment and computing) and analysing their USPTO patents originating from European locations for the 1969–95 period. The authors want to test what the role is of national capabilities of both home and host countries in shaping the technological behaviour of foreign subsidiaries. They find that European MNEs coming from leading centres in an industry tend to adopt a more diversified spectrum of technological activities abroad so as

to acquire complementary assets and to specialise in each market in accordance with host location patterns of technological development. In contrast, foreign subsidiaries with headquarters in lower order centres appear to exploit their technological assets replicating their home country's technological specialisation.

The study by Edler (2004) analyses the patents and publication patterns of foreign subsidiaries located in Germany and compares them to their parent firms and to local German firms. The paper shows that internationalisation in R & D has increased and broadened in scope. While the market adaptation of products is still the major driver for companies located in Germany, international knowledge-seeking has become more important, especially in technological areas that are linked closely to basic research. Nevertheless, Germany is much more attractive a location for applied research (mechanical engineering) than for more basic research. With respect to outward R & D FDI, the German companies investigated have broadened their activities across the technological fields and the share of international patents has grown in all technological fields except in electronics. However, international research activities of these German MNEs seem not to be driven by increasing specialisation towards the scientific and technological strengths of the host countries, but more to adaptation-oriented activities that accompany local production.

A number of studies have analysed the R & D expenditures or patents by foreign affiliates of Japanese MNEs to look for which countries are most likely to attract foreign R & D expenditures (Kumar, 2001; Odagiri and Yasuda, 1996; Belderbos, 2001, 2003). Country characteristics most favourable for location of R & D resources by MNEs are larger local markets and markets with high per capita income, reflecting the demand-related motives. But the abundance of R & D manpower and the technological specialisation of the host country in the industry also explain the location choice of R & D, reflecting the tech-

nology sourcing motive. Belderbos (2001) shows that more than half of ‘overseas patents’ of Japanese firms were due to acquisitions, and that acquisition strategies have been used to ‘catch up’ in R & D internationalisation. Belderbos (2003) finds that R & D expenditures are substantially higher in acquired affiliates. On the other hand, a gradual increase in R & D intensities is observed for greenfield affiliates but not for acquisitions. Joint ventures are more R & D-intensive but only if the parent has smaller R & D capabilities, suggesting a technology sourcing motive. Most of these studies also confirm that R & D activities are located close to production, since having overseas sales and production in the host market, increases the likelihood of establishing R & D activities.

A recent econometric analysis by Sachwald (2004) using R & D budget data for France confirms that, on average, R & D activities of foreign affiliates in France is less related to technology sourcing but more to closeness to production facilities and markets <sup>(1)</sup>. R & D is mostly geared to support local production with technology flows from headquarters to subsidiaries. Headquarters remain important for R & D budget allocation decisions and management of intellectual property rights.

Another line of empirical literature uses patent citation information to trace technology transfers from local sources to foreign subsidiaries. Higher-than-expected levels of citations in patents by foreign subsidiaries to sources in the host market are suggestive of technology sourcing motives for foreign R & D.

Almeida (1996) analyses the citations contained in a sample of major patents granted by the USPTO to foreign MNEs in the US semiconductor industry and finds that foreign subsidiaries build upon localised sources of knowledge. The patents cited by foreign affiliates are more likely to have originated in the USA or in the same US state where they operate. Similarly Branstetter (2000) analyses USPTO patent and citation data on Japanese FDI into the USA. He finds that the likelihood of patent citations by the investing Japanese firms to local US sources is higher than expected, suggestive of a technology sourcing motive for Japanese FDI into the USA.

Frost (1998, 2001) builds upon and extends the work by Almeida and Branstetter investigating both the geo-

graphic sources of foreign subsidiaries’ innovation activities across a much broader sample of MNEs operating in the USA and the determinants of local technology sourcing. Results show that both the characteristics of the subsidiary, such as the amount and type of innovation activity carried out, and the technological specialisation of the home and host country are important in determining the geographic sources of innovation. Less innovative affiliates are more likely to build on the knowledge base of the parent company, while more innovative subsidiaries, being more embedded in the local context, tend to draw upon local sources of knowledge.

Reviewing the studies presenting more direct survey-level evidence on motives for R & D internationalisation, Hakanson (1992) on a sample of 150 subsidiaries of 20 Swedish MNEs found local demand-related factors to be more important than local technology sourcing. Political factors (such as trade barriers, the possibility of participating in government-sponsored research programmes) and ‘random’ factors, for example in the face of R & D unrelated acquisitions, also play a role in determining the geographical location of foreign R & D operations. Pearce and Singh (1992), on an international sample across 30 industries, also find limited evidence for supply-side factors such as the local scientific environment and availability of researchers.

However, more recent surveys find substantial support for the increasing importance of ‘supply-side’ factors, with access to human capital and technological expertise becoming a major force. Florida (1997) surveys a sample of 207 R & D facilities in the US in four technology sectors (electronics, automotive, chemicals and materials, and biotechnology) with regard to the relative importance of their technology-oriented activities (HBA) and market oriented-activities (HBE). The findings of this study suggest that both types of activities play an important role in the overall activities of the sampled laboratories. However, technology-oriented activities are relatively more significant, especially in R & D units operating in the biotechnology and pharmaceutical sectors, while R & D sites in the chemical and automotive sectors seem to concentrate on tasks related to the support of manufacturing activities and the adaptation of products to local market conditions. The results for electronics are more mixed: both supply and demand considerations are considered important. The innovating performance of the laboratories in the sample confirms that these sites are not mere ‘listening posts’ but are dedi-

<sup>(1)</sup> This confirms the lower R & D intensity of French subsidiaries as compared to French firms.

cated to the creation of new scientific and technological knowledge. The survey indicates too that one of the most implemented strategies for gaining access to localised knowledge is the recruitment of high-quality scientists.

Some of Florida's results have been confirmed by a more recent survey by Kuemmerle (1999). This study analyses the activities of 238 foreign R & D facilities from 32 American, Japanese and European pharmaceuticals and electronics companies in different host countries over time and investigates the motives, location characteristics, and mode of entry for R & D facilities abroad. What emerges from this study is that technology sourcing has increasingly become a motivation for setting up foreign R & D laboratories. Kuemmerle found that 38 % of laboratories in the sample could be classified as HBA. The location of foreign R & D sites seems to match the distribution of the knowledge sources they build upon. When the purpose of R & D is to try and gain access to localised knowledge, firms will establish centres in proximity to universities or national laboratories. When, instead, they are supporting manufacturing and marketing activities of R & D sites, they will be located near a lead market or in a cluster of competitors. Although, in principle, acquisition of a foreign laboratory could be a shortcut for getting access to localised knowledge, Kuemmerle found that greenfield investment is the dominant form of entry both for the case of HBA and HBE sites.

A study on the R & D strategies of Finnish multinational firms shows that supply-side factors, such as good availability of skilled R & D staff and access to technologies, have an increasing influence on these firm's R & D locations decisions (Pajarinen and Ylä-Anttila, 1999). However, on an aggregate level, traditional market-related factors, such as supporting production and adapting products to host markets, are still the most important category of location factors for Finnish MNEs to carry out R & D abroad. The study also reports some interesting changes in the methods of establishing foreign-located R & D units. While, in the 1980s and early 1990s, the main method was to acquire existing foreign R & D-intensive firms, in the second half of the 1990s, an increasing number of new R & D units have been greenfield investments, confirming Kuemmerle's results. Moreover, leading Finnish MNEs have increased their emphasis on networking of R & D outside firm boundaries, with subcontractors, clients and research institutes. Cooperation with customers has, in recent years, experienced the largest increase, consistent with the importance of demand-related motives.

A recent Dutch study on R & D location factors confirms that the availability of qualified personnel is the most important location factor for MNEs in the Netherlands. The survey also shows that world-class quality of research institutes and universities, and opportunities for public-private partnerships, have become major location factors (MEZ, 2004).

All these studies confirm that, although technology sourcing motives are on the rise, both demand and supply-related motives remain important.

#### **4.2.2. Empirical evidence on how MNEs design global innovative strategies and what role subsidiaries have in MNE innovative strategies**

Internationalisation of R & D has implications on the internal know-how flows between parents and subsidiaries. Effective knowledge diffusion requires 'dual embeddedness' on the part of the subsidiary, i.e. embeddedness in both external and internal networks' (Frost, 1998). This issue is particularly important when comparing the roles of acquired affiliates and green-field subsidiaries. While acquired affiliates will be relatively more embedded in the local community and therefore will have greater potential to assimilate local knowledge, they will be less integrated into the internal network, a factor that will reduce their contribution to the technology base of the MNE.

Empirical evidence on the role of subsidiaries in MNE innovative strategies relies on survey-based analysis and has never been abundant. Although 44 % of the 296 sample subsidiaries in Pearce and Singh (1992) report that they predominantly function as internationally interdependent labs, on average 60 % regularly worked to adapt to local markets, 70 % developed new products for local markets, while 45 % developed new products also used in other markets. The authors conclude that, on average, adapting is still an important task, but development of products also used in other markets is gradually becoming more widespread (see also Pearce, 1999).

The study on Finnish MNEs (Pajarinen and Ylä-Anttila, 1999) reports that the character of foreign-based units has changed: they have become more integrated into the R & D strategy of the group, rather than being separate units with minimal contacts to other R & D units of the group.

1. The internationalisation of research and development: trends and drivers

Frost's (1998) empirical analysis on a sample of USPTO patents granted to foreign affiliates in the US support the hypothesis that reverse technology transfer is greater when the degree of host country embeddedness is higher and lower when the subsidiary has been acquired, confirming the hypothesis that acquired units are less tightly linked with the corporate network.

In summary, knowledge flows from foreign units to the parent company will be more likely if foreign affil-

iates are undertaking asset-augmenting R & D activities that generate knowledge valuable for the rest of the organisation. To be able to absorb localised sources of knowledge, foreign subsidiaries need to be embedded in the host country innovation system, but at the same time they also need to be embedded in the organisational network, which explains why, according to most of the empirical studies, acquired units are less likely to contribute to the internal transfer of knowledge.

**Box 3: Main findings on R & D internationalisation strategies of MNEs**

Although technology sourcing motives are becoming a major force for locating R & D abroad, both demand (close to local markets) and supply-related (access to S & T resources) motives remain heavily intertwined.

Technology sourcing MNEs allocating research activities to their local subsidiaries are more attracted to industries and countries with a relative technology strength, while

countries offering strategic market access attract more development type of R & D activities.

Intra-firm reverse technology transfers from the subsidiary to the parent is more likely to occur for R & D internationalisation investment driven by technology sourcing motives, when the degree of host country embeddedness is higher and lower when the subsidiary has been acquired.

## 5. Implications for S & T policy

Although robust trends are difficult to identify, given the complexity of the processes and the imperfection of the available data, a review of existing internationally comparable indicators confirms that the internationalisation of R & D is a slow but real process. The empirical evidence on changing drivers for international innovative strategies suggests that, although both demand (close to local markets) and supply-related (access to S & T resources) motives remain heavily intertwined, technology sourcing motives are becoming a major force for locating R & D abroad.

Being able to draw policy implications from the trends towards more internationalisation of R & D for technology sourcing motives requires examining whether and when countries are likely to benefit from these phenomena, as host or home to MNEs engaged in international R & D?

From a home economy perspective, there are benefits and costs associated with their MNEs using their affiliates increasingly more in asset-augmenting global innovation strategies. The impact of outward R & D FDI on the home country is an aspect of the R & D internationalisation process which continues to receive considerable policy attention. Countries who are net sources of foreign R & D investment are worried that the internationalisation of R & D may substitute for R & D undertaken at home. But, at the same time, foreign R & D activities of MNEs may provide access to foreign technologies and they can therefore represent a channel for transferring knowledge back to the home country.

- Firm-level studies show mixed evidence on MNEs generating positive spillovers on the home economy. The type of activity carried out by foreign subsidiaries matters significantly for the incidence of spillovers. For R & D FDI motivated by technology sourcing and for destinations with high R & D assets, intra-firm reverse technology transfers are found.
- The effects of R & D FDI on the home economy to other home market firms are far less researched. The

limited evidence suggests that the occurrence of these types of spillovers require a 'dual embeddedness' of the technology sourcing MNE in both host and home economies.

The analysis has shown that, in order to benefit from the technology acquired abroad by own MNEs, home economies should develop their absorptive capacity and networking with these technology sourcing multinational firms. At the same time, to compensate for the internationalisation of R & D investment by its domestic firms, institutions and R & D workers moving abroad, a country should be able to simultaneously attract innovative companies, R & D institutes and R & D workers from abroad.

From a host economy perspective, the trend toward technology sourcing motives for internationalising R & D would predict more potential for loss over domestic innovative capacity ('hollowing out'). But, at the same time, it also creates more scope for potential benefits since more technology transfers to the host locations are likely to occur, firstly because the host locations being selected by a MNE in a technology sourcing strategy will have a stronger technology capability and are thus more likely to have the capacity to absorb international technology. In addition, they are interesting clusters for exchange of know-how in quid-pro-quo networking arrangements. However, if strong competitors are located in these local clusters, MNEs will be more concerned to protect their core know-how to safeguard their competitive position.

The empirical evidence confirms that positive spillovers on the host economy are not straightforward and depends on the technological strength of the host economy (see OECD, 2005 for a review).

- Industry/firm-level studies on the impact of MNE on productivity of local firms show mixed indirect evidence on MNEs generating positive spillovers on the local economy.

## 1. The internationalisation of research and development: trends and drivers

- Technology spillovers from the MNE to the local economy do not always materialise, depending on the MNE's willingness and capacity to prevent know-how leakage; the host country's firms' technology gap relative to foreign subsidiaries and the host country's indigenous capacity to absorb foreign technologies.
- Evidence on technology transfers from patent citations and survey analysis confirms the scope for positive spillovers but in a typically reciprocal two-way flow of know-how within MNEs and between MNEs and the local economy ('dual embeddedness').

If the host economy wants to benefit from inward R & D FDI, the absorptive capacities of large as well as small enterprises, and R & D institutions, need to be strengthened. In addition, international mobility needs to be fostered. Local firms, institutions and researchers need to be encouraged to access international networks, including networking in domestic clusters with foreign firms. In order to attract foreign firms, host country policies should create the right framework to attract these firms to domestic clusters of S & T excellence. It is not only excellence in science and technology, but also market opportunities that are important for the international attractiveness of R & D locations.

Which policy instruments can be used to make national knowledge infrastructure more inviting both to attract new (foreign) industrial R & D investments and to retain existing ones? As the analysis has indicated, attracting R & D investments requires an integrated policy approach, using a variety of instruments in a consistent and coherent policy framework. Only a few countries have so far developed such an integrated policy strategy to address issues enhancing the inward R & D activities for foreign companies. Ireland and Finland provide examples for such an integrated approach (see OECD, 2004).

Within the policy mix, direct support mechanisms have lost, while indirect mechanisms have gained in importance (OECD, 2004). Based on an evaluation of a wide variety of instruments and funding tools for supporting science and technology, a number of general conclusions can be raised.

- If countries wish to attract foreign R & D, it is essential to look at the economic fundamentals. Inward R & D investment is not independent of policies that influence the attractiveness for foreign direct investment in general. Fundamental factors such as political stability, public infrastructure, market size and development, tax rates and labour market conditions are highly decisive for R & D location decisions. Policy should provide and secure a 'healthy business environment'.
- Measures to build an innovation-friendly environment and increase the scientific and technological capacities of a country will also help to attract foreign R & D. A strong and vibrant academic and industrial research base, efficient protection of intellectual property rights and a well-trained workforce are major determinants for MNE investment in R & D, but will also promote the growth of domestic enterprises. Hence, these policy measures should be aimed simultaneously at domestic and foreign-owned domiciled enterprises.
- Policies towards attracting and retaining foreign highly skilled labour form an important field for governmental policy with respect to the internationalisation of R & D. Policy and legislation do not drive the mobility of highly skilled labour but can facilitate or hinder it. Measures to be taken include grants, immigration legislation and tax issues. Most importantly, the critical mass present in excellent research centres is a vital condition for attracting experienced researchers.

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# Annex

## High-tech industries, R & D and FDI in China

### China's R & D and growth performance

China's fast and impressive development is strongly related to growth in its science and technology base. The following table shows the increase in R & D expenditures into the Chinese economy.

With a real annual growth rate of more than 15 % per year, despite the strong growth in Chinese GDP, GERD as a percentage of GDP has managed to increase from 0.7 % to 1.31 %. Enterprises account for 62.4 % of GERD in 2003, whilst 26 % is done by R & D institutions, 10.5 % in higher education.

These growing investments in R & D also translate into a substantial growth in S & T output. With respect to scientific papers, China accounts for 4.5 % of total SCI publications in 2003, occupying sixth place in the world. Also with respect to patents, China has displayed a strong growth performance, not only in Chinese patents (SIPO), but also in triadic patents. In WIPO rankings, it occupied 12th position in 2002. Finally, with respect to exports of high-tech products, impressive growth rates are again realised, such that, despite the important

growth rates in exports in general, the share of high-tech products in exports has been increasing from 11 % to 25 % <sup>(1)</sup>.

Hence, overall, it is clear that S & T is contributing substantially to the strong growth performance of the Chinese economy.

### China's high-tech industries

The development level of China's high-tech industries is still far behind that of developed countries, but its growth rate is rapid, creating the momentum for catching up. According to the OECD classification for high-tech industries <sup>(2)</sup>, the contribution of high-tech industries to manufacturing value-added has increased in China from

<sup>(1)</sup> At the same time, the Chinese economy is increasingly importing high-tech products, such that the trade balance in high-tech is still negative. This negative balance is due to the sector 'Electronics and computers' (integrated manufacturing); in 'Computers and telecoms', the balance for China is positive.

<sup>(2)</sup> OECD classifies Air and spacecraft (353), Pharmaceuticals (2423), Office machinery (30), Radio, TV and communication equipment (32) and Instruments (33) as high-tech.

### Some S & T input indicators for China

	1998	1999	2000	2001	2002	2003
GERD as a % of GDP	0.70	0.83	1.00	1.07	1.22	1.31
Real annual growth (%)	10.9	20.3	16.9	15.0	23.8	17.2
S & E engaged in R & D per 10 000 labour force	6.7	7.3	9.4	10.0	10.8	11.3

Source: STS, China.

### Some S & T output indicators for China

	1998	2003
S & T papers (SCI, ISTP, EI)	35 003	93 352
Number of patent applications-SIPO	121 989	308 487
Exports of high-tech products (USD 100 million)	202.5	1103.2
Exports of high-tech products as a % of total exports	11.0 %	25.2 %
Imports of high-tech products	292	1 193
Imports of high-tech products as a % of total imports	21 %	29 %

Source: STS, China

6.2 % to 9.3 % over the period 1995–2000, still very much below US values, but coming close to shares for Italy, Germany and France.

High-tech sectors typically have a higher productivity, related to higher R & D investments. For China, R & D expenditures as a percent of value-added in high-tech industries was 2.44 % in 1996, increasing to 4.42 % in 2003, in the electronic and telecom sector this is 5.39 %; ‘ICT’ takes up the bulk of the Chinese R & D investments: R & D expenditures in electronic and telecom account for 62.3 % of total R & D in China 2003, computer equipment for another 11.5 %; pharmaceuticals 12.5 %.

#### Internationalisation of China’s R & D

This growth performance of the Chinese S & T base was also accompanied by a series of measures and policies which contributes highly to the internationalisation of China’s S & T base. Firstly, policies were designed to foster mobility of human resources in science and technology. The number of Chinese students abroad reached 24 000 persons in 1999 and boomed to 84 000 in 2001. Each year, between 1995 and 2001, the number of students grew by 26.6 %. But, very importantly for Chinese development, the number of students returning to China

grew by 13.4 % during the same period. In 2001, 12 000 graduates returned (OECD, TIP 2005).

Secondly, policies allowed for a growing share of business R & D financed by abroad. This accompanied a growing establishment of R & D facilities of multinational companies: 65 multinationals created 82 research labs. More than 70 % of these labs were active in ICT; the others were active in chemistry, biology and medicine, and automobiles. The Chinese government has been encouraging foreign investment in the country’s high-tech industries, motivated by the key role played by foreign direct investment (FDI) in introducing new technologies. China’s FDI has changed during the past 20 years (*World Investment Report*, 2001). While FDI in China was mostly concentrated on labour-intensive industries in the 1980s, it turned to capital-intensive industries in the early 1990s, but has shifted recently to high-tech industries. Since the late 1990s, a series of preferential treatments, especially relating to taxation incentives, are accorded to FDI in high-technology sectors.

As a consequence, foreign-owned firms now play a very important role in Chinese high-tech industries. They account for more than half of the value-added in high-tech industries.

#### The ratio of value-added of high-tech industries to value-added of manufacturing: China and selected countries

	1995	1996	1997	1998	1999	2000
China	6.2	6.6	6.9	8.1	8.7	9.3
USA	20.1	21.1	21.6	21.8	22.1	23.0
Germany	8.8	9.2	9.6	9.5	10.3	11.0
France	13.0	12.5	13.9	13.7	14.0	13.6
UK	14.5	14.3	15.0	15.5	16.3	17.0
Italy	8.2	8.7	8.5	8.6	9.0	n.a.

Sources: China statistics yearbook on high-technology industries (2003) and OECD STAN database, 2004.

#### Value-added of high-tech industries by ownership (2002) (CNY 100 million)

	All firms	Foreign firms	Share of foreign firms in all firms (%)
High-tech industries	3 769	2 060	55
Medical and pharmaceutical products	835	199	24
Aircraft and spacecraft	149	12	8
Electronic and telecom equipment	1 939	1 268	65
Computers and office equipments	604	484	80
Medical equipments and meters	242	96	40

Source: China statistics yearbook on high-technology industries, 2003.

## 1. The internationalisation of research and development: trends and drivers

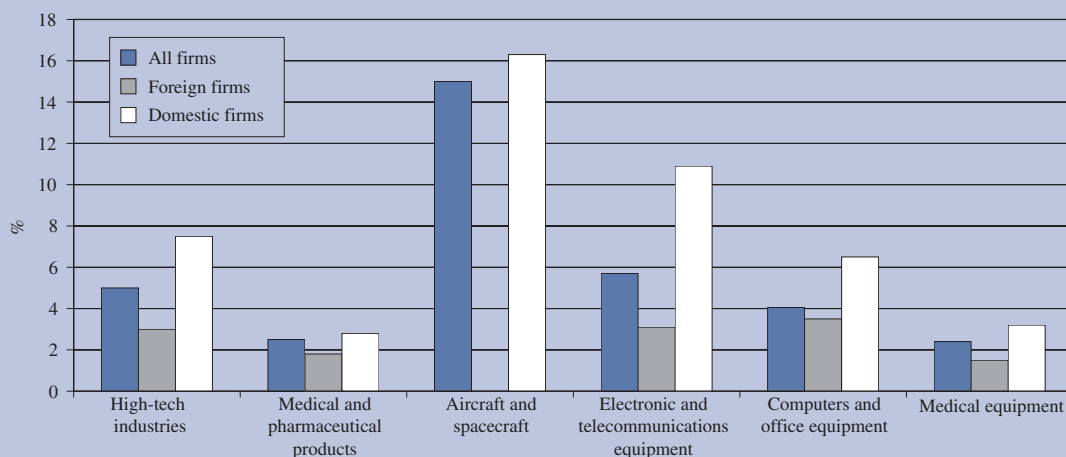
The entry and presence of foreign firms bring into China not only production facilities but also R & D sources, as reflected in the R & D expenditures by foreign-owned firms. Foreign firms are quite active in R & D in some sectors, such as computers and electronics. However, domestic firms are still the major players in terms of R & D input. Although foreign firms account for more than half of the value-added in the Chinese high-tech industries, it appears that foreign firms' R & D expenditures are not in proportion with the high value-added. The R & D intensity (R & D expenditure to value-added ratio) of foreign firms is only about half of that of domestic firms (See Figure 2). This reflects that most of the R & D from the MNEs investing into China still remains at 'home'.

But the trend is clearly increasing. Since the mid-1990s, multinationals have set up a number of R & D centres in China, shifting the R & D facilities from corporate or other subsidiaries to China. Although the exact number of these foreign R & D centres is not clear, the evidence suggests that it is increasing quite fast<sup>(1)</sup>. Driven by increasing economic pressures on high-tech industry and

the growing global competition for international R & D, many foreign investors in China are now also consolidating their overall number of research-related programmes while simultaneously shifting toward more advanced R & D activities. Due to recent WTO-related reforms, foreign high-tech enterprises are allowed, in many cases, to establish wholly foreign-owned subsidiaries in China, which are more attractive than joint ventures for conducting R & D. Moreover, many foreign investors have found their existing joint ventures difficult to manage, and are consolidating these ventures as well, often by forming a new wholly-owned enterprise. According to the latest data from the Ministry of Commerce of China, wholly foreign-owned firms accounted for nearly half of all the foreign-invested firms by the end of 2003. This consolidating of production and R & D into wholly-owned firms reflects the concern of foreign firms to prevent core technology from leaking to other firms.

<sup>(1)</sup> According to *People's Daily* (28 October 2002), nearly 400 foreign R & D centres of various types have been established in China.

Ratio of R & D expenditure to value-added by ownership in the Chinese high-tech industries, 2002



Source: *China statistics yearbook on high-technology industries, 2003*.



## 2. The location of multinationals across EU regions

### Summary

This chapter reviews the existing literature and provides empirical evidence on the pattern and determinants of the location decisions of multinational companies across EU regions by focusing on the case of the manufacturing industry during the period 1998–2002. Overall, FDI appears to be largely concentrated around the so-called blue-banana going from the south of the UK to the northern Italian regions, including the region Ile de France. Other regions such as Catalonia and the Madrid region and countries such as Ireland and Denmark have also attracted a large number of new foreign affiliates. The new Member States have also been particularly attractive, although the location of multinationals was geographically more dispersed in these countries. Overall, foreign

investors have mainly located in regions with good market access, with an existing strong industrial base and well-educated labour force. The econometric evidence also reveals some notable differences between the old and the new Member States concerning the determinants of FDI. In particular, market access and the level of corporate taxes appear to be of minor importance for multinationals in the manufacturing industry investing in the new Member States. Differences also exist depending on whether the multinationals originate from EU or non-EU countries. More specifically, market access and labour force education levels appear to matter more for Japanese and US investors compared to their EU counterparts. EU investors, on the other hand, tend to give more importance to the existence of a local manufacturing base and also tend to locate more in the new Member States.





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# 1. Introduction

The great diversity of economic development levels in EU regions suggests that not all regions may be equally attractive for FDI. This in turn implies that, while FDI may exert an overall positive effect at the EU and national level, this impact may well differ across regions eventually triggering regional economic inequalities. Studying the location pattern of multinationals across EU regions should then help to understand how the benefits of the internationalisation of EU economies spread across EU regions. Besides the obvious implications in terms of regional economic inequalities, adopting a regional rather than a national approach to FDI may also allow the highlighting of a number of interesting features regarding the determinants of FDI. For instance, EU regions appear to have very unequal access to the most prosperous markets both within and between countries. At the same time, firms will

tend to locate in regions with better market access increasing, in turn, the attractiveness of these regions. A better understanding of the mechanics behind the location decision of multinationals may thus allow the drawing of useful policy implications aimed at improving the attractiveness of the most backward areas. This chapter first describes the existing empirical literature concerning the location pattern of FDI in the EU. Some evidence is also provided using data taken from the Amadeus database for the period 1998–2002. Then, the chapter concentrates on the determinants of FDI location by focusing on a number of variables that have been identified as being important in the existing empirical literature. The section concludes by providing econometric estimates of the determinants of the location of multinationals using a panel of firms for the manufacturing industry using the Amadeus database.

## 2. Where do multinationals locate?

### The location pattern of multinationals across European regions

#### 2.1. A review of the existing empirical evidence

Existing evidence on the location of multinational companies in Europe is often limited to single-country studies. Generally speaking, these studies show that FDI tends to be rather concentrated in the most developed EU regions. For instance, Guimarães et al. (2000) show that, between 1985 and 1992, foreign start-ups in Portugal located preferably along the western part of the country and especially around the cities of Porto and Lisbon. Basile (2004) shows that, during the 1990s, foreign investors in Italy's manufacturing industry located almost essentially in the northern regions of the country. Barrios et al. (2005a) show for Ireland that, while foreign investors in the manufacturing industry tended to be concentrated around the Dublin area up to the early 1990s, they have progressively tended to be more dispersed towards more backward counties such as Limerick and Cork. According to these authors, while the Dublin region harboured around 40 % of foreign manufacturing employment in 1970, this share fell to below 25 % in 2000. The evidence concerning the whole EU is more limited. In a recent study, Head and Mayer (2004) provide an overview of the location pattern of Japanese multinationals in the manufacturing industry in EU-15 regions during the period 1980–95. They show that Japanese FDI in the EU was mostly concentrated in the UK and in northern EU regions. Japanese investors also tended to locate around urban clusters such as the Ile de France region in Paris, the Milan region in Italy, the Brussels and Flanders regions in Belgium, the southern regions of the Netherlands and Catalonia in Spain. The existing evidence for the new Member States provides more contrasting patterns. Altomonte and Remini (1999) investigate the geographical location pattern of FDI in Poland, the Czech Republic, Hungary and Romania during the

1990s. They show that, while the geographical distribution of FDI in these countries was initially concentrated around the capital regions, multinationals have tended to be more dispersed over time. The latter is true in particular for the case of the manufacturing industry, while FDI in the services sector remained highly concentrated around the capital cities. Despite these general evolutions, the Altomonte and Remini (1999) results suggest that the patterns of multinational location depend very much on the country considered. In the early 1990s, FDI in the Czech Republic was mainly concentrated in regions located close to the Austrian border and operated mainly in the manufacturing industry. Progressively, during the 1990s, FDI has tended to spread across the whole country with the exception of Prague where FDI, especially in the services sector, has tended to be highly concentrated. In Hungary, by contrast, FDI in the capital region tended to increase substantially during the 1990s. At the end of this period, however, FDI in Hungarian regions has tended to be more geographically dispersed. In Poland, FDI in the services sector concentrated in the Warsaw region, while FDI in the manufacturing industry located mainly around the city of Gdansk where the manufacturing industry was traditionally located.

#### 2.2. Evidence on multinationals' location choice using the Amadeus database, 1998–2002

This section makes use of the Amadeus database in order to provide evidence on the location pattern of multinational companies across 236 NUTS2 regions during the period 1998–2002. The Amadeus database initially contained data on balance sheet of around 5 000 000 companies. A panel of 1 082 newly created firms were selected with more than 50 % of their total assets owned by non-

**Box 1: The Amadeus database**

The data is taken from the Amadeus database collected by the Bureau van Dijk ([www.bvdep.com](http://www.bvdep.com)). The database consists of company accounts reported to national statistical offices concerning European companies with total turnover or assets at least equal to USD 12 million or total employment of at least 150 employees. For each company, the database provides the year of creation, the country/region and the ownership structure by nationality. Companies were selected when they were newly created during the period considered, that is, 1997–2002 and when the percentage of assets owned by non-residents was superior to 50%. The data also includes the region where the firm was founded, as well as the main sector of activity given by a NACE code of four digits and which concern 197 branches of activities. This information was available for the following countries: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Spain, Sweden and the UK <sup>(1)</sup>. At the geographical level, the NUTS2 grouping was used. For countries such as Denmark, Estonia, Ireland, Latvia and Lithuania, the whole country was

considered as a NUTS2 region. Initially 1 346 companies (out of a total of 6 632 for the whole manufacturing industry) in the database were reported to have been created between 1998 and 2002 and having more than 50% of their capital owned by non-residents. Out of these companies, 1 082 of them reported the region and/or city where the firm was founded, and were retained for the study.

A limitation of these data for studying the location pattern of multinationals is that the data contain firm-level rather than plant-level information which would be needed in order to study the exact geographical location of each foreign affiliate. This can potentially bias location in favour of regions where headquarters tend to locate, typically capital-regions cities. The results presented here, however, suggest that this bias is likely to be minor in the Amadeus database, especially given that, for the new Member States, the geographical pattern of multinationals' locations appears to be quite dispersed. Another issue with the data is that it concerns only medium to large companies. If these companies tend to concentrate in some particular regions, these regions will in turn tend to be over-represented. Meanwhile, other regions, where smaller companies could possibly locate would be under-represented. This could explain why, as shown in the map, some other regions such as the south of Portugal tend to be under-represented in the sample.

<sup>(1)</sup> Initially data for Bulgaria and Romania were also available, but the selection procedure of the companies located in these countries is different from the one concerning the other countries such that information on these was not included.

residents, including both EU and non-EU non-residents. Box 1 provides further details about the Amadeus database and the selection of multinationals' affiliates. It is important to note that these figures are not exhaustive, given that the Amadeus data only covers part of the firm population, although the results presented here provide broad patterns in line with the existing empirical evidence provided earlier <sup>(1)</sup>. Table 1 provides the distribution of multinational location by country groups, making the distinction between the new Member States (NMS) and the EU-15. The database shows that 20.2% of mul-

tinational locations took place in the NMS while 79.8% took place in the EU-15 between 1998 and 2002. Table 1 shows that the sectors that have attracted the largest number of newly created multinational affiliates are electrical and optical equipment (19.8% of the total), chemical products (13.6%), machinery and transport equipment (10%), machinery and equipment n.e.c. (8.5%) and food products and beverages (8.4%). These proportions are roughly similar for the EU-15 and the NMS although in the former case the share for chemical industry is especially high (15.4% of the total for the EU-15) while for the NMS it is rather low (4.6% of the total of new foreign affiliates). On the other hand, the number of new affiliates in the rubber and plastic products branch has been more pronounced in the NMS (10.5%) than for the EU-15 (4.5%).

Map 1 plots the number of new multinational affiliates by NUTS2 regions where each dot represents one newly created foreign affiliate. Overall, the picture depicted generally corresponds to the existing evidence of busi-

<sup>(1)</sup> As a matter of comparison, data on merger and acquisition sales taken from the Thompson Financial Services database shows that, during the same period and for the same sample of countries and branches of activity, the NMS country group received around 10% of the total number of M & A operations against 90% for the EU-15. Although the two datasets are not strictly comparable, in particular because the Amadeus database includes also Greenfield investments, these figures tend to suggest that the data presented here is rather representative of the general trends in FDI observed during the period 1998–2002. Alternative data, taken from the Unctad database on FDI value, shows that 95% of the total value of FDI was absorbed by the EU-15 country group against 5% for the NMS group.

Table 1

**Distribution of multinational location by sector of activity and country group, 1998–2002**

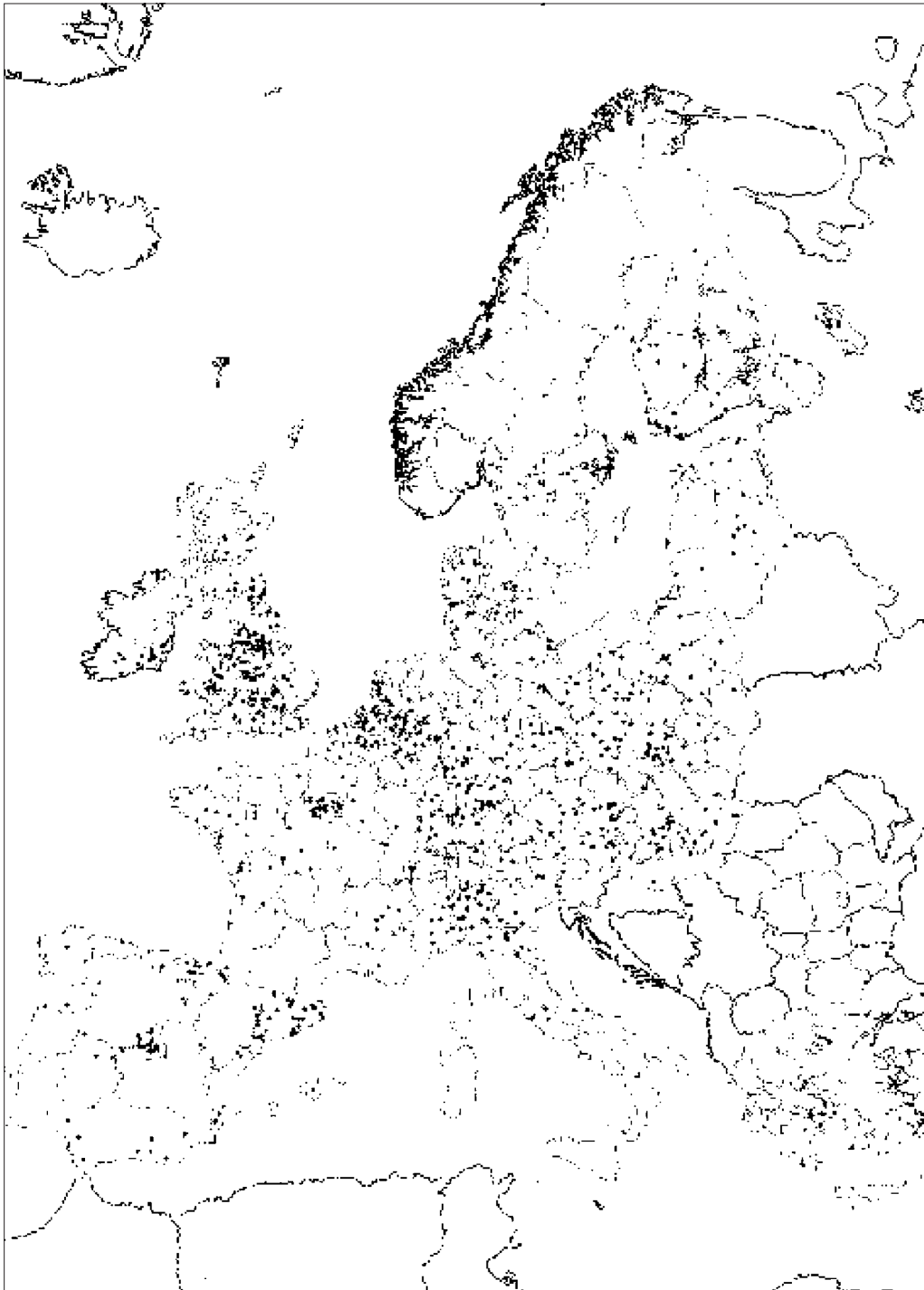
	Total		NMS		EU-15	
	MNE location	%	MNE location	%	MNE location	%
Basic metals and fabricated metal products	108	10.0	24	11.0	84	9.7
Chemicals, chemical products and man-made fibres	147	13.6	10	4.6	137	15.9
Coke, refined petroleum products and nuclear fuel	2	0.2	0	0.0	2	0.2
Electrical and optical equipment	214	19.8	44	20.1	170	19.7
Food products, beverages and tobacco	91	8.4	25	11.4	66	7.6
Leather and leather products	7	0.6	2	0.9	5	0.6
Machinery and equipment n.e.c.	92	8.5	17	7.8	75	8.7
Other non-metallic mineral products	43	4.0	13	5.9	30	3.5
Pulp, paper and paper products; publishing and printing	72	6.7	15	6.8	57	6.6
Rubber and plastic products	62	5.7	23	10.5	39	4.5
Textiles and textile products	35	3.2	7	3.2	28	3.2
Transport equipment	108	10.0	26	11.9	82	9.5
Wood and wood products	13	1.2	2	0.9	11	1.3
Manufacturing n.e.c.	48	4.4	11	5.0	37	4.3
Non identified	40	3.7	0	0.0	40	4.6
<b>Total</b>	<b>1 082</b>	<b>100</b>	<b>219</b>	<b>20.2</b>	<b>863</b>	<b>79.8</b>

Sources: Amadeus database, Commission services.

ness location across EU regions. On the one hand, most new foreign affiliates appear to be largely concentrated around the so-called ‘blue-banana’, i.e., NUTS2 regions located from the UK to the north of Italy, including the Îles de France. Ireland, Denmark and the north of the UK have also hosted a large number of new multinational affiliates, which is in line with the evidence provided by Head and Mayer (2004). In addition, the data show that other areas, such as the Spanish NUTS2 regions of Madrid, Basque country and Catalonia, have also attracted a substantial number of new multinationals during the period 1998–2002. On the other hand, FDI in the new Member States is largely concentrated in Polish and Hungarian regions and also, to some extent, in Latvia. Interestingly though, FDI in these regions seems to be less geographically concentrated than in their EU-15 counterparts. Existing empirical evidence tends to sug-

gest, however, that multinationals in the NMS are mainly located around the capital city despite recent trends towards greater dispersion. This is also, to some extent, what can be observed here with, for instance, the NMS capital regions concentrating 19 % of the total number of affiliates versus 15 % for the EU-15. Some regions, notably in southern Portugal and Greece, are clearly under-represented which could well be due to the fact that the Amadeus database is biased towards large firms (see Box 1). One possible explanation could be that FDI in these regions is relatively small in terms of the size of the companies created, so these regions may be under-represented in the sample considered here. In addition, the fact that the database only reports firm-level information rather than plant-level may also act in favour of (richer) regions where foreign headquarters tend to locate.

*Map 1: The location pattern of newly created multinational affiliates in the EU manufacturing industry, 1998–2002*



Sources: Economic and Financial Affairs DG and Amadeus database, Bureau van Dijk.

# 3. A review of the determinants of the location choices of multinationals

This section reviews the existing literature on the determinants of FDI by focusing on the role played by market access, agglomeration economies, labour costs and skills, public incentives and corporate taxes, transport infrastructures and public governance.

## 3.1. Market access

The size of the local market as well as access to other (neighbouring) markets is likely to exert a strong influence of business location choices. In particular, market access can magnify the influence of local demand on production structure and business location in the presence of increasing returns to scale in production <sup>(1)</sup>. In the context of FDI, market access would thus exert a strong attraction for foreign firms producing on a large scale and seeking to export their products to the rest of the EU. Market access is rather unequal across EU regions despite the rapid integration process that has taken place over the past decade, in particular through the implementation of the single market programme. This may be partly due to intangible barriers to trade (such as cultural ones) but also remaining administrative barriers to intra-EU trade <sup>(2)</sup>. Multinationals choosing to locate their activity in the EU must then face the cost related to market fragmentation. Head and Mayer (2004) consider the influence of these trade barriers on the location choices of Japanese multinationals in the EU. In particular, these authors use a model-based approach to measure the effect of distance and administrative borders on bilateral trade flows between EU countries, while controlling for possible competition stemming from

rival firms (see Box 1 for further details). In doing so, they are able to estimate for each EU region/industry pair the level of market access accounting for bilateral trade barriers and local competition. Head and Mayer (2004) further use these estimated border effects as explanatory variables in a discrete choice model of Japanese multinationals' location decisions in the EU during the period 1980–95. They find that a 10 % increase in the market potential raises the likelihood of a particular region to be chosen by a Japanese foreign affiliate by 3–11 %, depending on the specification.

## 3.2. Agglomeration economies

The existing empirical literature shows that firms tend to make the same location choice where other firms with similar characteristics, such as nationality of ownership and the sector of activity, are already established. Multinational companies may be risk averse and they may gain from the experience of other companies active in a particular location. This learning process may, in turn, be more effective when experience is shared between firms of the same nationality <sup>(3)</sup>. Multinationals may also locate where producers in the same or in related industries may already be present in order to benefit from potential industry-specific spillovers <sup>(4)</sup>. The location of industries may follow a cumulative causation process if agglomeration economies are to arise, since start-up firms may tend to locate in existing industrial centres, increasing in turn the relative attractiveness of these through a circular process (see Fujita and Thisse, 2002).

<sup>(1)</sup> The economics literature has often referred to this influence as the home-market effect (see, in particular, Davis and Weinstein, 1999 and 2003).

<sup>(2)</sup> Head and Mayer (2000) provide evidence for this using a trade-gravity approach and showing that intra-country trade largely outpaces between-country EU trade even after controlling for a number of other variables such as market size and geographical distance.

<sup>(3)</sup> See Head et al. (1995), Crozet et al. (2004) and Basile (2004).

<sup>(4)</sup> An example of such potential spillovers is related to the availability of skilled labour following Marshall's (1898) seminal analysis. Accordingly, a region specialised in a certain sector of activity usually hosts an abundant workforce with skills specific to this particular industry. Such availability of skilled workers may, in turn, attract more firms seeking to minimise the risk of skill-specific shortage.



These kinds of externalities are industry-specific and are often termed economies of localisation (or specialisation) (see Henderson, 1974). Agglomeration economies are not only industry-specific, however. According to Jacobs' (1969) view, there are also potential gains from urban diversity related to the cross-fertilisation of ideas. In particular, Henderson (1988) has shown that economies of localisation and economies of urbanisation do not have the same influence on industries' location according to the type of industry one considers. Mature (or traditional) industries will tend to locate in regions where economies of localisation dominate while modern (or high-tech) industries and business services locate in highly urbanised areas. Using these different types of agglomeration economies, Defever (2005) and Guimarães et al. (2000) find that, depending on the nature of their activity, i.e. either mature or high-tech and R & D-intensive activities, multinationals' affiliates will be influenced by different agglomeration forces when choosing potential location sites.

### 3.3. Labour costs and skills

Labour costs are likely to be important determinants of the location of multinational companies. Given that they operate at a global scale, multinationals are able to fragment production processes and choose the best location possible for each production stage while minimising overall production cost. Accordingly, it can be expected that multinationals choose locations offering cheap labour costs for activities relatively intensive in labour. Most authors usually find a significant and negative sign related to the level of wages and labour costs on multinationals' location. However, this variable does not appear to be the most important when determining the location of FDI. For instance, Defever (2005) finds a negative but insignificant influence of real wages on the location of non-EU multinationals across EU regions. He also finds, however, that real wages matter only for production-types of activities while for other activities, in particular for research and development, this variable displays an insignificant coefficient<sup>(1)</sup>. Ideally, though, one should consider unit labour costs in order to properly measure both the cost and productivity of labour as determinants of FDI. Such a variable is rarely available at a local/

regional level, however<sup>(2)</sup>. An alternative solution is to consider a proxy of the quality of the workforce using measure of its qualification as an additional control variable. Guimarães et al. (2000) use, for instance, the proportion of labour force with elementary and secondary education levels but fail to find any significant influence of these variables on the location of multinationals in Portuguese regions.

### 3.4. Public incentives and corporate taxes

High corporate taxes are likely to deter multinationals' location by reducing the after-tax rate of return of investments in a particular location (see de Mooij and Ederveen, 2003, 2005). At the same time, regions and/or countries may use public subsidies and grants to attract certain categories of firms, especially multinationals in high-value types of activity. In doing so, they would expect that the money spent in attracting multinationals may be more than compensated by the rewards of attracting firms with potentially large spillovers for local industry and generating highly qualified employment. Existing evidence on this issue mainly concerns the USA<sup>(3)</sup>. The economic significance of such incentives is generally considered to be small, however, and usually outpaced by the importance of other factors such as the existence of backward/forward suppliers, good transport infrastructures and public services and skilled labour forces. Evidence concerning the EU is relatively scant. Devereux and Griffith (1998) examine the choice of location for US firms locating in the European market and find that the tax rate plays a significant role in the choice between alternative locations in Europe. Barrios et al. (2005) study the location of multinationals in Irish counties since the 1970s by focusing on the role played by agglomeration economies and public incentives. They find that public incentives have only been effective in attracting low-tech firms to the targeted areas while high-tech firms tended to locate in the most developed areas. Their results also show that, during the 1990s, high-tech firms have tended to spread more evenly across the country.

<sup>(1)</sup> Other authors such as Devereux and Griffith (1998), Head et al. (1999) and Guimarães et al. (2000) have found insignificant or even positive results on the labour-cost variables.

<sup>(2)</sup> An exception to this is the study by Basile (2004) who allows for such a variable for the Italian regions. He finds that unit labour costs tend to deter FDI. This effect is also statistically significant.

<sup>(3)</sup> See Coughlin et al. (1991), Coughlin and Segev (2000), Friedman et al. (1992), Woodward (1992) and Head et al. (1995, 1999).

### **3.5. Transport infrastructure**

The availability of good transport infrastructure is likely to be an important determinant of the location choice of multinationals. This is especially true when considering export-oriented multinationals in the manufacturing sector. Basile (2004), in a study for Italy, uses a general synthetic index of the stock of public infrastructures and finds a positive and significant coefficient for this variable on the location of FDI across Italian regions. The author further provides simulations to estimate the extent to which an increase in public infrastructures may raise the attractiveness of the Mezzogiorno for FDI, and finds that only a substantial increase in public infrastructure in this area (which the author estimates between 80 % and 160 %) would raise FDI in the Mezzogiorno by about nine to 19 percentage points. In this particular context, this points towards a limited impact of transport infrastructures for this specific purpose.

### **3.6. Governance**

While the role played by governance as determinant of foreign direct investment has mainly been the subject of studies concerning developing countries, a number of authors have included this variable as a determinant of

the location choice of multinationals in studies concerning the European case. Existing results indicate the positive influence of elements such as political stability, government effectiveness and the rule of law <sup>(1)</sup>. These factors are likely to be especially important for new Member States and candidate countries. For instance, in a recent contribution concerning eastern Europe and the former Soviet Union, Smarzynska (2004) finds that weak protection deters foreign investors in technology-intensive sectors that rely heavily on intellectual property rights. Moreover, her results indicate that a weak intellectual property regime encourages investors to undertake projects focusing on distribution rather than local production. In another recent contribution, Disdier and Mayer (2004) show that institutional quality, together with the level of GDP per head, are the main distinctive explanatory variables determining the location choice of multinationals in the EU-25. These authors further show that, in the case of the new EU Member States, the influence of institutional quality has tended to decrease during the 1990s together with the completion of the transition process of these countries.

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<sup>(1)</sup> See, for instance, Defever (2005).

## 4. Estimating the determinants of the location of multinationals across EU regions during 1998–2002: results using the Amadeus database

This section provides econometric estimations concerning the determinants of newly created multinationals' affiliates in EU-25 regions. A sample of 1 082 new affiliates of multinationals, taken from the Amadeus database and observed during the period 1998–2002, is used for this purpose. The empirical model assumes that multinationals behave as profit maximisers, seeking to choose production site among a set of alternatives (see Box 2 for further details on the econometric methodology). Non-EU regions are not considered here, such that it is assumed that the set of choices is restricted to EU regions only. The dependent variable thus takes a value equal to one for the NUTS2 region effectively chosen by the multinational and zero for all other (alternative) sets of regions. Table 2 provides a definition of the explanatory variables used in the estimations.

The conditional logit estimation method is used in order to test the significance of the explanatory variables defined in Table 2. All variables discussed in Section 3 are included in the regressions except a variable on transport infrastructures for which information was available at the NUTS2 regional level for the set of regions considered here.

The first variable, market size, measures the relative attractiveness of each region in term of market access. This variable is equal to the value of the GDP of each region  $j$  plus a weighted average of the GDP of all other regions  $s$ , distant from  $j$  by a distance equal to  $d_{sj}$ . This variable is expected to display a positive sign as larger market access provides better prospects for companies trying to expand their presence in the EU. The region with better market access will thus be more attractive, especially in activities

displaying economies of scale. The second variable, corporate tax, measures the top statutory tax rate on corporate income. This indicator is the sum of the regular corporate tax rate plus any surcharges, as levied for instance by some countries to finance local government <sup>(1)</sup>. This variable is expected to display a negative coefficient, given that higher taxes reduce net profits of a particular location and is thus likely to deter business location there. This is especially true for multinationals which are, in principle, able to choose among different countries as alternative location choices. However, high corporate taxes may also serve to finance good transport and other public infrastructures which may attract FDI such that the overall effect of high corporate taxes on multinationals' location choice is unclear. Despite this, existing empirical evidence for the EU indeed suggests that high tax rates tend to deter FDI, see Benassy-Quéré et al. (2001) and Devereux and Griffith (1998, 2003) for instance. The third variable is wage and

<sup>(1)</sup> The use of a nominal corporate tax rate faces a number of limitations. The first inconvenience is that this indicator does not take into account differences in the tax base. Nominal tax rates are potentially sensitive to business cycle variations, resulting in a rise (decline) in line with economic expansion (slowdown) phases. The second inconvenience is that multinational location choices would also require a specific treatment especially given that investors' decisions are mutually exclusive and thus the marginal approach is not suited. Devereux and Griffith (1999) have proposed a methodology in order to estimate the impact of taxation for mutually exclusive investments generating an economic rent as in the case of multinational location choice. The European Commission (2004) has provided some estimates for the EU-15 countries and the year 2001 using Devereux and Griffith methodology, while Finkenzeller and Spengel (2004) have provided recent estimates for the new Member States using the same methodology. Such data is, however, not available for the time span considered here. The results presented here are likely though to mirror the real influence of corporate taxes. This is evidenced by the fact that the Spearman rank correlation between the statutory tax rate and the effective average tax rate for FDI fluctuates between 0.73 and 0.85 depending on the mode of financing of FDI.

Table 2

Definition of explanatory variables used and data sources

Variable name	Definition	Statistical source	Level
Market size	$MP_j = \sum_{s=1}^S \frac{Y_s}{d_{sj}}$ where $Y_s$ is the GDP in PPP for region $s$ distant by $d_{sj}$ km from region $j$ . $d_{sj}$ is the spherical distance between each pair of region	Eurostat and Economic and Financial Affairs DG	NUTS 2
Corporate tax	Effective top statutory tax rate on corporate income. Existing surcharges and average of local taxes are included.	European Commission, Taxation and Customs Union DG	Country
Education	Percentage of labour force with at least secondary or tertiary education level	Labour force survey (Eurostat) and Economic and Financial Affairs DG	NUTS 2
Wages	Real wage per employee	Eurostat and Economic and Financial Affairs DG	NUTS 2
Industrial base	Percentage of total employment in the manufacturing sector	Eurostat and Economic and Financial Affairs DG	NUTS 2
Governance	Average value of score indicators ranging from 0 to 100 including: — voice and accountability; — political stability and absence of violence; — government effectiveness; — regulatory quality; — rule of law; — control of corruption	World Bank <i>Governance Matters IV: governance indicators for 1996–2004</i> by D. Kaufmann, A. Kraay, and M. Mastruzzi (2005)	Country
Capital region	Dummy variable equal to one if country's capital city located in NUTS 2 region	Eurostat	NUTS 2
English	Dummy variable equal to one if official language is English	Economic and Financial Affairs DG	Country
NMS	Dummy variable equal to one if NUTS 2 region located in one of the 10 new Member States who joined the EU in May 2004	Economic and Financial Affairs DG	Country

Sources: Amadeus database, Commission services.

measures the real wage per employee. If labour costs are important for multinationals operating at the EU scale then producers will tend to choose location with the lowest possible wages per employee. Ideally, however, one would need to use a measure of the labour cost adjusted for the productivity of labour. Such a measure is not available for the set of NUTS2 regions considered here. An alternative is to control for the quality of the labour force. For this reason, the fourth variable considered is education. This variable measures the percentage of the workforce with at least secondary or tertiary education level. This variable is a proxy for the quality and skills of the workforce which are deemed to be important in particular for high-tech and skill-intensive types of activity. The expected sign for this variable is thus positive. The fifth variable is a measure of agglomeration economies represented by the percentage of each NUTS2 total employment in the manufacturing sector. This variable is called industrial base and is intended to capture the fact that a high share of workforce employed in the manufacturing sector is likely to provide the kind of agglomeration economies discussed in Section 2. In particular, a high share of employment in the manufacturing sector is likely to correspond to a specialised labour force and

to the presence of local suppliers. The expected sign for this variable is thus positive. The sixth variable is a measure of the quality of governance, which is an average index of a number of indicators on accountability of the public sector, political stability, government effectiveness, regulatory quality, rule of law and control of corruption.

Finally, the estimations also control for two additional dummy variables. The first one is capital region and is equal to one if a country's capital is located in a particular NUTS2 region. This variable is included to control for the fact that foreign investors are likely to be attracted by capital regions given that these regions often offer the best access to (international) transport infrastructures and other capital city-specific attributes likely to attract foreign investors. This variable is likely to be important in the new Member States although existing evidence shows that multinationals tended to be more spatially dispersed in these countries in the late 1990s. The second dummy variable is called English and takes a value equal to one if the official is English; this concerns the UK and Ireland. The English dummy variable is included, given that the English language is often the common language

used by multinationals. This is especially true in countries where qualified local labour force is scarce and multinationals often employ home workers for which English is the working language.

Table 3 displays the results of the estimation of equation (20) described in Box 2 using as explanatory variables the ones described in Table 2. General results are depicted in column 1. Most variables display the expected signs and are usually statistically significant at the 1 % confidence level. An exception to this is the governance variable which displays a negative coefficient although not significantly different from zero. The same holds for the capital region and English dummy variables which display insignificant coefficients. Overall, these results fit well with the existing evidence for other countries (see, for instance, Head and Maye, 2004). These estimations can provide an idea of the influence of these variables on the probability for a particular region to be chosen by a multinational. For instance, the coefficient on market size suggests that a doubling of market size would equivalently multiply by two the probability for a region to be chosen by a multinational. Using the coefficient on corporate tax, one finds that a decrease of one percentage point of the tax increases the probability for of location of multinationals by approximately 4.2 %. The results concerning the education variable suggest that this variable exerts a positive and significant influence on multinational location choices. The estimation of column 1 in Table 3 shows that an increase of one percentage point of the rate of educated workers would increase the probability of a region to be chosen by a multinational by 2.1 %. The influence of the industrial base is also particularly sizeable, suggesting that agglomeration forces play an important role in determining the geography of multinationals' location in the EU. The coefficient estimated shows that an increase in the share of employees working in the manufacturing industry by 10 percentage points would raise the probability of being chosen by a multinational in the same sector by approximately 36 %.

The above results say little about possible differences across EU countries and, in particular, about the possible differences existing between the EU-15 and the NMS. In order to investigate this, column 2 includes a dummy variable equal to one for those regions belonging to one of the 10 Member States which joined the EU in May 2004. The coefficient on this variable is positive and significant, suggesting that the regions belonging to the new Member States have been quite attractive for FDI. Interestingly though, the coefficient on the capital region variable is

now negative and significant, suggesting that there is some co-linearity between this and the NMS variable.

Although little can be said concerning the sign of this correlation, a more general analysis of the difference in determinants between the EU-15 and NMS country groups can be undertaken by interacting all explanatory variables with the NMS dummy variable. A significant interaction term would indicate that the influence of any of these variables is significantly different between these two country groups. Column 3 reports the results of these estimations including the interaction terms just mentioned.

Accordingly, only three interactions are statistically significant: NMS\*market size, NMS\*corporate tax and MS\*education. In the case of NMS\*market size, the coefficient is negative suggesting that the effect of the market size on the location of multinationals is significantly lower when the regions concerned are located in one of the new Member States. This can be explained by the fact that these regions are geographically distant from the (richer) EU-15 markets such that the access to local market is likely to be a less important factor attracting multinationals in the new Member States. The term NMS\*corporate tax is positive. Given that the coefficient of the corporate tax variable displays a negative value, the influence of the level of this variable is significantly lower for those firms locating their production facilities in the NMS regions. This result suggests that the tax motive does not seem to provide a distinctive advantage in order to attract multinationals in the NMS. The interaction term NMS\*education in turn displays a positive coefficient meaning that higher qualification of the workforce in the NMS is likely to be a more important factor attracting multinationals compared to the EU-15. This, in turn, means that those NMS where the workforce is highly qualified are likely to be attractive for FDI.

A further distinction can be made between branches of activity using, for instance, the grouping of investors according to whether they belong to hi or low-tech industries <sup>(1)</sup>. Columns (4) and (5) provide the results of the estimations for the high- and low-tech branches respectively. The coefficients obtained are rather similar between the two branch groups and never statistically significant except for the wage variable which displays a higher coefficient for the

<sup>(1)</sup> The branch grouping into high and low-tech activities is taken from Görg and Strobl (2002).

Table 3

Conditional logit estimations of the determinants of multinational location choice across NUTS 2 EU regions, 1998–2002

	(1)	(2)	(3)	(4) High-tech branches	(5) Low-tech branches	(6) EU-15 multi- nationals	(7) US-Japan multi- nationals
Market access	1.011 <sup>(3)</sup> (0.047)	0.988 <sup>(3)</sup> (0.048)	1.029 <sup>(3)</sup> (0.052)	1.017 <sup>(3)</sup> (0.056)	0.914 <sup>(3)</sup> (0.090)	0.959 <sup>(3)</sup> (0.060)	1.287 <sup>(3)</sup> (0.109)
Corporate taxes	-4.822 <sup>(3)</sup> (0.623)	-4.690 <sup>(3)</sup> (0.633)	-5.022 <sup>(3)</sup> (0.686)	-4.983 <sup>(3)</sup> (0.740)	-3.806 <sup>(3)</sup> (1.227)	-4.326 <sup>(3)</sup> (0.774)	-5.033 <sup>(3)</sup> (1.426)
Education	2.146 <sup>(3)</sup> (0.221)	1.534 <sup>(3)</sup> (0.262)	0.529 (0.329)	1.414 <sup>(3)</sup> (0.303)	1.884 <sup>(3)</sup> (0.527)	1.299 <sup>(3)</sup> (0.317)	2.064 <sup>(3)</sup> (0.621)
Wages	-0.377 <sup>(3)</sup> (0.113)	-0.097 (0.132)	0.293 <sup>(2)</sup> (0.147)	-0.076 (0.155)	-0.182 (0.250)	-0.199 (0.161)	-0.280 (0.310)
Governance	-0.164 (0.206)	-0.228 (0.211)	0.291 (0.292)	-0.155 (0.252)	-0.364 (0.383)	0.112 (0.262)	-0.046 (0.523)
Industrial base	3.680 <sup>(3)</sup> (0.533)	3.365 <sup>(3)</sup> (0.541)	2.996 <sup>(3)</sup> (0.586)	3.349 <sup>(3)</sup> (0.636)	3.375 <sup>(3)</sup> (1.028)	3.973 <sup>(3)</sup> (0.675)	0.529 (1.216)
Capital region	-0.116 (0.102)	-0.214 <sup>(2)</sup> (0.107)	-0.132 (0.120)	-0.294 <sup>(2)</sup> (0.127)	-0.015 (0.200)	-0.205 (0.136)	-0.580 <sup>(2)</sup> (0.236)
English	-0.023 (0.096)	0.085 (0.102)	0.035 (0.105)	0.108 (0.118)	0.010 (0.202)	-0.405 <sup>(3)</sup> (0.140)	0.419 <sup>(2)</sup> (0.204)
NMS		0.674 <sup>(3)</sup> (0.161)	-0.531 (2.131)	0.769 <sup>(3)</sup> (0.186)	0.403 (0.323)	0.780 <sup>(3)</sup> (0.195)	0.393 (0.376)
NMS <sup>(1)</sup> Market access			-0.378 <sup>(1)</sup> (0.204)				
NMS <sup>(1)</sup> Corporate tax			3.448 <sup>(2)</sup> (1.739)				
NMS <sup>(1)</sup> Education			5.901 <sup>(2)</sup> (2.742)				
NMS <sup>(1)</sup> Wages			-0.344 (0.521)				
NMS <sup>(1)</sup> Governance			0.077 (0.645)				
NMS <sup>(1)</sup> Industrial base			2.874 (2.011)				
NMS <sup>(1)</sup> Capital region			-0.077 (0.266)				
Observations	239 485	239 485	239 485	175 471	64 014	146 050	54 170
Log likelihood	-5 320.74	-5 312.54	-5 290.62	-3 879.12	-1 430.36	-3 249.22	-1 151.46

NB: Standard errors in parentheses.

<sup>(1)</sup> Significant at 10 %.

<sup>(2)</sup> Significant at 5 %.

<sup>(3)</sup> Significant at 1 %.

Sources: Amadeus database, Commission services.

**Box 2. A model-based approach for estimating the location decision of multinational companies**

(see Head and Mayer, 2004 for further details)

Let  $E_r$  be the expenditure in a variety of a good produced by a given industry. Consumers have constant elasticity of substitution ( $\sigma$ ) between varieties such that demand for each industry can be derived from sub-utility function on the good produced by this industry only. The demand for each product variety can be written as:

$$q_{ij} = \frac{P_{ij}^{-\sigma}}{\sum_{r=1}^R n_r P_{rj}^{1-\sigma}} E_j \quad (1)$$

where  $p_{ij}$  is the mill price and  $\tau_{ij}$  is the trade costs between two regions  $i$  and  $j$ . In such model, competition is monopolistic such that each firm treats the elasticity of substitution between product varieties as if it was the price elasticity of demand. The mill prices  $p_j$  are thus simply markups over marginal costs ( $c_j$ ) that we assume to be region-specific such that:

$$p_j = c_j \left( \frac{\sigma}{\sigma - 1} \right) \quad (2)$$

Using (1) and (2) the quantity sold in each region  $j$  by a firm producing in a region  $i$  can be derived as follows:

$$q_{ij} = \frac{c_j^{-1} (c_i \tau_{ij})^{-\sigma}}{G_j} E_j \quad (3)$$

where  $G_j \equiv \sum_r n_r (c_i \tau_{ij})^{1-\sigma}$

The profit earned in each region  $j$  is thus:

$$\pi_r = \frac{c_r^{1-\sigma}}{\sigma} M_r - F_r \quad (4)$$

where  $M_r \equiv \sum_j \frac{\tau_{ij}^{1-\sigma} E_j}{G_j}$  is the so-called ‘market access’ term. Equation (4) therefore suggests that firms’ location choice is mainly determined by region-specific production costs and market access. Each location decision is thus treated as a discrete choice made among several alternatives. Each alternative (or region) is characterised by an expected profit level linked to the region’s specific characteristics such as its market access and all factors potentially affecting the production costs in this particular location including wages, qualification level of the workforce and so on. The location decisions of multinationals

can be thought as the result of a profit maximisation behavior. The model depicted above can thus be used to estimate the revealed profitability of each location site using discrete choice estimation techniques. Let  $P_r$  be the probability of choosing region  $r$  as location site:

$$P_r \equiv \text{prob}(\pi_r > \pi_k) = \text{prob}(\varepsilon_k < \varepsilon_r + b(X_r - X_k)), \quad \forall r \neq k \quad (5)$$

Assuming that the  $\varepsilon$  are *iii* according to a type I extreme-value distribution, the probability of choosing location  $r$  becomes

$$P_r = \frac{e^{bX_r}}{\sum_{k=1}^n e^{bX_k}} \quad (6)$$

The profit function of each firm  $k$  locating in a particular region  $j$  located in a given country can be written as follows:

$$\Pi_{kjt} = \beta_j X_{jt} + \beta_2 Z_t + E_{kjt} \quad (7)$$

Where  $X$  is the set of covariates characterising each region and  $Z$  the set of country-specific characteristics.  $E$  is the error term. This profit maximisation problem is a variant of McFadden (1974) random utility maximisation model as shown by Carlton (1983). Assuming that the  $E$  component are independently distributed across  $k$  and  $j$  and that they follow a Weibull distribution, the model can thus be estimated as in McFadden (1974) using the conditional logit approach. The coefficients of (7) can be estimated by maximum likelihood procedure under the independence of irrelevant alternatives (*ii*a) assumption. The *ii*a assumption stipulates that the probability of choosing a region  $r$  compared to another alternative  $j$ , given by  $P_r/P_j$ , depends only on the characteristics of these two regions and not on any other third choice. This implies that all alternatives should be comparable in terms of substitution patterns. If the latter does not hold, an alternative model can be the nested logit model where location choices are made as a sequence of choices and where subsets of regions meet the *ii*a hypothesis (see McFadden, 1978).

low-tech branches but still remains insignificant. The capital region dummy is also negative and significant only in the case of high-tech branches, which is rather surprising given that capital regions are usually better endowed in terms of a qualified workforce. The NMS dummy is positive and significant for the case of high-tech branches, suggesting that

these countries are especially attractive for this type of activities.

Finally, depending on whether the investor originates from the EU or outside the EU may provide further insights into the determinants of multinational location

choice in the EU. Columns (6) and (7) of Table 3 provide results making the distinction between EU-15-origin and US/Japan foreign investors respectively. Some interesting results emerge. First, market access seems to exert a stronger influence for non-EU investors than for EU investors. US and Japanese multinationals are also more reactive to differences in labour force qualification although for both country groups labour force qualification does matter. On the other hand, EU investors tend to give more importance to the existence of a manufactur-

ing base and tend to invest where other manufacturing industries are already established. Meanwhile, Japanese and US investors tend to locate preferably in English-speaking countries, specifically Ireland and the UK. Interestingly, EU multinationals tend to locate more in the new Member States than Japanese and US affiliates suggesting that the access to these new markets and, possibly, the reorganisation of their EU-wide activity using these countries as production sites, is more important than for non-EU firms.



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# 3. International outsourcing in the services sector

## Summary

With the process of globalisation and ongoing reduction in international barriers to trade and investment, the concept of outsourcing has gained not only an increasingly international dimension, but has also expanded to include the services sector. In the last two decades, technological progress, notably in information and communication technology (ICT) has facilitated global outsourcing in a range of services sectors, but particularly in IT-related and business services. Many services sectors once considered non-tradable have thereby become tradable, increasingly receptive to the benefits of international competition and specialisation. The recent expansion of international outsourcing to services has served to add fuel to the debate over the effects of outsourcing, which currently tends to focus on the outsourcing of white-collar highly skilled jobs by firms in advanced economies to low-wage developing countries. Accelerating growth in the IT and business services sectors in developing countries such as India, alongside the recent upward trend in global outsourcing of services by advanced economies such as the USA, have raised the question: is there going to be a net outflow of services sector jobs from advanced economies? This chapter brings together evidence on the extent of global outsourcing in the services sector and potential employment impacts. It complements other pieces of analysis in preceding chapters of the Annual Review, which have presented evidence on the possible theoretical consequences, the size of the phenomenon, and potential labour market impacts. Key conclusions may be summarised as follows.

- Contrary to popular belief, the empirical evidence available on the extent of outsourcing in services suggests no major one-way flow from developed to developing countries. Indeed, some larger developing countries (e.g. India) are themselves significant

outsourcers of services. However, FDI data show that the share of developing and transition economies in FDI projects related to services outsourcing is on the rise, perhaps suggesting potential for stronger outsourcing to such countries in the future.

- Taken together, the available evidence on employment suggests no major negative impacts, when estimates of job losses are compared to typical annual job turnover, but also when considered against estimates of job creation in affected sectors. It is noteworthy that, although the media focus has increasingly related to white-collar high-skill employment, service global outsourcing affecting advanced economies continues to impact more heavily on the lower-skilled. Looking at the characteristics of jobs that may potentially be affected by global outsourcing, recent OECD estimates suggest that up to 20 % of total employment in the EU-15 and the USA could be affected.
- Policy implications for Europe may be such that, while competitiveness and overall productivity could be boosted by further European engagement in global outsourcing in services, some countries may need to address the challenge of supplying/attracting highly skilled labour, to support the transition to higher value-added employment.
- In light of the rapidity of globalisation in certain services sectors and likely larger economic impacts, global outsourcing in services may raise the stakes for having sufficiently flexible labour markets, capable of minimising any dislocation. The Lisbon strategy for growth and employment provides an appropriate setting for addressing the challenge, while investment in education and training policies to enhance the skills base of the domestic labour force will also be crucial to realising the potential gains.



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# 1. An introduction to global outsourcing in services

Set in the context of the broader debate on globalisation is an issue receiving growing attention in the media and political circles in developed countries: the trend towards global outsourcing in the services sector. Until recently, global outsourcing was considered to be related exclusively to manufacturing, but in the 1990s it began to offer a possible response to ICT-related skill shortages in advanced economies such as the US <sup>(1)</sup>. The services outsourcing trend first began to take off in the US in the late 1980s, when IT companies started to focus on core activities and tap the potential of advances in ICT <sup>(2)</sup>, increasingly outsourcing ICT functions to external service providers. The trend remains most apparent in IT-related and business services sectors. However, it should be noted at the outset of this chapter that most of the available evidence on the extent of the trend remains largely anecdotal, based on survey data. There are still no official international statistics with which to measure the size of the phenomenon, the formulation of which has been hindered by a range of definitional and measurement difficulties. However, empirical analytical studies have begun to surface, and are increasing in number, alongside the strengthening political interest in the issue.

The recent trend towards global outsourcing in services has clearly been facilitated by technological progress in ICT-related activities, which has enabled companies to outsource activities that can be conducted in digitalised form, such as IT support, R & D functions, back office, call centres, and software programming. It has also permitted the standardisation of many business tasks, encouraging not only horizontal shifts of the provision of

services from A to B, but also vertical specialisation, since coordination is less problematic <sup>(3)</sup>. International outsourcing has tended to involve functions which are easy for companies to purchase from outside, due to their intensive use of information technology and low need for face-to-face contact. This includes work by clerks and data handlers, but also work by programmers and certain types of science and engineering jobs, i.e. affecting both high- and low-skill white-collar work (see OECD, 2005). This has given rise to current fears of a potential exodus of white-collar high-skill services sector employment in advanced economies to rapidly developing countries such as China and India.

Accelerating growth in the IT and business services sectors in developing countries such as India in the last decade, alongside the upward trend in global outsourcing of services by countries such as the USA, have raised the question: is there going to be a net outflow of services sector jobs from developed economies? The recent relatively 'jobless recovery' in the USA <sup>(4)</sup> may also have helped to fuel fears of international outsourcing in services, also in the context of the large and persistent US current account deficit, and the increasingly visible ascendancy of China and India in the international arena. The debate on the effects of global outsourcing in services has also come to the fore in Europe, notably in the context of high unemployment in some countries.

The evidence presented below follows on from discussion and analysis in earlier chapters of the Annual Review, of the definitions, drivers and theoretical impacts of global outsourcing. In brief, our definition of global outsourcing in services will include both the pro-

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<sup>(1)</sup> Wyckoff and Schaafer (2005) underline the growing importance of the global market for highly skilled labour. In the 1990s, the US was able to sustain rapid growth in skill-intensive industries such as software, IT and R & D despite domestic IT skill-shortages, by attracting highly skilled labour from abroad.

<sup>(2)</sup> Unctad, WIR04.

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<sup>(3)</sup> For instance, see Garner (2004).

<sup>(4)</sup> The early part of the latest economic recovery in the USA was 'jobless' until employment began to pick up in late 2003. See, for example, Schultze (2004).

curing of service inputs from a source in a foreign company, and the importation of services from a foreign subsidiary <sup>(1)</sup>.

As explained in Part I of the Annual Review, the decision to relocate production activities abroad is driven by a range of motivations, which can be grouped into three broad categories: efficiency-seeking (relating to cost differentials, quality and availability of factors of production); the acquisition and development of strategic assets (driven by the presence of other firms/institutions which may create positive externalities/information spillovers for the investing firm); and improved access to foreign markets (which relates to relocation via FDI). Since services account for a large share of production costs, there is ever-greater pressure to find lower-cost solutions <sup>(2)</sup>. Significantly, large investments in education in several developing countries are producing an increasing availability in skilled labour, while the absence of domestic employment opportunities in such countries support its supply at a relatively low wage (see Table 1, average salaries of computer programmers).

Table 1

**Average yearly salaries of computer programmers (USD)**

USA	60 000–80 000
Israel	15 000–38 000
Ireland	23 000–34 000
Canada	28 174
India	5 880–11 000
China	8 952
Poland and Hungary	4 800–8 000
Russian Federation	5 000–7 500
Malaysia	7 200
Philippines	6 564

Sources: *CIO Magazine*, November 2002; Smart Access Survey, Merrill Lynch, as used in Garner (2004).

Global outsourcing in services must be set in the context of a general trend, since the 1990s, towards corporate restructuring, as part of a strategy to concentrate on core activities (see Huws et al., 2004). Additionally, in the past many services, such as financial services, entertain-

ment, transportation, telecommunications, business and professional services were typically heavily regulated, with limited foreign ownership permitted in many countries. The deregulation of many industry and service sub-sectors alongside continued multilateral trade liberalisation may have supported a strengthening in global trade in services in the 1990s (Garner, 2004). It should be noted that services differ from manufacturing in that many activities can be structurally simpler to outsource internationally, in terms of lower capital intensity and sunk costs (Unctad, WIR04). Arguably, the trend towards international outsourcing in services could be expected to gather momentum more vigorously than in manufacturing.

Economic theory would suggest that, like other increases in international trade, services global outsourcing should be good for economic efficiency, competition and productivity. By enhancing competition in services markets, global outsourcing in services might be expected to raise domestic productivity growth by shifting resources to more efficient uses. In particular, it should encourage the domestic economy to shift to more productive and higher-value activities, thereby raising efficiency. It may offer the potential for raising productivity growth, by encouraging and facilitating the transition to comparative advantage sectors.

Mann (2005) has emphasised that productivity might be expected to rise as a result of global outsourcing of services. She suggests that some services global outsourcing could be expected to lower the price of customised software and services. It is argued that, since the price elasticity of demand for such products exceeds that of IT hardware, as these products' prices fall, demand for them will increase more than proportionately, which means that lagging sectors can afford more IT, leading sectors increase their IT use, and productivity throughout the economy is raised.

Potentially, services outsourcing might be expected to have wider impacts than outsourcing in manufacturing, because many service activities are intermediate inputs to the production of other goods and services. The importance of the services sector to GDP in many advanced economies now far outweighs that of manufacturing (see Section 2). This, alongside the fact that the pace of change for the globalisation of services has been more rapid, means that the potential impacts of international outsourcing of services may be greater than those of manufacturing. Mann (2005) has argued that, since

<sup>(1)</sup> For the purposes of considering impacts on employment in developed countries, the ownership distinction is not of great importance.

<sup>(2)</sup> Van Welsum and Vickery, 2005.



technology and trade reinforce each other, further global integration and outsourcing in goods and services may lead to greater gains and greater adjustment challenges than in the past.

With respect to employment and wages, while the immediate effect of outsourcing services may be to lower domestic employment (by relocating jobs abroad), in the longer run, lower prices for consumers and investment goods made possible by outsourcing should raise real wages and average living standards (see Schultz, 2004). Bhagwati et al. (2004) have emphasised that, even if outsourcing lowers employment/wages in certain occupations, in other cases it probably helps to create new jobs in the home country. This is because the supply of cheaper lower skilled labour abroad can mean that an activity using more highly skilled labour at home becomes economically viable. Moreover, it would seem unlikely that outsourcing (by US companies) will lower the wage level of displaced workers (in the USA) in the longer run,

because jobs newly created due to outsourcing by other countries (e.g. India) will be of a higher-value nature, i.e. higher-skilled jobs with higher wages. Linked to this issue, job losses from outsourcing should be considered against job gains that accrue from the outsourcing activities of other countries to the home country (Bhagwati et al., 2004). However, it should be noted that, by raising wage premia for the most highly skilled, global outsourcing in services may exacerbate domestic inequalities, in the absence of policies to address skills shortages. As with manufacturing, services global outsourcing is likely to have distributional consequences, even if, on average, incomes and living standards are increased.

In this chapter, the empirical evidence on the extent of services global outsourcing is reviewed, with a view to determining which countries are the key global outsourcers, and which are the main recipients. Our attention then turns to the question of employment impacts in advanced economies. The fourth section concludes.

## 2. The extent of global outsourcing in services

In spite of the lively debate on the impact of global outsourcing in services, there is relatively little available empirical evidence on which to draw, with a view to measuring its pervasiveness. There is, however, very clear evidence to show the rising importance of the services sector in most advanced economies, and some larger developing economies. This section firstly briefly outlines the growing importance of the services sector in modern economies, with reference to output, productivity and employment. Secondly, the current extent of international outsourcing in services is considered, with a view to identifying which countries are the major global outsourcers, and which are the main recipients of the outsourcing activities of other countries.

### 2.1. The rising importance of the services sector in modern economies

The modern view on the development of sector shares in output suggests that, as an economy matures, the share of services (in output, consumption and employment) grows alongside a decline in the share of agriculture, while the share of industry first increases modestly and then stagnates or declines <sup>(1)</sup>. For most advanced economies, this view is supported by the data. In 2002, services accounted

for 70 % of total value-added in much of the OECD. Market services accounted for 50 % of the total, up from 35 % to 40 % in 1980. Two thirds of the increase in value-added in OECD economies between 1990 and 2001 originated in the services sector. Table 2 shows the change in the determinants of output (GDP) between 1990 and 2002. What is clear when looking at these data is the dominant role the services sector has come to play in the formation of aggregate gross value-added in modern economies. Moreover, as underlined by the OECD, the importance of services is likely to grow, as economies become increasingly knowledge-intensive <sup>(2)</sup>.

According to Baumol (1967) unbalanced growth between the services and manufacturing sectors can lead to a resource reallocation towards the slower-growing services sector, resulting in slower aggregate growth <sup>(3)</sup>. In advanced

<sup>(1)</sup> See, for instance, Gordon and Gupta (2004).

<sup>(2)</sup> OECD, *Science, technology and industry outlook*, 2004.

<sup>(3)</sup> As explained in Wölfl (2005), the underlying assumption is that the economy consists of two sectors: a growing manufacturing sector, supported by rapid technological progress, capital accumulation and economies of scale; and a relatively stagnant services sector, for which, by its nature, technological progress would only be temporary.

Table 2

#### The changing structure of output, 1990 and 2002

% share of GDP	1990			2002		
	Agriculture	Industry	Services	Agriculture	Industry	Services
Euro area	3	34	63	2	28	70
United Kingdom	2	35	63	1	26	73
USA	2	28	70	2	23	75
China	27	42	31	15	51	34
India	31	28	41	23	27	50
Poland	8	50	42	3	30	67
Czech Republic	6	49	45	4	40	56

Source: World Bank, *World development indicators*, 2004.

economies, the shift to services has been taking place at different rates of pace, with the performances of services sectors differing greatly, in terms of productivity growth. According to Wölfl (2005), while it is the case that productivity growth in manufacturing generally exceeds that of services across the OECD, several business-related service industries have exhibited strong productivity growth<sup>(1)</sup>. Also significantly, in some countries, including the USA, Australia and the UK, the contribution of the services sector to overall productivity growth has risen in the last decade, mainly due to the contribution of high-growth services.

Alongside the strong uptake of productivity-enhancing ICT equipment in the 1980s and 1990s, it is conceivable that international outsourcing in services has made a positive contribution to productivity growth, due to the efficiency gains derived from specialisation. With the rise of the knowledge-based economy, the share of services in most activities has risen, increasing the need for their efficient provision. Amity and Wei (2005) estimate the effects of international outsourcing of services on productivity in manufacturing in the US between 1992 and 2000, using input-output data combined with trade data, and these results suggest that services global outsourcing has a positive effect on productivity in manufacturing.

Finally, in line with the shift to services, the share of employment represented by the services sector has risen, albeit with services employment shares ranging from below 50 % in Poland to 70–80 % in the UK, USA and Netherlands (see Graphs 3 and 4). The expansion into services typically appears to have raised overall employment levels, with recent data suggesting a positive relationship between the size of the sector and employment rates (Kongsrud and Wanner, 2005).

## 2.2. Measures of global outsourcing in services

As stated at the outset of the chapter, there are as yet no agreed official international statistics available with which to measure the outsourcing phenomenon. Measurement of global outsourcing is made problematic by both differing definitions of outsourcing and data problems, related both to quality and availability<sup>(2)</sup>. It is therefore necessary to look at more indirect measures of its possible magnitude, such as data on international trade (for international out-

sourcing), foreign direct investment (for off-shoring), input-output tables, and trade in intermediates. The measurement difficulties related to such indicators have been discussed in Part 1 of the Annual Review, and will not be repeated here; suffice to say that services data availability generally present even greater problems than those for manufacturing<sup>(3)</sup>.

This section attempts to give an empirical sense of the extent of international outsourcing with respect to services, using the imperfect proxies of international trade in services and FDI. This is a scene-setter for the next section, which reviews the evidence on employment impacts. It should perhaps be restated that not all trade in services is related to outsourcing, while FDI is a highly imperfect proxy for off-shoring for two reasons. Firstly, FDI data incorporate all acquisitions of foreign firms or parts of them by domestic firms for any reason. Secondly, off-shoring might not involve the transfer of ownership of the company to which production is outsourced, as this can be done via an independent foreign company, and would therefore not be reflected in FDI data.

## 2.3. International trade in services

Data on international trade in services suggest that the rising economic importance of the services sector is yet to be fully reflected in global trade flows. As shown in Graph 1, while the services share of total world trade has risen by approximately 4 % since 1980, it still accounts for no more than 20 % of total world trade. Between 1997 and 2003, world trade in services grew by 35.7 %, marginally ahead of trade in goods (34.9 %)<sup>(4)</sup>. Total international trade in services transactions in 2003 stood at around EUR 3.3 trillion, of which the intra-EU25 represented just under 30 %<sup>(5)</sup>.

In terms of the major traders in services, advanced economies in Europe and North America continue to dominate. In 2003, the EU-25 was the world's largest exporter and importer of services, accounting for 27.7 % of global exports and 25 % of imports<sup>(6)</sup>, followed by the USA

<sup>(1)</sup> It should be emphasised that there are measurement and reporting difficulties with respect to services productivity.

<sup>(2)</sup> Data problems cited by van Welsum and Vickery (2005) include issues such as reporting difficulties, collection methods, the treatment of certain services categories, and the complexity of the structures and operations of multinationals.

<sup>(3)</sup> See Part 1, Chapter 2, Section 3.3 for a discussion of the availability of services trade data.

<sup>(4)</sup> Eurostat figures.

<sup>(5)</sup> IMF figures.

<sup>(6)</sup> Eurostat figures; excludes intra-EU trade.

Graph 1: Trade shares, 1980–2003



Source: WTO statistical database.

(20.2 % of global trade). More than half of EU trade in services transactions occurs between Member States, but in terms of external trade in services, the USA is the EU’s largest partner, representing around 32 % of EU external trade in services. Notably, neither China nor India is currently a major EU trade partner in services. Of all EU Member States, the UK was the largest services exporter and second largest importer (behind Germany) in 2003, representing just over one fifth of total EU-25 international trade in services.

Using trade data in computer and information services and other business services, Amiti and Wei (2005) have identified the top outsourcing countries in absolute terms in 2002 as the USA (USD 41 billion) and Germany (USD 39 billion), followed by Japan, the Netherlands, Italy, France and the UK (between USD 25 and 16 billion). Notably, they find that India and China are also significant international outsourcers with USD 11 billion and USD 8 billion respectively. Significantly, the findings of Amiti and Wei suggest that the top recipients of global outsourcing in services are the USA (USD 59 billion), the UK (USD 37 billion), Germany (USD 28 billion), followed by France and the Netherlands. India and China, countries often portrayed as major recipients of service outsourcing, rank sixth and 14th, i.e. business services valuing USD 18.6 and 10 billion are relocated there<sup>(1)</sup>. In relative terms, the picture changes in favour of India and China being slightly more in-sourcing-intensive than the UK and the USA. Notably, the largest surplus countries of combined computing and business services outsourcing are the USA and the UK.

Germany has run a deficit in this category every year since 1980, while India faced a balanced ratio until 1996, when service exports began to ‘take off’, resulting in a fairly large surplus today.

In sum, trade data do not support the presumption that services trade on a global scale, including service outsourcing, is a one-way street from developed to developing countries. The results of a similar analysis of service import and export activity, using data from the World Bank *World development indicators*, are consistent with this notion. The biggest net exporters of services are found to be the US and the UK. However, also remarkable is the Indian ‘take off’ in 1997 and clear upward trend since then (see Box 1 on the recent dynamism of the Indian services sector), and the negative services trade balance of China, and on a bigger scale Germany (see Graph 2)<sup>(2)</sup>.

## 2.4. Foreign direct investment in services<sup>(3)</sup>

FDI data can offer an indication of the extent and direction of off-shoring<sup>(4)</sup> in services activities. The process

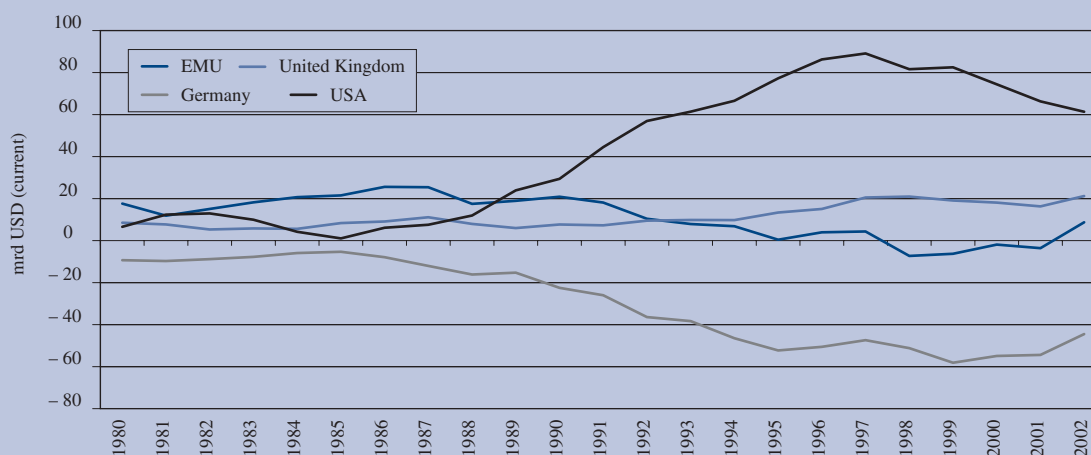
<sup>(1)</sup> Amiti and Wei (2005) use imports of computing and other business services as an economy-wide measure of outsourcing. They also calculate a second measure on an industry basis for the UK.

<sup>(2)</sup> See also Part 1, Chapter 2, Section 3.3 analysis of ‘other services’ trade balances, which shows the evolution of the Indian trade surplus in other services.

<sup>(3)</sup> Figures from Unctad, WIR04.

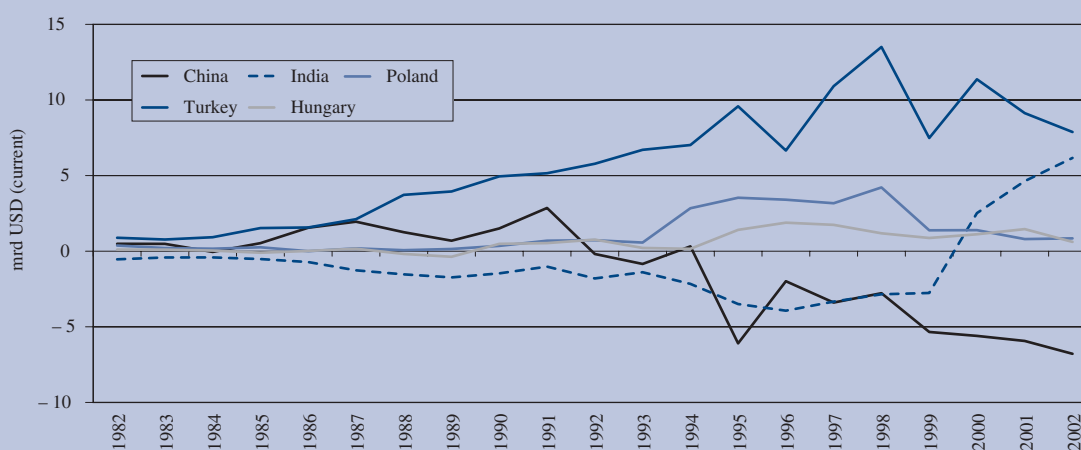
<sup>(4)</sup> This is defined as the importation of services from a foreign subsidiary, i.e. an intra-firm transaction.

Graph 2a: Services trade balance, 1980–2002



Source: WDI.

Graph 2b: Services trade balance, 1982–2002



Source: WDI.

of liberalisation and deregulation of key service industries has led to a large increase in global FDI inflows in recent years. Between 1990 and 2002, the world inward stock of services FDI quadrupled (from USD 950 billion to over USD 4 trillion), with the services' share in world inward FDI rising to 60 %. Services now account for the

largest share of inward FDI flows in many countries. A growing number of the largest transnational corporations (TNCs) are represented by services, with the proportion of global M & A operations in the services sector rising steadily, and having reached around two thirds of M & A transactions in the EU and US. Notably, while on aver-

age more than three quarters of global M & A activities in services have been in developed countries in recent years, the CEE has seen the fastest growth in services cross-border M & A sales. However, the share of mergers between the EU-25 and the rest of the world exceeds intra-EU-25 M & A, while intra-EU-25, M & A activity is still mainly within the EU-15 <sup>(1)</sup>. US M & A data suggest that the new EU Member States represent only a small share of activity targeted in the EU.

Outward FDI has become more evenly distributed among developed countries. However, in the 1990s, developing countries' outward FDI in services took off, with their share in global outward FDI stock in services

rising from 1 % in 1990 to 10 % by 2002. Regarding the inward global FDI stock in services, in 2002, developed countries represented over two thirds, with 25 % to developing and 3 % to the CEE. However, the share of developing countries and CEE in FDI projects related to services off-shoring increased from 37 % in 2002 to 51 % in 2003. In 2002–03, developing countries and the CEE economies attracted 65 % of all export-oriented FDI service projects, with around half going to India. Among large European TNCs, almost one third of off-shored projects have gone to India, with western European countries (e.g. Ireland, Portugal, Spain and the UK) attracting 29 % and CEE countries (Hungary, Poland and Romania) attracting 22 %. Although the stock of FDI projects related to outsourcing of services is larger in developed countries, according to Unctad WIR04, the greatest dynamism seems to lie in developing and transition economies.

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<sup>(1)</sup> In 2002, intra-EU M & A activities targeted at the new Member States stood at 10 %. See DG ECFIN 'Mergers and Acquisitions Note' No 2, June 2005.

### Box 3. Indian services sector performance

In recent years, India has made great progress with integration into the global economy, and especially since the onset of liberalising reforms in the early 1990s (see Part 2, Chapter 3, 'Globalisation, growth and poverty reduction in developing countries', Box 4 'The globalisation experiences of China and India'). One prominent feature of India's experience with global integration has been the strength of growth in the service sector, which accelerated in the 1990s to average 7.5 % growth per annum, compared to a manufacturing growth average of 5.7 %. The dynamism of the Indian service sector has mainly been concentrated in software and IT-enabled services (including call centres, software design, and business process outsourcing). The fastest-growing sectors have risen to represent around one third of services' output. India is often cited as a key beneficiary of the rising recent trend towards international sourcing of services. In the 1990s, Indian service exports grew at a rate of 15 %, up from 9 % in the 1980s. Growth has been strongest in software and other business services: since 1991, software exports have grown at over 50 % annually. However, the IT sector remains a relatively small part of Indian GDP, representing just under 3 %.

Nasscom-McKinsey projections suggest the USA will remain the main destination for Indian software exports, generating USD 18.3 billion of the projected USD 50 billion exports by 2008. Significantly, the delivery of Indian IT exports has been changing in recent years. In 1993–94, around 62 % of all IT exports from India were carried out at the clients' location, but by 2002–03, outsourcing had become the main mode of delivery of software exports, accounting for almost 58 % of total exports (Gupta, 2005). As a recipient of outsourcing, India ranks sixth (USD 18.6 billion) behind the USA (USD 59 billion), UK (USD 37 billion), Germany (USD 28 billion), France (USD 21 billion) and the Netherlands (USD 20 billion), but when exports are scaled to GDP, India becomes more insourcing-intensive in business services (i.e. a greater recipient of outsourcing) than the UK (India with 3.8 % of GDP, compared to 2.4 % of GDP in the UK). However, India is itself also a significant outsourcer of business services, with a value of USD 11 billion. As a share of GDP, India imports a larger amount of business services than the USA and UK (Amiti and Wei, 2005).

Several studies have sought to explain Indian services sector growth performance, but it is likely that the success of Indian IT-related services is due to a combination of factors. On the supply side, changes in production methods due to increasing specialisation, and switching to more service-input intensive production may have been growth-supportive. Bhagwati has referred to the process of 'splintering', whereby industrial firms make greater use of specialist sub-contractors to provide services previously conducted by the firms themselves. Perhaps more important, however, is the availability of highly

qualified professionals, alongside proficiency in English. As noted by Morgan Stanley analysis (2004), around 8 % of 25–34-year-olds in India have attained some tertiary education (IMD *World competitiveness yearbook*, 2001), while around 2.3 million bachelor degree graduates and 300 000 engineers are produced every year. India therefore has a very large pool of surplus skilled labour, especially engineers. And importantly, the skilled labour is cheap: salaries in India are around one tenth of those in the US (see Table 1). The presence of Indian IT professionals in the US may also have played a role in the trend towards outsourcing work to India: over 20 million Indians live abroad, with a significant number of these employed as IT professionals (Salgado, 2003).

On the demand side, rapid growth in final demand for services, either from domestic consumers with high income elasticity of demand for services, or from foreign markets, could be expected to raise the price of such services, with a concomitant shifting in resources into the sector. The 1990s reforms — deregulation, privatisation, and opening to FDI — may also have supported services sector growth. Gordon and Gupta (2004) have empirically assessed the contribution of such factors to the improvement in Indian services sector performance. Their findings suggest that high income elasticity of demand and increased input usage of services by other sectors have played an important role in raising services growth, but the 1990s reforms, in addition to growing foreign demand for service exports also supported the acceleration in growth. Based on available empirical evidence, there appears to be considerable scope for further rapid growth in Indian services.

However, while the share of the services sector in Indian GDP has risen to over 50 % currently, there has been little change in the services sector share of employment. Nasscom-McKinsey (2002) estimate that by 2008, the IT-enabled services sector will employ around 1 million people. Given India's need to find employment for some 100 million new entrants to the labour market over the next decade, the employment contribution of IT-enabled services is unlikely to be sufficient (Gupta, 2005). Based on other countries' experiences, India's relatively jobless services sector growth is somewhat atypical. Usually, the services sector can be expected to gain a larger share of employment over time, with the share of services employment rising faster than the share of services in output. This, in turn, implies that labour productivity in services falls, as the sector grows. In contrast, Indian labour productivity in the services sector has been rising over time, and this has not been a product of increasing relative capital intensity. Gordon and Gupta (2004) suggest other factors have been at work in raising labour productivity, possibly including the fact that the growth in the services sector is mainly concentrated in sub-sectors more dependent on skilled than unskilled labour or capital.

### 3. Employment impacts of global outsourcing in services

When looking at the share of the labour force in the services and industrial sectors, as can be seen in Graphs 3 and 4, it is evident that an impressive majority of people are now employed in the services sector, both across Europe and in other advanced economies. In the 1990s, the share of employment in services continued to rise in most OECD countries, reaching nearly three quarters of all jobs in many countries <sup>(1)</sup>.

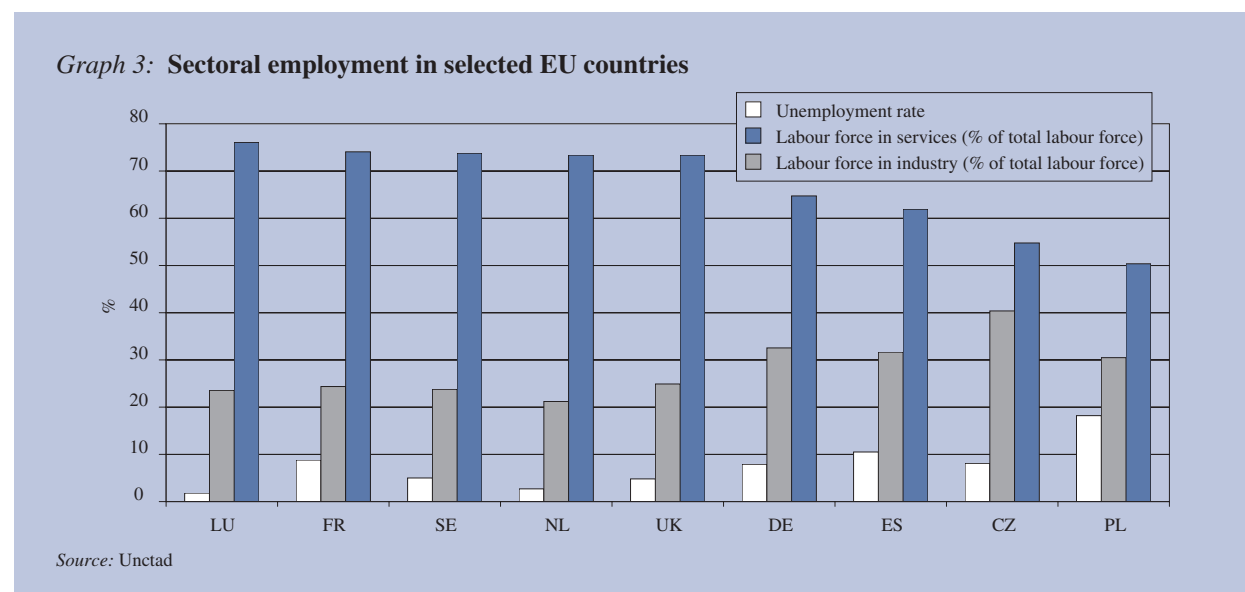
With the shift from industrial manufacturing to more labour-intensive services, services global outsourcing could be expected to bring forth stronger labour market impacts than industrial relocation. However, any loss of service jobs and production caused by outsourcing is difficult to measure, all the more so because the causes of employment losses can be difficult to disentangle. It is dif-

ficult to compute the net employment impact, as it is not possible to determine how many jobs would have been lost if firms had not outsourced. There is nevertheless a growing empirical literature on the subject. Some studies have tried to measure impacts observed so far, while others attempt to predict the potential future impacts, looking for instance at the ‘off-shorability’ of jobs in services. The focus is often placed on business services, computing and IT-related, since these sectors are considered to be prime sectors affected by the phenomenon. In this section, the conclusions from a variety of such studies are considered, with a view to determining the possible employment impacts of global outsourcing in services.

The often-quoted estimate for the USA, of 3.3 million white-collar jobs moving overseas by 2015 <sup>(2)</sup> (equating to

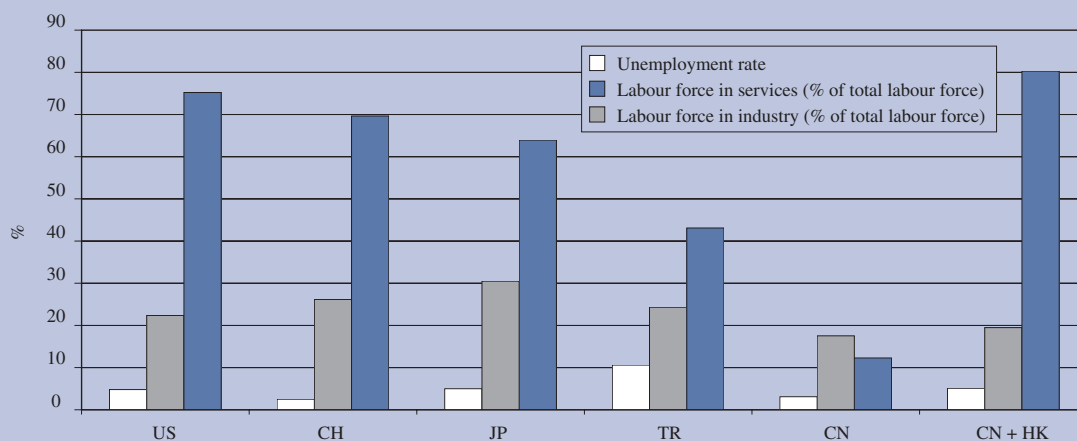
<sup>(1)</sup> OECD, *Employment outlook*, 2001.

<sup>(2)</sup> Forrester Research, 2002.





Graph 4: Sectoral employment in the world



Source: Unctad.

a quarterly job-loss rate of 55 000) is somewhat meagre when compared to the seven million jobs lost on average every quarter over the last decade due to normal job churning (see Kirkegaard, 2004). Other authors (e.g. Bhagwati et al., 2004) have also contended that the outflow of jobs due to outsourcing has been relatively small, i.e. around 1 % of jobs created and destroyed per annum in the USA.

For Europe, one estimate <sup>(1)</sup> suggests that around 81 000 IT and other services sector jobs had left Europe, with the number set to rise to 1.16 million by 2015 <sup>(2)</sup>. According to analysis by Kirkgaard (2005), given the 56.7 million people employed in the EU-15 in services in 2003, this could imply that around 2 % of European services sector jobs are potentially vulnerable. Another benchmark for judging the impact on employment is that of net job gains. On this basis, Amiti and Wei (2005) have found no evidence of net job exports from developed to developing countries as a result of global outsourcing.

Mann (2003) has examined the effects of IT-services sector off-shoring in the USA, and suggests that jobs leaving the US market tend to be at the lower end of the wage and skill ladders. Furthermore, she suggests that many white-collar jobs in occupations considered vulnerable to outsourcing have, in fact, experienced an expansion, for example computer and business and financial services.

This conclusion is justified by reference to a virtuous circle, whereby off-shoring reduces IT costs, which increases demand for IT hardware and related software, boosting demand for skilled workers in the field. Mann finds evidence pointing towards the potential of high-value job creation. Based on US data from the Bureau of Labour Statistics, it is projected that growth in computer-related occupations until 2010 will be 43 %, compared to economy-wide average job growth of 13 %. Mann has underlined that globalisation alongside the continued diffusion of IT to new sectors and businesses should strengthen the demand for IT workers in the USA.

According to Unctad (WIR04), the nature of outsourcing services is, however, evolving. Initially most work tended to be in low-skill IT-enabled services, such as data entry. In India, companies that first set up back-office functions in the mid-1990s are now also outsourcing in higher value-added activities. However, evidence from India suggests that higher-skilled and design-intensive activities generate fewer jobs than less-skilled activities, such as data entry. In software development, average employment per USD 1 million of exports is around 30 persons, while for IT-enabled services the figure is 68 persons.

### 3.1. The UK case: business services

In Europe, the UK accounts for around two thirds of all services sector jobs outsourced to date (Roland Berger, Unctad). Recent empirical analysis on the UK economy by Abramovsky, Griffin and Sako (2004) underlines the

<sup>(1)</sup> Forrester Research, 2004.

<sup>(2)</sup> See Part II, Chapter 2, Section 2.2, which presents a detailed breakdown of estimates of EU-15 services sector jobs moving off-shore, 2004–15.

rising importance of business services to growth and employment in the UK. In the last two decades, business services have accounted for over 50 % of job growth in the UK, while the production of business services also grew faster than the rest of the economy. While trade in business services is still exceeded by manufacturing, in recent years the UK has consistently had a trade surplus in business services (1984–2003), now exporting over double that of business services imports and, in 2002, it was the world's second largest exporter of business services after the USA. The fastest-growing sectors included computer-related and other business activities, with business services on aggregate exhibiting rising labour productivity, in contrast to many other services sectors.

The authors' findings suggest that, while most outsourcing of business services in the UK has happened domestically, global outsourcing has accelerated, particularly in relation to services enabled by IT. It may be that global outsourcing and specialisation domestically have played a supportive role in the improved UK performance in business services. The increase in UK-based firms outsourcing business services globally is small relative to the increased output of business services, as demonstrated by trade figures which show that export growth has outstripped import growth. Data from the software industry in India suggest that job losses to outsourcing computer services in India are small when compared to total jobs in the computer industry in the UK. Amiti and Wei (2005) have also empirically analysed the impact of services global outsourcing on UK employment, with their findings suggesting no significant negative impact.

### **3.2. Other European countries: EU enlargement and the new Member States**

The European Monitoring Centre on Change (EMCC) has published information <sup>(1)</sup> for major European restructurings since the beginning of 2002, which compare the job reductions associated with different types of restructuring: internal restructuring, bankruptcy, relocation, M & A, off-shore outsourcing, etc. These findings suggest that, thus far, global outsourcing has had a small effect on European labour markets, relative to other sources of restructuring. However, global outsourcing of services is widely thought to be poised for take-off in Europe.

<sup>(1)</sup> Information compiled from newspaper announcements.

While several studies suggest that around 2–3 % of EU services sector employment may be outsourced internationally by 2015, many have underlined the employment-creation effects of services global outsourcing, underpinned by the continued expansion of such services industries. Labour force survey data (EMCC) suggest that Europe is not losing jobs in ICT services, but rather, employment in other business services is growing.

Set in the context of the recent EU enlargement to 25, the new Member States might be expected to benefit greatly from the rising trend towards global outsourcing in services. 'Nearshoring' to CEE countries offers the benefits of a readily available supply of well-educated and highly skilled labour, with an understanding of western European culture. In terms of language skills, CEE countries may be better placed than Asian developing countries to serve the needs of outsourcing firms in non-English-speaking European countries. Anecdotal evidence suggests that there is an increasing trend towards relocation of service activities, such as call centres, towards CEE, but the figures are still not huge <sup>(2)</sup>.

As noted in Unctad WIR04, the location determinants of off-shoring will vary according to a range of factors, with the weights of different factors changing according to the nature of the service. For instance, for FDI projects related to call centres, the ready availability of appropriately skilled labour with relevant linguistic skills will be important; a ready supply of highly educated labour will not be sufficient. In software development, a readily available supply of labour with skills in engineering will be crucial. For IT services, the presence of universities and dynamic IT clusters may play a key role, since they take time to build, and there are agglomeration effects. Other factors which vary according to the service involved include telecoms infrastructure and access, and the time zone of the host country (which can matter if the service should be provided in normal working hours, such as in the example of call centres). Such factors may help to explain the location of globally outsourced/nearsourced activities, and give insight into likely future patterns.

According to a survey by Roland Berger, which looks at the off-shoring strategies of Europe's largest companies, most projects from European companies originated in the

<sup>(2)</sup> Roland Berger has considered the export-oriented FDI established in the CEE aimed at service activities, including call centres, shared service centres and regional headquarters. In 2002–03, the total number established in CEE was 91 (26 in Hungary), while 620 were established in western Europe, and 799 set up in developing countries.

UK, accounting for two thirds of all service jobs outsourced to date by the companies polled, with another 30 % of jobs outsourced coming from Germany and Benelux. This study also notes that half of all outsourcing projects had been undertaken within Europe, with the top destinations including the UK, Ireland, Spain, Portugal, and CEE countries such as Poland, Hungary and Romania. Four out of 10 projects go to Asia, notably India. However, in employment terms, Asia's share is bigger, since outsourcing projects to Asia tend to be the larger ones. It is also noted that the size of the project depends on the type of services involved; for instance, call centres tend to be larger than purchasing or HR services. Notably, almost 80 % of services jobs outsourced to date were represented by projects with less than 300 jobs.

Marin (2004) has considered the employment impacts of eastward enlargement of the EU, using firm-level data for Germany and Austria <sup>(1)</sup> with the finding that it leads to surprisingly small job losses. It is suggested that low-cost jobs of affiliates in eastern Europe may have helped Austrian and German firms to stay competitive. However, multinational firms in Austria and Germany appear to be outsourcing the most skill-intensive activities to eastern Europe, to benefit from cheap and abundant skilled labour. It is asserted that this has been a response to domestic human capital scarcity.

### **3.3. The potential 'off-shorability' of services sector employment**

Since the differences in labour costs between developed and developing countries are so striking, the production of labour-intensive services is more likely to be affected by global outsourcing. As explained by Garner (2004), labour constitutes a relatively large share of the costs of many lower-skill, white-collar services, such as call centre or legal transcription services. Jobs that are information-based, for instance business processing such as accounting, billing and payroll, and jobs that follow a routine set of instructions, i.e. sufficiently codified, could therefore be expected to be outsourced to a cheaper remote location. The same logic applies to the exchange of the information between the service provider and the customer. The more transparent (easy to measure and verify) the information is, the more likely that the distance between provider and customer does not involve additional costs from information asymmetry.

<sup>(1)</sup> It should be noted that the data in this study is not confined to services.

One more recent approach adopted for measuring the potential effect of services global outsourcing on employment has been to consider the characteristics of jobs potentially vulnerable to off-shoring. OECD work has been undertaken to assess the occupations which could potentially be affected by international outsourcing of services <sup>(2)</sup> (van Welsum and Vickery, 2005). The following criteria were used to characterise the jobs most 'at risk' of being affected: (1) jobs making intensive use of ICTs; (2) output that can be traded/transmitted with the help of ICTs (ICT-enabled trade in services); (3) work with a highly explicit information or 'codified knowledge' content; (4) work that does not require face-to-face contact. Significantly, this analysis suggests that around 20 % of the share of total employment could potentially be affected by international outsourcing of IT and ICT-enabled services <sup>(3)</sup> in the EU-15, the US, Canada and Australia. This figure is notably much higher than estimates from the other studies referred to earlier in this section. Moreover, many services sectors have a high share of employment in occupations that could potentially be affected, with many business services (such as computer and related services, financial services and R & D) found to have shares higher than 30 % <sup>(4)</sup>. Finally, in Europe, the share of 'potentially-affected' employment is found to have risen over time. This is, however, argued to be consistent with the rising share of services in total European employment, and also with the notion that European outsourcing of services may take place predominantly within Europe itself <sup>(5)</sup>.

However, it should be underlined that, as the majority of services provision requires face-to-face contact and/or is difficult to codify, such jobs are not likely to be subject to international outsourcing in the foreseeable future (Garner, 2004). As noted by Bhagwati et al. (2004), around 70 % of jobs in advanced economies such as the US are deemed to be in service industries requiring the provider and consumer to be in the same geographical location, and are thereby unlikely to be outsourced (see Agrawal and Farrell, 2003).

<sup>(2)</sup> However, it is suggested that the off-shoring phenomenon does not necessarily have to result in a decline in employment. It may be that certain types of occupation will experience slower growth than they otherwise might have done.

<sup>(3)</sup> Other studies have also taken this approach, seeking to define 'off-shorability attributes of various occupations', for example, Kirkegaard (2004) and Barnard and Kroll (2003).

<sup>(4)</sup> As noted by the authors of this study, aggregates for the economy as a whole may hide important differences across sectors and across countries, in the case of the EU-15.

<sup>(5)</sup> Future OECD work is anticipated which will extend this analysis, with greater country coverage.

## 4. Conclusions

Since the 1990s, the concept of global outsourcing has extended its coverage into services, with the recent trend towards global outsourcing most apparent in IT-related and business services sectors. A principal facilitator of the trend has been technological advance in ICT, which has typically enabled global outsourcing of work requiring intensive use of IT combined with low need for face-to-face contact. With services accounting for a large share of production costs, there is greater pressure to find lower-cost solutions. Among cost-related motivations for global outsourcing, large education investments in developing countries such as India and China have increased the supply of skilled labour, which is available at lower wage rates than those prevailing in advanced economies. Deregulation of some service industries in the 1990s, alongside continued multilateral trade liberalisation, may also have supported the rising globalisation in the services sector. Furthermore, since many service activities can be structurally simpler to outsource than manufacturing, due to associated lower costs of start-up, the services global outsourcing trend could be expected to pick up speed more vigorously than in manufacturing.

Economic theory would suggest that global outsourcing in services could be expected to improve economic efficiency, competition and productivity by encouraging the transition to comparative advantage sectors. Since many service activities are intermediate inputs to the production of other goods and services, impacts might be expected to be larger than for manufacturing, with the potential for greater gains and adjustment challenges. Like manufacturing, services global outsourcing should, in principle, raise real wages and living standards in the long run. However, as with trade in goods, even if, on average, standards of living rise and long-term employment is unaffected, global outsourcing in services will likely entail distributional effects. Wages in some services sector jobs may be expected to adjust downwards, as ever more highly skilled labour in lower-cost countries becomes available. Potentially, service global outsourcing may exacerbate domestic inequalities by raising wage premia for the most highly

skilled. However, it may create the potential for substantial job creation in high-skill occupations, since the supply of cheaper lower-skilled labour abroad may make an activity using highly skilled labour at home economic viable. Job losses from outsourcing should also be compared to job gains accruing from the outsourcing activities of other countries.

The growing importance of the services sector in recent years is evidenced by the rising share of services in value-added (GDP) and employment. The contribution of the services sector to overall productivity growth has also risen over the last decade in some OECD countries such as the USA and UK, notably, countries which have embraced the global outsourcing in services trend. Indeed, there are reasons to anticipate strong positive effects of international outsourcing of services on productivity. However, the rising importance of services has yet to be fully reflected in global trade. Only a minor share of services is currently traded, as can be seen from its relatively low weight in total trade (20%). This share may be expected to strengthen, on the back of a successful conclusion to the current round of multilateral trade negotiations, the Doha Development Agenda, which is expected to include an ambitious agreement on trade in services.

Empirical evidence on the extent of global outsourcing in services is still relatively thin on the ground. However, based on the imperfect proxies of trade in services and FDI data, initial conclusions are such that there is currently no major one-way flow from developed to developing. Indeed, some larger developing countries (e.g. India) are themselves significant outsourcers. Notably, there has been a large increase in FDI flows in services in recent years. While the stock of FDI projects related to services global outsourcing is still larger in developed countries, the share of developing countries and CEE in FDI projects related to services increased from 37% in 2002 to 51% in 2003. These data might suggest growing potential for outsourcing (off-shoring) to such countries.

Taken together, empirical studies on employment impacts would suggest a conclusion of no major negative impacts, especially when estimates of job losses are compared to typical annual job turnover, but also when considered against estimates of job creation in affected sectors. Despite the recent focus on global outsourcing in highly skilled/white-collar occupations, the majority of off-shoring affecting developed economies appears to impact more heavily on the lower-skilled.

Nevertheless, the rapid globalisation and rising dominance of the services sector suggests that an increasing global pool of workers will be affected by changes in the international division of labour. Looking at the characteristics of 'potentially off-shorable' jobs, OECD estimates suggest that around 20 % of employment in the EU-15 could be affected by global outsourcing in services. However, as the majority of services provision

requires face-to-face contact and/or is difficult to codify, many jobs are not likely to be subject to global outsourcing in the foreseeable future.

The overarching implication for Europe may be that productivity could be boosted by further engagement in global outsourcing in services, but some countries will need to address the challenge of supplying/attracting highly skilled labour, to capitalise on the potential gains. In light of the rapidity of globalisation in the services sector, and likely larger impacts, outsourcing in services may raise the stakes for having sufficiently flexible labour markets, capable of minimising any associated dislocation. The Lisbon strategy for growth and employment provides an appropriate setting for addressing this challenge in Europe. Greater labour market flexibility, alongside education and training policies to enhance the skills base of the domestic labour force, will be crucial to realising the potential gains.

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# 4. European banking integration

## Summary

The objective of this chapter is to highlight opportunities and challenges deriving from banking integration in the EU by contrasting developments in the EU-15 and EU-10 in particular. Theoretical and empirical evidence supports the view that integration and consolidation in the banking sector can: (i) especially enhance opportunities for less developed financial centres due to better financing opportunities for their non-financial sector, (ii) foster competition and (iii) result in welfare gains and (iv) more efficiency. In addition, there is clear evidence of (v) a link between banking (financial) development and economic growth. In terms of macrofinancial stability the presence of foreign banks seems to exert a stabilisation effect on the domestic economy overall, although there is also evidence of destabilising effects.

Several factors have combined to facilitate integration and consolidation within the EU banking sector over the past quarter of a century. These include: (i) the globalisation of the international financial system due to the liberalisation of international capital movements and financial deregulation

within countries; (ii) major technological advances, particularly in the field of data processing; (iii) a diminishing effect of so-called natural barriers such as language and culture; (iv) improvements in the regulatory environment; (v) specific advances in the EU linked to the single market programme.

While cross-border retail banking integration is lagging behind in the EU-15, the banking system is largely foreign-owned in most of the EU-10. The lack of progress in EU-15 cross-border integration can be attributed to various factors, including national differences in market practices, regulation and taxation. In contrast, the high level of foreign banks in the EU-10 is explained by a combination of special historical circumstances.

The chapter is concluded by an analysis pointing to the risks related to the current EU supervisory arrangement and then to broader macroeconomic stability risks deriving from cross-border banking integration such as: (i) the strong links between the EU-10 and the EU-15; (ii) the weak links within the EU-15; (iii) other more general risk considerations.



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# 1. Introduction

A long-anticipated surge in EU cross-border banking integration and consolidation has failed to materialise. This failure is striking in view of several apparently catalytic developments — notably the liberalisation of capital movements and efforts to create an internal market in financial services. Expectations of cross-border integration in EU retail banking were especially high in advance of the introduction of the euro, with many commentators predicting a sharp reorientation towards a pan-EU retail banking sector in the absence of exchange-rate risk. However, cross-border integration have not been major features of developments in EU retail banking in recent years and this latest disappointment suggests that obstacles — other than exchange-rate risk — have yet to be addressed<sup>(1)</sup>. This is in contrast to experiences in recently acceded Member States (EU-10) where mainly EU-15-originated foreign banks have gained significant market share.

After surveying the economic performance and financial stability effects of cross-border banking linkages, this chapter will list the factors fostering such linkages on a global level, but more specifically within the EU. Empirical analysis indicates contrasting developments within the pre-enlargement EU-15 and the recently acceded EU-10. Cross-border banking linkages are relatively uncommon among the EU-15, when compared to linkages between EU-15 and EU-10, suggesting that integration in the EU banking sector has progressed to a larger extent outside the EU regulatory framework than within. In exploring this apparent paradox, the chapter looks first at the more typical avenues for banking integration within the EU, namely: (i) organic growth through greenfield investments; (ii) cross-border M & As; (iii) the cross-border provision of banking services. In the course of this analysis, barriers to cross-border banking integration are identified as relating to economics and national considerations, as well as legal and institutional factors. The chapter considers then the special factors responsible for the high level of foreign ownership in the banking sector of the EU-10. The chapter concludes with an assessment of stability challenges linked to EU banking integration deriving both from the arrangement of EU supervision and from broader macro-economic stability considerations.

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<sup>(1)</sup> While the meaning of ‘integration’ may be intuitively obvious, no universally agreed definition exists. This paper avoids entering the debate on an exact definition but focuses on possible avenues to be taken for achieving integration and the extent to which such avenues may be subject to barriers within the EU retail banking sector. For an example of authors offering different definitions, see Dermine (2002) and Baele et al. (2004).

## 2. Economic implications of cross-border banking integration

### 2.1. Banking integration and economic performance

The financial system as a whole, and the banking sector in particular due to its significant size in Europe, plays an essential role in the economy by, inter alia, transforming assets, facilitating risk management, financing trade, enabling capital accumulation and spurring technological innovation. Banks can be said to fulfil two important functions which contribute to efficient resource allocation

- *A monitoring function for investors.* The financial system is characterised by an information asymmetry between those wishing to borrow at the lowest possible cost and those wishing to invest at the highest possible return. This asymmetry creates risk for the investor, as the borrower cannot be relied upon to be entirely transparent about his creditworthiness. Verification of the creditworthiness of each potential borrower is costly and, while it may be feasible for larger-scale investors to undertake their own credit-analysis, the smaller investor typically lacks the required resources. It is in these conditions that a bank fulfils the role of monitoring credit quality on behalf of individual investors and so ensuring the highest possible level of funding available for investment.
- *A gatekeeper function for companies.* In the absence of a monitoring intermediary, investors would tend to apply an average value to all possible investment opportunities. This would imply over-investment in lower quality projects and under-investment in higher quality projects. Through their capacity to rank investment opportunities in order of quality, banks ensure that savings are channelled to those projects with the highest (risk-adjusted) rate of

return, thereby ensuring higher productivity from investment.

These important functions would suggest a positive correlation between banking-sector development and economic performance. The analysis in this section examines first the effects of cross-border banking integration on the performance of the banking sector and, by extension, economic performance and growth in the whole economy via: (i) the wider opportunities available for firms and households located in less developed financial systems; (ii) increased competition between banks coming from different countries; (iii) the efficiency effects derived from consolidated banking systems; (iv) the finance–growth nexus. Following that, the section examines macrostability aspects of cross-border banking linkages.

#### 2.1.1. Integration as opportunity for less developed financial countries

Rajan and Zingales (1998) start with the hypothesis that — within countries — industries which are more dependent on external financing (as opposed to financing from retained profits) will have relatively higher growth rates in countries that have more developed financial markets. Utilising a proxy for financial dependence on a sample of publicly listed companies, the authors find that financial development influences economic growth rates via the reduction of the cost of external finance to financially dependent firms. It is also suggested that a developed financial system may play a crucial role in the rise of new firms, while a lack of financial development may favour incumbent firms (who are able to fund themselves through retained profits) over new entrants.

Applying those results to EU financial integration it could be argued that banking integration among coun-

tries with varying levels of financial development might especially benefit firms and households in financially less developed countries, and increase their growth opportunities in particular. Exactly this argumentation is utilised by Guiso et al. (2004), who point to the large diversity of national financial systems and their differing degree of sophistication where, for example, the GDP ratio of bank claims ranges from 40 % to 50 % in Greece and Italy to over 100 % in Sweden and the Netherlands. According to the authors, most of the EU-10 countries score at or below the least financially developed member of the EU-15. Financial integration starting from such a range of diverse initial conditions is therefore to be regarded as a great opportunity for the less developed countries as integration improves the access for firms and households located there to the credit and securities markets of the more financially developed countries. Based on several scenarios, the authors conclude that it would be reasonable to expect financial integration to result in a ‘growth dividend’.

In this context, it is worth noting that access to an efficient banking system benefits the development of the entire financial services by fostering the evolution of: (i) a money market through increased interbank lending; (ii) bond and equity markets through underwriting services; (iii) more efficient risk pricing through securitisation programmes.

### **2.1.2. Integration fostering competition**

Foreign bank entry forces domestic banks to compete and improve their services. This, in turn, increases overall bank efficiency which allows the sector to boost client welfare and contribute to economic growth via superior resource allocation.

Claessens et al. (2001), using 7 900 observations from 80 countries for the 1988–95 period, observe that for most countries a share of foreign-owned banks is correlated with a reduction in profitability and margins of domestically-owned banks. Another finding of the paper is that foreign bank entry matters more in terms of numbers of foreign bank entries, rather than in terms of foreign bank market share; this finding suggests that the impact of foreign competition is felt immediately upon foreign bank entry, with domestically-owned banks reacting within a very short period of time. Overall, foreign bank entry seems to enhance client welfare. The result is supported by Levine (2003) who uses a study of almost 1 200 banks in 47 countries to show that restricting foreign bank entry boosts bank net interest margins.

Lensink and Hermes (2004) note that foreign banks entering a domestic market: (i) increase competition, thus lowering the costs for clients and enhancing service quality; (ii) bring with them innovative financial services and practices, which force the domestically-owned banking community to adapt and equally engage in innovation, a costly process in the short term. In developing countries, due to the often considerable gap in terms of financial development between foreign- and domestically-owned banks, costly innovation (the so-called spillover effect) is more significant than the competition effect. In contrast, the spillover effect is much less significant than the competition effect in more developed countries, where foreign bank entry leads to overall lower margins, profits and costs.

While foreign bank entry seems therefore to improve overall welfare, there is a risk that the reduced profitability of domestically-owned banks might make them vulnerable to distress. This might be especially dangerous in an environment of weak prudential regulations and supervisory structures (Claessens et al., 2001).

### **2.1.3. Consolidation and banking sector performance**

A significant consequence of EU banking integration will be, in a first step, primarily domestic consolidation reflecting structural adjustments to a more competitive environment and the availability of increased scale and scope economies <sup>(1)</sup>. It is therefore useful to examine the relevant effects of consolidation on client welfare, operating efficiency, profit efficiency and overall efficiency. Although most of the following analysis is relating to consolidation within a country, it might become, over time, equally relevant for banking consolidation across countries.

#### *2.1.3.1. Client welfare*

The impact of consolidation on banking-sector performance remains controversial <sup>(2)</sup>. However, a number of empirical papers indicate that banking consolidation, if successful, increases client welfare by improving lending rates and credit access for borrowers, as well as raising deposit rates but over longer time periods. For example, Bonaccorsi di Patti and Gobbi (2002) show that

<sup>(1)</sup> Integration and consolidation are expected to coincide (at least over the long term), although — theoretically — it would be possible to observe integration without consolidation.

<sup>(2)</sup> For example Schenk (2000) declares most banking mergers to be economic failures.

bank consolidation improves the availability of credit for (high quality) corporate borrowers. Using a set of Italian banks with a high number of small and privately held companies as clients, Sapienza (2002) discovers that in-market mergers (involving banks operating previously in the same geographical area) benefit borrowers if such mergers involve the acquisition of banks with small market shares, as rates charged by the consolidated bank decline. However, this effect is reversed if the merged banks increase their combined market share significantly, possibly due to competition problems. The positive interest rate effect is equally found in out-of-market mergers (involving banks previously operating in another geographical area), but to a lesser extent.

In contrast, some analyses, such as Sapienza, indicate that smaller borrowers are disadvantaged by bank consolidation to the extent that long-standing bank–client relationships and lending policies are disrupted, and the transfer of information from the target institution to the acquiring bank is not smooth. Moreover, evidence suggests that the problems for small borrowers increase with the size of the acquiring bank, with larger acquiring banks tending to cut off many more small borrowers. In an emerging market context, Berger et al. (2001) find large size and foreign ownership of banks as being statistically significant barriers for providing relationship lending services in Argentina. The effect seems to be most pronounced for small businesses with delinquencies in repaying loans. While Scott and Dunkelberg (2003) — surveying a sample of small US firms in the mid-1990s — find that banking consolidation has no significant effect on small firms' ability to obtain loans, they seem to increase non-price loan costs (e.g. service fees) as well as leading to a deterioration in service quality and an increase in the frequency of small companies changing banks.

However, Peek and Rosengren (1997b) argue that bank consolidation need not always curtail small business lending. The authors stress that an acquiring bank tends to recast the target bank in its own image, which leads the new consolidated bank to have a similar portfolio composition of small business clients to that of the acquiring bank. In this respect, bank consolidation would be problematic for smaller enterprises if the acquiring bank was not already a significant lender to such enterprises. However, the authors point out that in roughly half of the commercial and savings bank mergers in the USA, the acquirer had a larger small business loan portfolio than the target bank. In addition, the most

common acquirer of a small bank had been another small bank. Karceski et al. (2000) assess the impact of bank consolidation on borrower welfare by analysing share price reactions of corporate borrowers to a merger announcement using a Norwegian data set. They find that smaller borrowers of target banks seem to benefit from small banking mergers, as reflected in a gain in their share prices, while their share prices fall when two large banks merge.

With respect to deposit-holders, Focarelli and Panetta (2002) find strong evidence that banking consolidation leads to rising deposit rates in the long run, thus overcoming possible adverse price changes immediately following a merger or acquisition. It is worth noting, though, that retail banking markets are overwhelmingly local and evidence suggests that strongly rising local bank concentration rates tend to be associated with lower interest rates on deposits (e.g. Simons and Stavins, 1998). Prager and Hannan (1998) demonstrate that a more pronounced decline in deposit rates is observable in those local markets where substantial horizontal banking mergers have taken place, when compared to other markets where no such mergers have occurred. Therefore, a disproportionate domestic consolidation may impact negatively on client welfare due to rising national banking concentration rates and consequently rising prices. Cross-border bank integration in segmented markets, though, could strengthen competition.

#### *2.1.3.2. Operating efficiency*

While the balance of evidence suggests that, in the absence of strongly concentrated banking markets, consolidation leads to welfare gains for clients, evidence of efficiency gains within consolidated banks seem to be much less clear-cut. In a meta-examination, Rhoades (1994) considers 39 empirical studies of bank consolidation and efficiency that were undertaken between 1980 and 1993. About half of the studies use an 'operating-performance' approach, thus observing the financial performance of banks following a merger or acquisition. The other half comprises 'event' studies, measuring the reaction of stock prices of acquirer and target banks, subsequent to a merger or acquisition announcement. The findings of the operating-performance studies point to a lack of improvement in bank efficiency or profitability as a result of mergers, while results of the event studies fail to find rising stock prices (when prices of bidders and targets are combined) in response to mergers. In a more recent overview, Pilloff and Santomero (1997) fail



to establish statistically significant post-merger gains, either in share value gains or via improved performance indicators as derived from accounting data. Investigating consolidation benefits for banks in various industrialised countries, Amel et al. (2002) find economies of scale mainly for mergers and acquisitions involving smaller banks, while convincing evidence for economies of scope or gains in managerial efficiency is not found. However, Huizinga et al. (2001) discover improved cost efficiency for consolidating banks, both for large and small bank mergers, often especially pronounced when both banks portray poor pre-merger cost efficiency.

The frequent absence of observed efficiency gains from bank consolidation may be explained by various efficiency barriers in bank mergers and acquisitions. Specifically in respect of cross-border EU merger and acquisitions, Vander Vennet (2002) points out that the typical deal is characterised by the takeover of a poorly performing bank by a relatively efficient foreign bank. The paper finds evidence of an increase in realised profits, but not in operational efficiency, at least in the short term. The author explains these findings by reference to different legal and tax systems, which prevent the full exploitation of synergies in cross-border bank consolidation.

Hughes et al. (2003) argue that the key for successful banking mergers are efficient bank corporate governance structures. The analysis finds that an increase in acquired assets improves the financial performance of banks with less entrenched management — defined as a low proportion of the bank owned by management. On the other hand, an increase in acquired assets tends to worsen performance of banks with a more entrenched management, which may prefer to ‘build empires’ rather than seek the most valuable acquisitions. The analysis suggests that acquisitions might allow an entrenched management to increase its consumption of agency goods (defined as perks) and also to avoid effort and risk. The authors explain their result by suggesting that managers owning banks are better able to resist the pressure of market discipline, while a larger share of outside owners results in a better monitoring of management performance <sup>(1)</sup>.

Interestingly, a number of analyses argue that efficiency gains from bank consolidation are understated due to

measurement problems. Unlike most studies which use financial data or estimates of managerial efficiency, Haynes and Thompson (1999) examine the impact of acquisitions on building society banks’ productivity over the period 1981–93 using a Cobb-Douglas production function approach. The authors find evidence of productivity gains from consolidation, whereby the effect is steadily increasing over a period of six or more years subsequent to an acquisition. This is explained by the gradual dismissal of initial retained staff, which had received employment assurances for an immediate post-acquisition period. This observation shows too that a short-term orientated assessment (such as possibly reflected in share price changes) might not always take longer-term efficiency effects into account.

Another reason for understating gains from banking-sector consolidation in US studies might be found in accounting rules, as discussed in a study by Kwan and Wilcox (1999). Two methods exist in the US general accepted accounting principles (GAAP) to account for banking mergers and acquisitions: purchasing accounting and pooling-of-interest. In purchasing accounting, the difference between the (usually higher) purchasing price and the book value of the target’s bank equity (including its premises and equipment) is recorded as goodwill, an intangible asset. As intangible assets must be amortised and expensed, the consolidated bank’s depreciation charge and amortisation expense will rise instantly, even if there is no change in performance of the consolidated bank after the merger. On the other hand, in pooling-of-interest accounting, the reported assets of the new consolidated bank would be equal to the sum of the reported assets of the two merging banks. The authors argue that a significant use of the purchasing accounting approach for reporting results and rising share prices after M & As (as was the case in the 1990s) would aggravate the negative effect on reported expenses. With data corrected for these factors, evidence is established that bank consolidation leads to significant efficiency gains and reduced operating costs, both in terms of labour costs and other expenses.

Cost efficiency is defined as a cost reduction per unit of output for a given set of output quantities and input prices. However, Akhavein et al. (1997) investigate profit efficiency, which is taking cost considerations and revenue considerations into account. Profit X-inefficiency is the failure of producing the highest value of output for a given set of input quantities and output prices. One example would be a profit X-inefficient firm which produces too

<sup>(1)</sup> A similar point is made by Bertrand and Mullainathan (2003) who observe that managers prefer to have a quiet life if they are insulated from takeovers.

few outputs for a given set of inputs, being inside its production possibilities frontier <sup>(1)</sup>. Another example would be a firm operating on the production possibilities frontier but responding inadequately to relative prices and therefore producing too little of a high-priced output and too much of a low-priced output. Where customers prefer services (i) that can only be provided by a larger firm or (ii) that are complementary to each other (one-stop shopping), profit efficiency can also be the function of scale or scope economics. For overall economic welfare an increase in the value of output (associated with higher profits) is equally beneficial than a decrease of costs. In their data set, merging banks tend to shift their output mixes towards high profit products, possibly because the new consolidated bank may have improved risk diversification opportunities allowing for a higher loan/asset ratio. Consequently, the authors demonstrate that their sample of merged banks significantly improved profit efficiency on average. Two alternative hypotheses — on why profit efficiency increases following bank mergers — are advanced on the basis of available evidence. First, the relative efficiency hypothesis which states that the acquiring bank tends to bring the acquired bank towards its own level of efficiency, and the low efficiency hypothesis where the merger event would act like a ‘wake-up event’ (possibly also used as an excuse), causing substantial restructuring and efficiency improvements to increase the profitability of both parts of the combined institution.

#### 2.1.3.3. Overall efficiency

Banking mergers can also improve the sector’s overall efficiency and resilience to economic shocks. Beck et al. (2003) look at banks in 70 countries from 1980 to 1997 and find a higher resilience to economic shocks in more consolidated banking systems with better diversified banks, which are also easier to monitor. On the other hand, a too concentrated banking system might be subject to other forms of idiosyncratic risks undermining the financial system, such as in the case of scandals or fraud.

One area where consolidation can clearly bring efficiency gains is in the elimination of excess capacity, particularly as the alternative method is through bank defaults. As DeYoung and Whalen (1994) find that failed banks are significantly less efficient than their peers, consolidation can be a means to eliminate inefficient banks.

#### 2.1.4. The finance growth nexus

While the above relates mainly to micro-sector analysis, a more efficient banking sector affects also the overall macro-economic performance. Although theoretical and empirical work in the field of financial development and economic performance is relatively new, evidence would seem to confirm the importance of a developed — hence efficient — banking sector in boosting economic performance.

Using a macro-approach, King and Levine (1993) find a positive correlation between a developed banking sector, productivity growth and output per capita in studies of: (i) 80 countries over the period 1960–89; (ii) the experience of financial sector reforms in five countries; (iii) firm-level evidence on the allocative effects of financial reforms; (iv) the success of general policy reforms depending on financial development. Levine et al. (2000) demonstrate a strong positive link between financial intermediary development and economic growth, using a range of indicators of intermediation such as overall size of intermediaries and the extent to which financial institutions funnel credit to private sector activities. The authors apply a variety of econometric techniques to a panel dataset of 74 countries covering the period 1960–1995. The possibility of reverse causality is rejected. They further demonstrate that the development of financial intermediation is fostered by: (i) laws that give a high priority to secured creditors receiving the full present value of their claims against defaulted firms; (ii) legal systems that rigorously enforce contracts; (iii) high-quality accounting standards, which deliver comprehensive and comparable corporate financial statements <sup>(2)</sup>. Similarly, Beck et al. (2000) find a robust and positive link between financial intermediary development and total factor productivity growth which feeds through to overall GDP growth.

Other empirical analysis using a macro approach broadens the concept of financial development to give financial markets a more prominent role next to intermediaries. In a broad overview article, Levine (1997) documents a strong positive link between the functioning and development of the financial system as a whole and long-run economic growth. Levine and Zervos (1998) complement their measure of banking sector development (using the value of loans made by commercial banks and other deposit-taking banks to

<sup>(1)</sup> The concept of X-efficiency has been introduced by H. Leibenstein.

<sup>(2)</sup> While Leahy et al. (2001) find financial development related to economic growth, they judge the direction of the causation in these relationships to be unclear.

the private sector corrected for GDP) with a proxy for the development of the stock market. The authors show that banking/financial-market development is positively and robustly correlated with current and future economic growth, as capital accumulation and productivity increases. Beck and Levine (2004) find that both banks and stock markets independently boost growth <sup>(1)</sup>.

## 2.2. Macrofinancial stability aspects

Bank integration relates not only to sector efficiency and overall economic growth but also to macrofinancial stability. In economies where banks do not cross borders, the fate of an economy and its banks is closely tied since an economic downturn affecting non-financial companies would also impinge on the profitability and stability of the country's banking sector, thereby deepening recessions due to (i) non-financial companies' collateral loss and (ii) banks' capital losses. Foreign bank entry can have rather different consequences for macrofinancial stability, to the extent that foreign bank subsidiaries (or branches) may behave not as completely autonomous businesses but as part of a larger bank holding company.

A positive effect on macrofinancial stabilisation can arise from foreign bank entry when a bank operating in different countries can provide capital to a subsidiary or branch where capital is under pressure but lending opportunities are favourable — thus protecting the relevant economy from bank-specific shocks. In that sense, geographic bank diversification smoothens the respective overall bank holdings' business volatility and thus stabilises borrowing conditions for the respective bank clients. In contrast, it is possible that the bank would divert capital away from a subsidiary operating in a weak economic environment in favour of outlets in a more promising environment, thus aggravating a local economic downturn. Whatever the economic conditions, capital might also be repatriated in the event that the home bank were to experience financial fragility, which would cause lending restrictions for foreign subsidiaries. On a theoretical level, therefore, foreign bank entry could be either stabilising or destabilising for an economy. To obtain greater

clarity regarding the net effect in macrostabilisation, a number of authors have turned to empirical investigations.

Most empirical papers find a net positive macrofinancial stabilisation effect deriving from foreign bank lending. Following the deregulation of the US banking sector in recent years, where states have opened their borders to non-state banks, Morgan et al. (2003) discover reduced business volatility as integration allowed banks to diversify against shocks to their own capital. The authors find a de-linking of bank capital growth and employment growth within states, as state banks became increasingly interlinked with non-state banks. In addition, falling state-specific variation in employment and personal income growth is demonstrated, even when taking into account different growth rates or aggregated business cycles. Overall the benefits of bank integration are most pronounced in the least diversified states. The smaller and more correlated state business cycles lead the authors to speculate that banking integration might be one factor behind the recently observed decline in aggregate US economic volatility. Similarly, Hughes et al. (1999) demonstrate that US interstate consolidation improved bank efficiency, particularly when the objective of the consolidation was to diversify macroeconomic risk and so to reduce insolvency risk. Although those papers are mainly drawing on US experiences, the conclusion seems to be that banking integration results in reduced business volatility and enhanced overall macrofinancial stability due to geographical risk spreading.

De Haas and Van Lelyveld (2003) study whether foreign-owned banks have reacted differently than domestically owned banks to prevalent business cycle conditions and a host country banking crisis. For this, the authors look at the effects of foreign bank entry into central and eastern Europe. Their dataset panel comprises data on more than 300 banks for the period 1993–2000 with detailed bank ownership information. The authors demonstrate that, during crisis periods, domestic banks contracted their credit and deposit bases, whereas foreign banks did not. Additional evidence for this thesis comes from Peek and Rosengreen (2000), Crystal et al. (2002) and Goldberg et al. (2000). All three papers — focusing on developments in an emerging market context in Latin America — agree that foreign owned banks were better able to absorb losses when compared with domestically owned banks

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<sup>(1)</sup> However, Andrés et al. (1999) do not find a significant growth–financial relationship for developed countries. For a broad overview confirming that financial development is related to economic growth even in industrial countries, see Thiel (2001).

and have thereby strengthened the financial systems of their host countries.

Another finding of De Haas and Van Lelyveld is that deteriorating home country conditions lead holding companies to encourage their foreign subsidiaries to increase their lending activities in order to compensate for the lack of profitable investment conditions for their mother banks in the home country. This is taken by the authors as an indication that the parent bank allocates scarce capital among its subsidiaries on the basis of expectations of national risk/return characteristics.

While Peek and Rosengreen (2000), Montgomery (2003) and Clarke et al. (2001) stress the overall stabilisation effects of the presence of foreign banks, the authors find that, in an emerging market context, the stability of foreign bank lending varies by method of entry with foreign cross-border lending most volatile. In contrast, branch lending is more stable and foreign subsidiaries' credit seems to be the most reliable. However, the latter two papers cite limited empirical evidence on this matter and call for further research. An interesting perspective on the issue is offered by Martinez Peria et al. (2002) who seem to suggest that cross-border lending might represent the first phase of a bank's foreign expansion. The authors find more stable lending behaviour as branch and subsidiary lending becomes more important over time. However, the apparently more volatile off-shore lending might

point to a role for banking supervision in maintaining financial stability <sup>(1)</sup>.

In contrast, a destabilising effect of foreign banks is shown by Peek and Rosengren (1997a) who find that, following the Japanese stock-market decline, binding risk-based capital requirements resulted in reduced lending activity by Japanese banks in the USA. Goldberg (2001) finds that US foreign bank claims are highly correlated with US GDP growth, but not with foreign demand conditions of other industrial countries and of emerging Asia. While Martinez Peria et al. (cited above) confirm that banks transmit shocks from their home countries, an increasing overall exposure of a foreign bank to a host country is found resulting in a reduced shock transmission effect.

Although a foreign bank's ability to follow different lending cycles to domestically owned banks seem to result in much needed stabilisation effects during crisis periods, there is also evidence of destabilising effects, which would suggest a role for efficient and properly designed supervisory and regulatory structures. Overall, though, the presence of foreign banks appears to exert a stabilising effect on the domestic economy.

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<sup>(1)</sup> Caution might be recommendable before applying those results too literally in an EU context, which is so fundamentally dissimilar in institutional, economical and political terms when compared with off-shore lending to emerging markets.

## 3. Cross-border banking integration in the EU

### 3.1. Facilitating factors

Several factors have combined to facilitate integration and consolidation within the EU banking sector over the past quarter of a century. These include: (i) the globalisation of the international financial system due to the liberalisation of international capital movements and financial deregulation within countries; (ii) major technological advances, particularly in the field of data processing; (iii) a diminishing effect of so-called natural barriers such as language and culture; (iv) improvements in the regulatory environment; (v) specific advances in the EU linked to the single market programme.

Globalisation is a broad phenomenon, encompassing social, cultural and technological integration. Economic factors, notably the consensus on the benefits to international trade and investment, have played a major part in promoting the globalisation process. In a narrower context, the liberalisation of capital movements — to finance the growth of international trade and investment — has had a specific impact in integrating the international financial system (IFS). An important feature of integration in the IFS has been the internationalisation of the banking sector. In consequence, an increasing number of banks have chosen to hold significant assets outside of their home jurisdiction <sup>(1)</sup>.

Globalisation of the IFS has been associated with a shift from bank-centred to market-based financing. This shift has been reflected in the asset composition of banks, as higher-rated borrowers have turned to direct financing via the markets for commercial paper and corporate bonds. The result has been a dramatic change in the

income profile of banks, with the proportion of interest income declining relative to income from more fee-based activities. On the liability side, a search for yield has prompted an outflow of depositor funds from banks to a range of competing financial products. The relative decline in banks' core business areas, combined with an increasing focus on shareholder value, has encouraged banks to look for attractive consolidation opportunities both domestically and abroad.

Technological change has fostered bank consolidation, particularly to the extent that advances in information technology have led to declining costs for information collection, storage, processing and transformation. An obvious consequence of advanced information technology for banking has been the substitution of paper-based methods with computer and powerful telecommunication systems. The resulting centralisation of many services has yielded significant cost savings — not only in the back office but also in trading, brokerage etc. Internet and automated lending technologies have shaped new electronic delivery channels, enabling banks to enlarge their delivery capacity, and thereby facilitating the distribution of a wider array of products/services to a larger number of clients over a wider geographical area <sup>(2)</sup>. The harnessing of information technology has allowed tailored products to be targeted directly at specific clients. In consequence, new technologies are said to have increased the optimum bank size, providing a powerful rationale for consolidation.

So-called 'natural' barriers to banking consolidation emerge in the form of national-based market differences, which relate to language, cultural preferences and con-

<sup>(1)</sup> In a study published in 2000, 38 out of the top 50 international banks are found to have at least 30 % of their assets abroad. See: *The Banker*, Internet edition, published 1 February 2000.

<sup>(2)</sup> Berger (2003) finds that technological advances have increased productivity and scale economies in processing electronic payments and have as well reduced costs, in some cases by more than 50 %.

siderations of geographical proximity. While such barriers are very difficult to overcome completely, developments in recent years have mitigated their effect. For example, barriers related to geographical distance or a high cost of cross-border information and communication have been eased by advances in information technology (e.g. wider Internet access) and by lower telecommunication prices due to liberalisation. In this way, many natural barriers now represent management challenges rather than insurmountable obstacles <sup>(1)</sup>.

Another key factor facilitating banking integration and consolidation has been regulatory reform. In the 1980s, there was a marked shift in government attitudes toward banking, which had long been treated as mercantilist industry and subject to considerable public-sector interference. The move away from a 'government knows best' approach led to a relaxation in many constraints on the banking sector. Market discipline and risk-based capital guidelines were the hallmarks of the new era, replacing the extensive focus on safety concerns and protective regulations. The new regulatory style supported a reorientation towards more efficiency through competition, and encouraged a relaxation of a number of barriers previously hindering banking consolidation <sup>(2)</sup>.

In an EU context, efforts to promote an EU internal market in financial services intensified from the mid-1980s onwards, holding out the prospect of a much larger and more liquid 'domestic' market for banks operating in the EU. In that respect, the introduction of the euro — together with the accompanying payment system infrastructure such as Target — signalled a step change in financial integration and, by eliminating exchange rate risk on the bulk of intra-EU financial flows, created the potential for economies of scale and scope within the financial sector — and, more specifically — banking. This development might have also enhanced the attractiveness of EU Member States' banking markets for foreign country banks. One major feature in that regard has been the EU capital adequacy directive, ensuring that

banks encounter a level playing field in terms of capital requirements <sup>(3)</sup>.

Another major development has been the introduction of home country supervisory control and the single licence, which raised hopes for EU banking sector integration and consolidation. The respective directive states that a credit institution (a bank for the purposes of this chapter) is allowed to open branches in the other EU Member States, so long as it is authorised to do so by its home country supervisor <sup>(4)</sup>. In this way, a single banking licence opens the possibility for the bank to do business throughout the EU while the home country supervisor retains responsibility for its financial health. The home country supervisor has the power to scrutinise the adequacy of the institution's administrative structure and financial situation and, if appropriate, to prohibit the bank from opening a branch in another Member State. However, the justification for any negative decision must be disclosed, allowing the bank to contest the supervisor's decision in court.

Once the home country supervisor has authorised the bank to open branches in another Member State, the host country supervisor may not interfere except to require the foreign-owned branches to report periodically on their activities for statistical purposes. The host country supervisor, however, retains responsibility for supervision of branch liquidity and may interrupt the provision of services by the branch if any legal provisions in this regard are being violated. Moreover, in emergency situations, the host country supervisor may, subject to ex-post Commission control, take any precautionary measures necessary to protect the interests of depositors, investors and others to whom services are provided. Given this division of responsibility between home and host country supervisors, close cooperation is required between the two agents. A number of memoranda of understanding have been signed to that effect, although none of these is legally binding.

A second possibility for a bank to expand across borders within the EU would be via the establishment of a subsidiary in another Member State <sup>(5)</sup>. In this case, the for-

<sup>(1)</sup> Berger and DeYoung (2000) suggest that efficient organisations can overcome distance effects and there may be no optimal geographic scope for banking institutions.

<sup>(2)</sup> For example, Stiroh and Strahan (2003) argue that, in competitive environments such as in manufacturing and the telecommunication industry, capacity has the tendency to go to high productivity plants, thus making the overall sector more productive. The study provides evidence that deregulating banking markets may have had a similar effect on US banks with the link between performance and market share increasing significantly over time.

<sup>(3)</sup> Basle II will be also transposed via a new directive.

<sup>(4)</sup> A branch is understood to be a legally dependent part of a credit institution (a bank, for the purpose of this chapter), fully allowed to carry out all of the transactions inherent in the business of banks. It is worth noting that any number of legally dependent parts set up in the same Member State by a single non-domestically authorised credit institution is regarded as a single branch.

<sup>(5)</sup> A subsidiary can be defined as any undertaking over which a parent company effectively exercises a dominant influence.

eign-owned subsidiary must report primarily to the host country supervisor, although the home country supervisor remains responsible for supervising the subsidiary and its parent bank on a consolidated basis. Although originally seen by many as less important when compared with the single licence, expansion via subsidiaries remains an important integration avenue (see below).

### 3.2. Progress to date

While domestic bank consolidation has progressed rapidly in the EU-15 since the introduction of the euro, cross-border retail banking integration is lagging behind, with the partial exception of the Benelux and Nordic countries. In contrast, the banking system is largely foreign-owned in most of the recently acceded EU Member States (EU-10).

#### 3.2.1. Consolidation within and between the EU-15

An examination of trends in consolidation within Member States of the EU-15 reveals a sharply declining number of credit institutions. Between 1997 and 2003, the number of credit institutions fell by almost 35 % in

Germany, by over 25 % in France and the Netherlands and in excess of 20 % in the United Kingdom. In Belgium, the number of institutions has declined by more than 17 %. Running counter to this generalised trend, the number of credit institutions in Ireland increased by almost 13 %, while the respective numbers advanced as well in Greece (7.3 %) and in Finland (5.2 %). Calculating EU and euro-area aggregates based on these national numbers, the number of credit institutions declined by 23.7 % in the euro area and by more than 22 % in the EU-15 according to the most recent data available (see Table 1).

Further evidence of bank consolidation can be found by examining the number of local banking units adjusted for population changes. Here, the number of banking units declined by 47.7 % in the Netherlands, by over 33 % in Belgium, and by slightly more than 26 % in Germany. In contrast, the number of local units increased significantly in Greece (30.4 %), Italy (15.6 %) and in Portugal (10.6 %). For the euro area and EU-15 the number of units declined by 10.0 % and 9.3 % respectively (see Table 2).

Table 1

#### Number of credit institutions (change in %)

Country/year	1997	1998	1999	2000	2001	2002	2003	1997–2003 change (%)
Belgium	131	123	117	118	112	111	108	– 17.6
Denmark	213	212	210	210	203	178	203	– 4.7
Germany	3 420	3 238	2 992	2 742	2 526	2 363	2 225	– 34.9
Greece	55	59	57	57	61	61	59	7.3
Spain	416	404	387	368	366	359	348	– 16.3
France	1 258	1 226	1 158	1 099	1 050	989	939	– 25.4
Ireland	71	78	81	81	88	85	80	12.7
Italy	909	934	890	861	843	821	801	– 11.9
Luxembourg	215	212	211	202	194	184	172	–20.0
Netherlands	648	634	616	586	561	539	481	– 25.8
Austria	928	898	875	848	836	823	814	– 12.3
Portugal	238	227	224	218	212	202	200	– 16.0
Finland	348	348	346	341	369	369	366	5.2
Sweden	237	223	212	211	211	216	222	– 6.3
United Kingdom	537	521	496	491	452	451	426	–20.7
Euro area 12	8 637	8 361	7 954	7 521	7 218	6 906	6 593	– 23.7
EU-15	9 624	9 337	8 872	8 433	8 084	7 751	7 444	– 22.7

Source: European Central Bank (2004), own calculations.

Table 2

Number of local banking units per 100 000 inhabitants (change in %)

Country/year	1997	1998	1999	2000	2001	2002	2003	1997–2003 change (%)
Belgium	72	70	68	65	60	54	48	– 33.3
Denmark	43	43	43	44	44	40	39	– 9.3
Germany	77	73	71	69	65	62	57	– 26.0
Greece	23	26	26	28	29	30	30	30.4
Spain	97	99	99	98	97	96	97	0.0
France	43	42	42	42	43	43	42	– 2.3
Ireland	26	28	26	23	25	24	23	– 11.5
Italy	45	46	47	49	51	52	52	15.6
Luxembourg	76	76	80	76	62	61	60	– 21.1
Netherlands	44	43	40	38	32	29	23	– 47.7
Austria	59	58	57	57	57	55	54	– 8.5
Portugal	47	49	53	55	54	52	52	10.6
Finland	25	24	23	23	24	24	24	– 4.0
Sweden	28	25	24	23	23	23	23	– 17.9
United Kingdom	28	27	26	25	25	24	24	– 14.3
Euro area 12	60	59	59	58	57	56	54	– 10.0
EU-15	54	53	53	52	51	50	49	– 9.3

Source: European Central Bank (2004), own calculations.

An examination of trends in cross-border banking linkages between EU-15 reveals a certain degree of integration at the wholesale level (bank-to-bank, or bank to large companies) but very little evidence of consolidation at the retail level <sup>(1)</sup>. No truly ‘pan-European bank’ has emerged at the retail level and the market share of foreign branches and subsidiaries in other Member States is low, especially in larger Member States. Integration on a limited scale has been achieved, though, in some smaller Member States such as the Benelux and the Nordic region. Evidence of fragmentation in the retail market is found in the dispersion of company loan and household interest rates, although the dispersion has trended downwards in recent years (with the exception

of consumer loans). Differences in bank profitability across countries are another indication of fragmentation. Direct cross-border provision of traditional banking services remains small in absolute terms and seems relevant only for large clients.

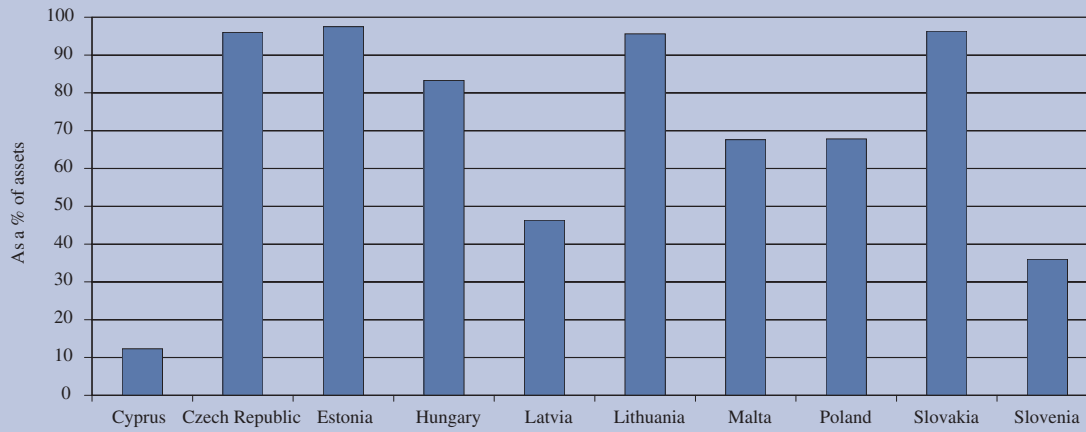
### 3.2.2. The situation in the EU-10

In contrast to the limited extent of cross-border banking integration in the EU-15, most of the EU-10 has a high level of foreign-ownership in their banking systems. The share of foreign-owned banks is especially high in Estonia (97.5 %), the Czech Republic (96 %), Slovakia (96.3 %) and Lithuania (95.6 %). The market share of foreign-owned banks amounts to 83.3 % in Hungary, 67.8 % in Poland and 67.6 % in Malta. In contrast, the share of foreign banks is below 50 % in Latvia (46.3 %), Slovenia (36.0 %) and Cyprus (12.3 %).

<sup>(1)</sup> See European Commission (2004a and 2004b). Other papers discussing EU banking integration would be for example: Baele et al. (2004), Cabral et al. (2002), Corvoisier and Gropp (2001), Dermine (2002), Kleimeier and Sander (2002) and Vander Venet (2002). See also Manna (2004).



Graph 1: Foreign banks market share in %, as measured in assets



Source: European Central Bank, 2005.

## 4. Explaining the differences in cross-border integration and consolidation between the EU-15 and the EU-10

The following explains the lagging cross-border banking integration within the EU-15 and compares that development with the more internationalised EU-10.

### 4.1. Why cross-border consolidation is lagging in the EU-15...

Integration of the EU banking sector can proceed along three different avenues, namely through: (i) organic growth in the form of foreign branches and subsidiaries; (ii) consolidation via cross-border mergers and acquisitions; (iii) the provision of services on a cross-border basis, allowing customers to choose banking products freely from their country of choice. The following analysis will point to a number of obstacles in each of these avenues, some related to economics, but others related to exogenous institutional factors. As the focus is here on obstacles specifically relating to cross-border integration, other barriers equally relevant for purely domestic M & As are not explicitly mentioned.

#### 4.1.1. Organic growth in the form of foreign branches and subsidiaries

As explained before, current EU legislation on banking aims to facilitate organic growth by granting each bank a licence valid in all of the Member States, enabling to establish a foreign branch which is subject to home country supervision. The objective is to allow a bank from one Member State to enter the domestic market of other Member States via a greenfield investment without the need to report to multiple supervisors. As a bank operating across borders via subsidiaries is subject to host country supervision in each and every Member State — in addition to home country supervision on a consolidated basis, it would be expected that organic

growth across borders would occur mainly via branches and not subsidiaries.

However, cross-border bank integration has taken place substantially through the establishment of subsidiaries. The number of subsidiaries of other European Economic Area countries (EEA, EU Member States plus Iceland, Norway and Lichtenstein) in EU Member States reached 333 in 2002 with a market share (based on assets) of 19 % when compared with overall GDP in 2001 (latest figure available for EU-15); and 23 % in the euro area (already figures for 2002 available). While the corresponding number of cross-border branches in the EU is clearly higher at 571, the market share in terms of assets amounted to only 24 % of GDP in the EU, only slightly above the share recorded for subsidiaries (and surprisingly most of the added branches since 1997 seem to have been concentrated in the non-euro-area Member States) <sup>(1)</sup>.

The relatively even split between the use of foreign-based branches and subsidiaries in terms of GDP share is surprising, given the apparent advantages of a branch-based structure in terms of supervisory compliance costs. Several factors may explain this outcome. For example, Dermine (2002) presents a list of possible explanatory factors, such as, among others: (i) that the creation of a subsidiary would help to insulate the mother company from business risk avoiding therefore investor worries about risk shifting towards far-away places; (ii) that the probability of a consolidated branch defaulting would be lower when compared to a subsidiary structure; a subsidiary structure would therefore

<sup>(1)</sup> European Commission (2004b).

allow for exploiting the deposit insurance put option in case a subsidiary was to face difficulties; (iii) the possibility of a separate stock market listing.

More fundamentally, however, the idea that banks would rush to establish branches in other Member States may have been illusory in view of the fact that banks require local knowledge for screening clients, resulting in the need of a proprietary information accumulation<sup>(1)</sup>. As each loan applicant presents a specific adverse selection problem, banks already active in a specific market have an informational advantage over new entrants, not only in respect of potential clients but also in respect of local market characteristics.

Supporting those arguments, economic research suggests that foreign banks tend to have lower interest margins and lower profitability than their domestic rivals in developed countries (in contrast to emerging markets, see below)<sup>(2)</sup>. Banks would therefore be expected to hesitate in establishing greenfield operations in other Member States, especially for retail clients, and may prefer to enter a foreign banking market through mergers or acquisitions<sup>(3)</sup>.

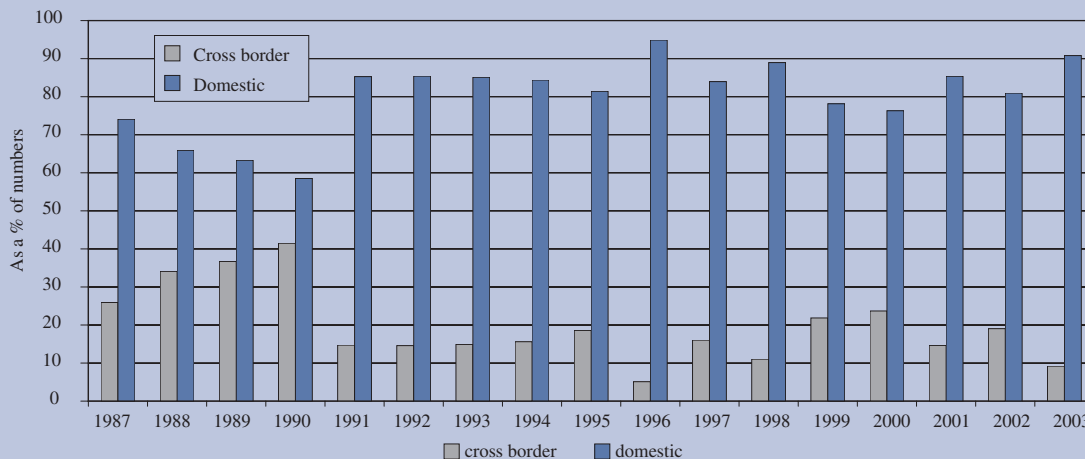
<sup>(1)</sup> See Marquez (2002) and also Kaas (2003) for models on bank entry.  
<sup>(2)</sup> See Claessens et al. (2001).  
<sup>(3)</sup> The banking group Nordea provides an interesting — and unusual — example as it pursued first cross-border M & As and has been only at a later stage trying to convert the group's legal structure through a Societas Europaeae into branches (Nordea, 2003).

#### 4.1.2. Cross-border consolidation

Cross-border mergers and acquisitions are another possible avenue for integration in the EU banking sector. Mergers can be defined as the combination of two organisations (with comparable size) into one legal entity. Acquisitions are transactions where one firm purchases a controlling stake of another one, without necessarily combining the involved firm's assets. According to the available data, cross-border mergers and acquisitions have not been a major feature of the EU banking sector. In terms of numbers, mergers and acquisitions among domestic credit institutions represent about 80 % of total consolidation activity in the EU in each year since 1991<sup>(4)</sup> (see Graph 2). The only clear pick-up in cross-border mergers and acquisitions is evident in the run up to the creation of the single market in 1992, when the share of domestic mergers fell to about 60 % in 1989 and 1990. However, cross-border mergers and acquisitions have never come close to exceeding domestic mergers and acquisitions.

<sup>(4)</sup> Source of Graphs 2 and 3: Competition databases: General statistics on mergers and acquisitions; extraction 3 March 2004; Economic and Financial Affairs DG E2; data comprise completed as well as announced M & As; data include all EU financial firm mergers from any of the following sectors as bidders into the depository banks as target sector: depository institutions, non-depository institutions and security and commodity brokers; own calculations. A number of sources confirm a low level of banking cross-border M & As, for example in Schich and Kikuchi (2003) and Buch and DeLong (2001).

Graph 2: Share of domestic, cross-border depository institutions on overall M & As in numbers



Sources: Commission services and OECD.

The dominance of domestic consolidation is even more remarkable in terms of value (see Graph 3), accounting for a share of about 80 % or more in 14 out of the last 17 years and falling below 70 % only in 1989. A possible explanation for the different outcomes in terms of numbers and value may be that EU banks pursue modest cross-border value deals in order to escape the involvement of national politicians and regulators <sup>(1)</sup>.

Although national banking systems may have evolved differently due to deeply rooted cultural and political preferences, possibly preventing full EU banking integration even in the absence of any kind of barriers <sup>(2)</sup>, there are a number of specific reasons potentially explaining the low amount of cross-border M & As within the EU, rooted (i) in political considerations leading to investment restrictions and (ii) in other institutional barriers related to taxation and a lack of common financial reporting <sup>(3)</sup>.

The divergence between bank consolidation at the domestic and cross-border level may be explained by existence of political resistance to foreign bank entry. For example, some have argued that economic openness and international financial integration pose a threat to the domestic corporate establishment, which is able to finance most of its projects through retained earnings and so does not need a competitive banking system <sup>(4)</sup>. It has also been suggested that domestic banks may oppose foreign entry in an effort to limit competition. As government authorities are involved in the banking sector — often as bank owners and more often as supervisors — powerful vested national interests pressuring the political class for their purposes cannot be excluded <sup>(5)</sup>. In this context, some observers have pointed to ‘State-induced’ barriers to integration, such as explicit and implicit rules against foreign competitors which are sometimes accompanied by strategies to create national champions <sup>(6)</sup><sup>(7)</sup>. One observer sums up the EU situation in the banking sector with the following words (Boot, 1999):

<sup>(1)</sup> *Wall Street Journal*, 2003.

<sup>(2)</sup> In addition, a case could be constructed whereby a specific economic and institutional environment led to a special banking model in a particular country. Over time, though, the environment would change, for example due to policies pursued by the EU regarding banking integration. While this changed environment could render the original bank–client relationship inefficient from the point of view of a new client seeking funds, switching costs for existing clients would prolong the current banking model and prevent its termination. If history matters in such a way, there might be little demand for a foreign bank even if its lending methods would be superior. This scenario is a rather free interpretation — would the original authors say too free? — of the arguments applied to financial structure by Monnet and Quintin (2005). See also Hartmann et al. (2003), p. 189.

<sup>(3)</sup> For a more detailed exploration of the issues, see Walkner and Raes (2005).

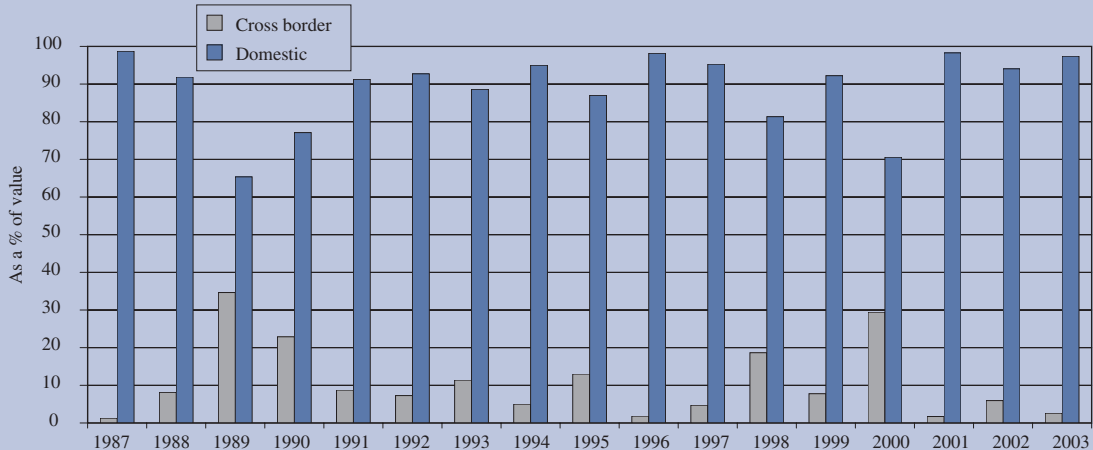
<sup>(4)</sup> See Rajan and Zingales (2001, 2003).

<sup>(5)</sup> Similarly to State-owned banks, banks might also be owned by regions or municipalities, syndicates or trade associations.

<sup>(6)</sup> See Berger et al. (2000).

<sup>(7)</sup> See, for example, Standard & Poor’s (2001), stating on p. 5: ‘The influence of domestic ... regulators should not be underestimated. Political intervention has played a big part in countries such as Italy, Portugal and France, where governments have intervened to block outside predators. In these countries, the priority remains the emergence of national champions, strong enough to compete on an international basis.’

Graph 3: Share of domestic, cross-border depository institutions on overall M & As in value



Source: Commission services.

‘The domestic banks in Europe were — and are — protected as domestic flagships. A fundamental belief that financial institutions should not be controlled by foreigners has (so far) almost prevented any cross-border merge ... central banks, ministries of finance and the banks operate in close concert. This is not very surprising: a very homogenous group of executives is in charge of the financial sector, central bank and government ministries guaranteeing a clear national identity of domestic institutions. In countries with explicit government involvement ... foreign control over domestic institutions is even more unlikely ... unless banks become so inefficient and weak that involvement of foreigners becomes almost inevitable.’

Political fear-mongering about a sell-out of ‘national’ banks may meet a receptive broader audience as, already, domestic banking-sector consolidation can be controversial, with proponents stressing the benefits of increased synergies and cost-savings and opponents warning of job losses and the regularity of failed business strategies. Cross-border integration can be particularly controversial because of the inevitable foreign dimension in any transfer of ownership.

Inward investment restrictions are one of the most obvious examples of government intervention to protect national companies and thus potentially impede cross-border consolidation. These restrictions can take several forms, the most important of which are special public control rights of Member States, restrictions deriving from company law and restrictions deriving from prudential considerations <sup>(1)</sup>.

Many cross-border barriers still derive from tax legislation and from different financial reporting requirements. The major tax-related barriers are <sup>(1)</sup> as follows.

*Income flows between associated companies.* Income flows between company groups — mainly dividends, interest rate payments and royalties — are not subject to double taxation, if covered by EU directives. However, the narrow scope of the directives and implementation problems at Member State level often render the provisions inapplicable, thereby undermining incentives for cross-border consolidation.

*Cross-border restructuring operations.* In order to guarantee equality of treatment, the taxation of cross-border restructuring operations following mergers and acquisi-

tions is partially harmonised at EU level through the ‘merger directive’. However, diverging national merger rules, a narrow scope and transposition problems hamper its application.

*Loss-compensation.* While losses incurred by foreign branches may usually be offset at the level of the parent company (subject to special conditions and maximum thresholds), an offset from subsidiaries is often not allowed. In addition, diverging national loss-compensation rules generate even in the case of branches interpretational divergences detrimental to their recognition by tax authorities.

*The calculation of transfer prices.* In practice, companies encounter several problems with the concept of transfer pricing, which is significant for tax authorities as it affects the tax allocation between different jurisdictions.

*Shortcomings in double taxation treaties.* Member States have concluded a number of agreements with the aim of avoiding double taxation of companies operating on a cross-border basis. However, this goal is not always achieved.

In addition, an international framework of rules and regulations on financial reporting is necessary, not least to ensure that the disclosed information by banks is comparable across the EU <sup>(2)</sup>.

Another barrier for achieving M & A gains derive from stifling labour laws thwarting gains from post-M & A restructuring, although this would presumably equally apply to domestic consolidation.

#### 4.1.3. Provision of cross-border banking services

If banks were able to supply products and services on an EU-wide basis, the EU banking market could become integrated from the consumer side. However, apart from bank-to-bank transactions and services offered by investment banks, this avenue of integration on a retail level has not been exploited significantly to date in the EU-15.

One reason for the absence of foreign lending to retail clients may simply relate to asymmetric information and the significance of having a local presence and local knowledge. Guiso et al. (2002) find that it is the financial institutions’ local presence, which: (i) boosts entrepreneurial activity, especially of younger persons;

<sup>(1)</sup> See Walkner and Raes (2005).

<sup>(2)</sup> A remedy to this situation might be on hand through the coming application of the international accounting standards (IAS) in the EU.

(ii) increases the formation of new firms; (iii) augments product competition leading to smaller profit margins of non-financial companies; (iv) results in higher firm's growth; (v) enhances overall economic growth. In addition, Berger et al. (2002) shows that even foreign affiliates of large multinational corporations opt in most cases for cash management services provided by a local bank, rather than taking the (supposedly) more convenient step of sticking with 'their' host bank.

Another rationale, though (although possibly related to the first one) is the absence of a sufficiently consolidated European private law, which creates, for example, difficulties for enforcing cross-border collateral pledges. One prominent manifestation of this more general problem are the diverging levels of consumer protection and bankruptcy laws, making the introduction of EU-wide retail banking products (mortgages, loans, pension products, saving vehicles) impossible, thus denying banks — operating on a cross-border basis — the possibility to reap economics of scale <sup>(1)</sup>.

#### **4.2. ... but progressing in the EU-10**

Although today, the EU-15 and the EU-10 face similar barriers to cross-border banking integration and consolidation, these barriers were presumably higher for the EU-10 before their accession to the EU in legal and regulatory terms. Paradoxically, however, banking integration has advanced on a much larger scale outside of the regulatory structures of the EU than within.

An explanation for the high level of foreign banks in the EU-10 might be found in the combination of a number of factors related to special historical circumstances. Banks previously operating under a centrally planned regime were ill-prepared to meet the challenges of the transition to a market-based economy, lacking the necessary risk management skills and a capability for effective scrutiny of lending. In consequence, many governments decided to embark on major privatisation processes by actively inviting foreign institutions to enter — with foreign banks bringing with them necessary know-how and experience and enabling a rapid transformation towards the establishment of an efficient banking system.

In consequence, the level of national resistance to foreign bank entry, through the cited integration avenues,

was presumably much lower when compared with the EU-15. In addition, governments were presumably also willing to address foreign entrants' concerns regarding existing legal and regulatory barriers.

As a result cross-border banking M & As were much easier and politically welcome. Even the case for greenfield investments would seem different for the EU-10 when compared to the Member States of EU-15 due to special factors. First, foreign banks would not face the information disadvantages usually encountered in more mature economies as local banks previously operating under the auspices of a centrally planned economy would not have historical credit-related knowledge either. Second, a greenfield entry might have the additional advantage of avoiding the heritage of bad loans from past (largely plan-driven) lending decisions. As a result, foreign banks have used the entrance avenue provided by organic growth on a much larger scale <sup>(2)</sup>.

Although there is significant cross-border lending recorded between the EU-15 and the recently acceded Member States — reaching 42 % of EU-10 GDP in 2003 — this seems to reflect primarily bank-to-bank lending in the form of group funding via parent banks. The high share of cross-border lending between the EU-15 and the EU-10 might also relate to the heightened role of foreign currency lending, reflecting the more benign funding conditions in foreign currencies and the anticipation of a membership in the euro area <sup>(2)</sup>.

Foreign banks were attracted to the EU-10 for a variety of reasons. First, the relatively strong economic performance of the EU-10 provided an attractive growth opportunity. Second, empirical findings suggest that foreign banks report significantly higher net interest margins than domestic banks in emerging markets due to their more efficient business practices but also their ability to ignore political pressures for lending towards inefficient sectors <sup>(3)</sup>. Third, many of the foreign banks seemed to have entered those countries with long-term strategic goals in mind. For example, Nordic banks are active in the Baltic States; Austrian and Italian banks operate in many neighbouring central European countries. In contrast, the role of non-EU banks is rather limited <sup>(4)</sup>. In addition, a possible anticipation of EU membership will have played a significant role too.

<sup>(1)</sup> See Walkner and Raes (2005).

<sup>(2)</sup> See European Central Bank (2005).

<sup>(3)</sup> See Claessens et al. (2001).

<sup>(4)</sup> On this point, see European Central Bank (2005).

## 5. Stability challenges linked to EU banking integration

The following analysis points first to the risks related to the current EU supervisory arrangement and then to broader macroeconomic stability risks.

### 5.1. The EU supervisory arrangement

The EU supervisory framework has been regarded, until recently, as a convenient means to facilitate market entry without the need for a major change in Member State arrangements. However, the framework workings might also relate to a number of stability challenges.

As outlined before, a bank operating across borders via subsidiaries is subject to host country supervision in each and every Member State — in addition to home country supervision on a consolidated basis. A pan-EU bank can therefore be required to deal with a plethora of supervisors from different jurisdictions, each operating in accordance with different rules and distinct procedures. Consequently, there might be a coordination issue between the large number of authorities involved.

In the event of a crisis, the situation would be even more complex as not only the supervisors, but also the central banks and the ministries of finance may be involved, raising coordination issues on the national as well as the cross-border level. While channels for coordination on a national level would seem sufficiently well developed, cross-border coordination between home and host country authorities or between different host country authorities in the case of a subsidiary would seem more cumbersome. Although it can be expected that supervisory authorities would, in general, share the common goal of redressing a crisis situation effectively, there might be some delicate cases. One example might be philosophical and political differences leading to conflicts, as some authorities could favour a bail-out of the whole group

while others would be inclined to let the bank subsidiary in their jurisdiction fail.

Emergency liquidity assistance through a domestic central bank would be another issue, possibly involving similar problems. The supranational character of the monetary authority responsible for the euro might raise the additional matter of how effectively diverging views between participating central banks might be resolved.

In the case of a bank expansion via branches, the home country supervisor bears the cost in supervising the foreign-branch activities of its domestic banks, while the host country receives most of the possible benefits (and risk) in terms of a healthy (or frail) domestic financial system. Consequently, the home country supervisor may face sub-optimal incentives in performing its duties vis-à-vis the host country. This problem of incentives would be most pronounced in circumstances where the foreign-branch business of the home country bank is relatively small in terms of its total activity but relatively large in terms of the host country's banking system. In such a situation, financial distress in the bank's foreign branches would have only limited consequences for the home country but would have more significant implications for the financial system of the host country (Schüler, 2003) <sup>(1)</sup>.

In that case, there is a risk that national interests might discourage the home country supervisor from declaring a bank insolvent as this would put pressure on the home country taxpayers to provide funds for bail-out payments or restructuring costs, while only benefiting the home country in small part. In the case of a pan-European bank, pre-agreed procedures to agree on eventual bank bankruptcy proceedings and/or agreements for eventual bank-

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<sup>(1)</sup> See also Group of Ten (2001), Chapter III, pp. 152f.

ing bail-outs might become necessary in order to avoid an undue burden on a (possibly small) home country.

In that context, the responsibilities of a home country supervisor in relation to foreign branches can be a cause of concern for the host country supervisor. While the host country retains some emergency powers, these can be used only in extremis, if a spirit of cooperation and trust between home and host supervisor — as well as the confidence of foreign banks operating in the host country — is to be maintained<sup>(1)</sup>. In these circumstances, the host country supervisor has very limited possibilities to influence the behaviour of foreign banks within its domestic financial system.

Another issue might arise if a bank's overall balance sheet is healthy enough to permit further lending, domestically as well as abroad, while considerations related to the business cycle or the exchange rate would warrant tightening lending conditions in a host country. As a result, a special type of conflict could arise between home country prudential control related to specific banks solvency ratios and host country concerns relating to overall financial stability.

Different national deposit guarantee arrangements can become another source of concern in a cross-border context. Diversity is said to exist in terms of national arrangements' scope (what is covered), cover (up to what amount), funding (ex-post vs. ex-ante funding) and contributors (depositors vs. banks). In the event of a foreign bank with branches in another country failing, irritation and deception might result in certain cases for retail consumers as the unfamiliar guarantee arrangements of the bank's home country would apply.

Other problems can arise for the host country supervisor in the operational phase of a cross-border banking M & A, when operational risk and managerial risk can be high. Unintended credit and liquidity risks might emerge due to a technical failure, especially in an early transition phase where management might not yet be in full control of a newly created entity. Risks stemming from operational failures might be relevant in the consol-

idation of back office operations. Organisational problems in the context of complex mergers and acquisitions can be another hazard, particularly if the management lacks experience in some activities of the new entity.

## **5.2. Broader macroeconomic stability issues**

Broader macroeconomic stability risks deriving from cross-border banking integration relate: (i) to the strong links between the EU-10 and the EU-15; (ii) the weak links within the EU-15; (iii) other more general risk considerations.

### **5.2.1. The link between the EU-10 and the EU-15**

The significant market share of foreign banks in the EU-10 raises a number of stability-related issues as foreign bank entry could be either stabilising or de-stabilising. Although experience in the EU-10 seems to have been more positive than negative<sup>(2)</sup>, the relatively strong links between their banking systems and those of the EU-15 Member States could also transfer instability affecting both sides. However, in practice, the much larger banking size in the EU-15 implies a clearly higher vulnerability for the banking system of the EU-10 for the moment. In future though, the faster-growing EU-10 markets might render this stability risk increasingly applicable to the EU-15 as well. A possible consolidation wave between EU-15-originated banks, also active inside the EU-10, would result in a heightened vulnerability in the event of a home country banking problem of the group; and perhaps also increase the vulnerability of group earnings in case of problems in the EU-10.

The earlier outlined suboptimal incentive structures for banking supervisors and unclear issues in the provision of emergency liquidity and in an eventual tax-financed bail-out might therefore, for the moment at least, affect the largely foreign-owned EU-10 to a much larger degree when compared with the EU-15. Given the current political climate though, home country fiscal authorities might find it especially difficult to justify to their electorate an eventual fund transfer necessary for bailing out a failed bank with a significant branching network in other Member States. A failure to act, though, might result in general calls on a political level for a

<sup>(1)</sup> A further complication in the use of those 'emergency' instruments would be that banking crisis are often characterised by being both (i) developing and spreading rapidly, making swift supervisory action necessary as well as (ii) opaque and not transparent (even for supervisors). However, quick unilateral pre-emptive actions within an obscure environment might not necessarily allow the host supervisors to clearly demonstrate the actions' justification in an ex-post context.

<sup>(2)</sup> On this, see European Central Bank (2005).



retreat from European arrangements apparently failing to deliver.

Another consideration would relate to an eventual widespread take-off of EU banking integration, which might imply for the EU-10 heightened competitive pressure on their banking system, as the comparatively high margins — and the corresponding elevated level of profitability — may erode. The resulting diminishing bank capital buffers might lead to stability risks requiring vigilance on the part of supervisors in case this development were not accompanied by cost restructuring. Given that some foreign banks seem to go rather aggressively for market share in the EU-10, and heightening therefore banking competition, there is a worry that some of the weaker banks might be tempted to engage in more risky business activities.

#### **5.2.2. Risks related to weak links within the EU-15**

In contrast, the risk for the EU-15 is different and originates from the lack of cross-border banking integration, which is isolating national retail banking markets. As a result, asymmetric shocks within an individual Member State's economy or its banking system might not spill-over into the banking system of the other EU 15, but instead aggravate economic downturns purely locally. This lack of risk-sharing and contagion would lead to frictions and would make it politically difficult for the Union as a whole to counteract such an adverse development with existing policy instruments — which are mostly designed for multi-country groupings — such as monetary policy for those Member States participating in the euro area. In extremis, the difficulties of setting an adequate interest rate for such an area, divided by economic fortunes, might mean excessively high rates for slow-growing countries (leading to distressed banks) and result in too-low rates for fast growing countries (leading to asset bubbles).

It is worth stressing that, under the euro regime, a national financial system's stability cannot be insulated from the stresses caused by the slow adjustment in real

sector markets and an overextended (i.e. weak) fiscal policy. It is therefore likely that the strain caused by a negative shock originating in the real sector might impact on banks' stability, leading either to a withdrawal of funds (potentially from both domestic and cross-border lenders) or to adverse consequences for those depositors not withdrawing theirs — with the latter hitting consumer and business confidence. Even if banking defaults can be avoided though, a mere widespread national banking sector fragility might lead to suboptimal lending opportunities for the non-financial sector, given the absence of cross-border banking links. As a consequence, this could lead to a mutually reinforcing vicious cycle between weak banks and the suboptimal funding of the non-financial sector.

In addition, the lack of EU-15 cross-border banking linkages fail to provide an element of support for smoothing the often observed large differences in economic cycles across Member States and the overall cyclical volatility of the EU economy.

#### **5.2.3. More general risk considerations**

Apart from these more specific concerns relating to either the EU-10 or the EU-15, there is also another, more general, concern: namely that national pride and stifling labour laws would keep inefficient and unprofitable banking institutions longer in operation than economically justified, making them either increasingly vulnerable to failure or, alternatively, providing incentives for seeking risky business strategies in a gamble for resurrection.

Currently, foreign bank ownership is a reality for the EU-10 and to a more limited degree in the Nordic countries and Benelux, but also in other smaller countries such as Austria. In a way, these dozen or more countries are alert to the benefits and risks of foreign bank ownership on a relatively small scale. Before integration spreads on a larger scale to big economies, as now perhaps is beginning to happen, the stability challenges have to be addressed.

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# 5. Reaping the benefits from globalisation: The Irish case

## Summary

The Irish economy has been successfully transformed into a modern and open economy over the last decades. In particular, the strong performance of the 1990s has brought Ireland from among the laggards to a star performer among the EU countries. There were many factors, both long and short term, which prepared the Irish economy for this impressive economic turnaround. It is widely accepted, however, that integration of the Irish economy into the world economy (including trade, investment and migration flows) played a crucial role in this respect. Ireland therefore represents, in some ways, a ‘positive’ instructive model of what happens to a country which opens itself up to the forces of globalisation.

This chapter reviews some past trends in the integration of Ireland into the global economy. Starting with the analysis of key factors related to the internationally-led pick-up in the 1990s, inward direct investments and links to the performance of the Irish economy are examined. This analysis reveals a crucial importance of the foreign sector in an increasingly globalised Irish economy. While labour mobility has traditionally had profound impacts on the Irish economy, the recent surge in inward migration with relatively high-profile qualifications of migrants has had a clearly positive effect on the growth potential of the Irish economy. Finally, further insights into the contribution of the financial liberalisation and

innovation to the notable Irish economic pick-up in the 1990s are obtained from a brief discussion of financial market developments.

In concluding comments, how the Irish experience of globalisation might be used to illustrate general messages about the globalisation process in terms of challenges and opportunities is explored. This might be particularly interesting for other converging economies — notably for the recently acceded EU Member States who may seek to emulate the Irish success of the 1990s. By avoiding the shortcomings of earlier periods of Irish economic history, the new Member States can possibly ensure a smoother convergence towards EU-15 income levels. In particular, the Irish experience of the 1980s, with macroeconomic stabilisation and crucial structural reform, offers important lessons, as this period in many ways sowed the seeds of success for the following decade when Ireland was able to capitalise on the opportunities offered by an increasingly globalised world economy. Ireland cannot be always seen, by contrast, as a typical example of economic convergence in all aspects, as the pick-up of the 1990s was leveraging many of the Irish-specific endowments and partly because the positive experiences of globalisation were intensified by (often one-off) favourable developments in the international economy. Overall, the chapter concludes that new Member States can realistically seek to emulate the Irish experience in some, but certainly not all, respects.





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# 1. Introduction

Ireland has been successfully transformed into a modern and open economy over the last decades. The economy's catch-up in the 1990s resulted from a wide range of — often interconnected — factors. Numerous studies argue that, at the time of international buoyancy in the mid-1990s, Ireland was well prepared for an impressive turnaround in economic fortunes. In particular, it is widely accepted that acceptance of free trade, inward investment and information technology reflects many aspects of the strong Irish performance in the 1990s. Ireland therefore represents, in some ways, an instructive model of what happens to a country which opens itself up to the forces of globalisation.

In the 1990s — with strongly growing international trade, FDI inflows and inward migration — Ireland was clearly able to exploit the opportunities offered by globalisation. The benefits of the increased access to the global economy materialised as the Irish economy secured access to external markets through having a high degree of competitiveness, measured in the very widest sense, including capturing the bulk of global foreign direct investment flows into the EU. Globalisation shifted the Irish economy from the EU periphery into the centre of the operations of multinational companies, benefiting from the opportunities created by the launch of the EU internal market and, at a later stage, Irish euro-area membership.

While the international boom was an important factor of the Irish miracle of the 1990s, globalisation is an ongoing and dynamic process. In this respect, the Irish economy nowadays operates in a different environment to that of the early 1990s. Moreover, Irish income levels

have well exceeded the EU average though some structural bottlenecks (inherited from the past catch-up) still remain in place. Ireland's economic fortunes in the years ahead will therefore depend on the ability to maintain competitiveness and, given the importance of the foreign sector, whether the threat of a possible diversion of FDI<sup>(1)</sup> away from Ireland will actually materialise. In particular, ensuring competitive supply of intermediate goods and inputs (mainly through the elimination of obstacles to competition in some sectors of the economy), guaranteeing access to efficient labour markets and elimination of an infrastructural deficit are crucial factors to be addressed in this respect.

In this section, we first review some past trends in the integration of Ireland into the global economy. Second, we analyse key factors related to the internationally-led pick-up in the 1990s, and in particular focus on inward direct investment, labour market issues (including the impact of migration flows), financial liberalisation and innovation. In the final section, some possible challenges that Ireland is facing in the post 'Celtic-tiger' era are discussed and some general messages about the globalisation process in terms of challenges and opportunities are illustrated. In this respect, lessons from the specific Irish experience of globalisation are drawn for other converging economies — notably for the recently acceded EU Member States.

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<sup>(1)</sup> The new global challenges for Ireland also include strengthened competition for FDI inflows from the new EU Member States largely seeing FDI flows as a crucial part of the Irish success in the 1990s.

## 2. Integration of Ireland into the global economy

Many explanations have been advanced to explain Ireland's exceptional growth rates during the 'Celtic tiger' period: an available pool of educated labour; foreign direct investment; fiscal stabilisation; social partnership; EU and EMU membership (Čech and Macdonald, 2004). It is not the intention to discuss the relative importance of these various factors in this paper. However, in order to give a picture of the role of globalisation in the pick-up of the 1990s, we need to give a brief review of the economic and policy developments prior to this period.

### 2.1. Preparing the path for an exceptional growth performance in the 1990s

Ireland had a fairly miserable record of economic performance prior to 1960. At the beginning of the 20th century, Ireland showed a relatively high GDP per capita, but this declined markedly vis-à-vis the European core up until 1960. Economic historians cite the fact that, prior to the 1960s, the policy stance of successive governments was that of protectionism (Ó Gráda and O'Rourke, 1996). Indeed, the Irish economy delayed opening-up to trade and foreign investment until the 1960s, somewhat later than other European countries.

Ireland's advances in trade liberalisation between the mid-1960s and mid-1970s, culminating in EC entry (1973), made the economy more attractive to foreign investors. Ireland's economic growth reached a par with the rest of Europe <sup>(1)</sup>, but its relative income position more or less stagnated until the mid-1980s, when the Irish economy truly took off. Powell (2003) puts forward an argument that the income convergence of the Irish economy towards the European core was halted due to strong State intervention in the economy during this period. Another potential explanation of the 'delayed convergence' offered by a number of authors includes the impact of the oil price shock on the Irish economy in the 1970s and fiscal mismanagement in the period 1973–87 (see Table 1). Despite the outward orientation of Irish economic policies initiated in the 1960s, the income convergence of Ireland with the EU core was therefore not a continuous and automatic process (Economic and Financial Affairs DG, 2004).

A second set of growth-oriented reforms initiated in the 1980s proved successful and allowed the economy's catch-

<sup>(1)</sup> After the 1960s, Ireland began to close the income gap with the UK but stagnated vis-à-vis the EU core.

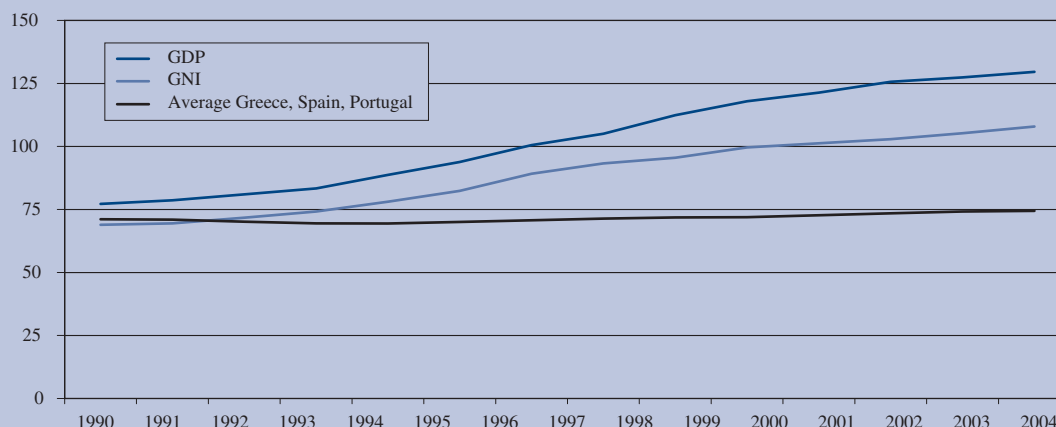
Table 1

#### Review of the Irish economic record (average annual GDP and investment growth rates)

Period	GDP growth (% p.a.)	Investment (% p.a.)	Events of the period
1961–72	4.3	9.4	Open trade, developing manufacturing sector, accelerating growth
1973–78	5.2	5.1	EC membership, oil crises, rising unemployment
1979–86	2.4	– 0.9	Recession, growing national debt. Increasing taxes, EMS membership
1987–93	4.4	1.4	Fiscal consolidation, national partnership
1994–2000	9.2	14.4	'Celtic tiger' period
2001–04	5.3	2.7	Adjusting to slower growth levels

Sources: AMECO database, Kelly and Everett (2004).

**Graph 1: Irish catch-up in the 1990s (as % of En average in PPPs)**



Source: AMECO database.

ing-up to gain momentum. In particular, providing a stable fiscal environment, maintaining low inflation, achieving sustainable wage increases and decreasing economic regulation allowed Ireland to grow more rapidly. However, sowing the seeds of the ‘Celtic tiger’ success during the 1980s was often a painful process: costly disinflation using an exchange rate peg, a difficult budgetary stabilisation (unsuccessful when tax-led but successful when later expenditure-led), a protracted period of consensus-based wage discipline (with unemployment falling from high levels) and a range of microeconomic reforms. Consequently, in the 1990s, the Irish economy performed much better than any other EU economy, showing average annual double-digit GDP growth rates in the second half of the decade. Ireland’s robust employment growth over the 1990s practically eliminated unemployment, while simultaneously absorbing a dramatic increase in the labour supply. This increase came from an unusually high natural rate of labour force growth, and also due to a sharp increase in labour participation by women and considerable net immigration growth that reversed the traditional pattern of net outflow (OECD, 2004). This strong performance brought per capita income in Ireland based on GDP at par in the second half of the 1990s, and it now significantly exceeds the EU average (Graph 1).

## 2.2. Ireland going global since the 1990s

Ireland has been an exceptionally open economy, with economic growth export-driven to a considerable extent. The openness of the Irish economy — as indicated by the

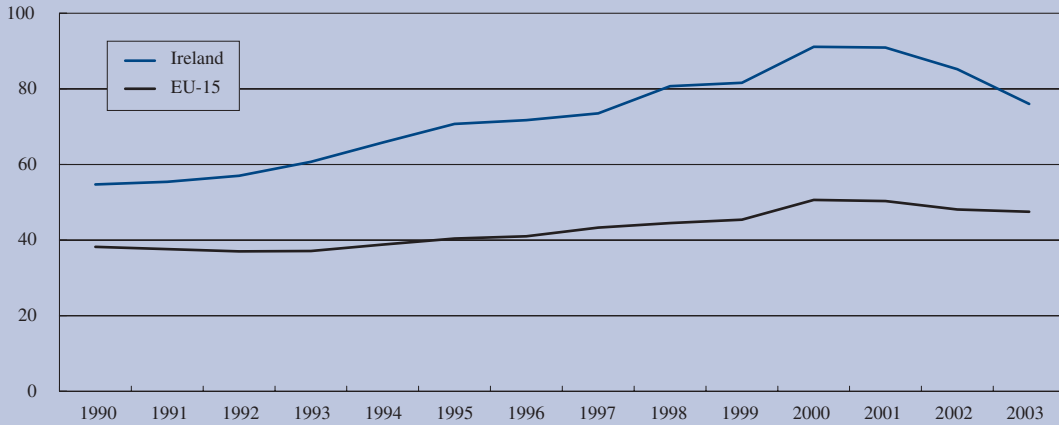
trade-to-output ratio <sup>(1)</sup> — increased from 54.7 % in 1990 to 90.1 % in 2001. Since that year, the openness of Ireland has slightly fallen, mainly due to the increase of the share of housing construction in Irish GDP, but has remained at comparatively high levels (Graph 2). Ireland also succeeded <sup>(2)</sup> in attracting FDI inflows, amounting to USD 124.5 billion over the 1990–2003 period (OECD, 2005).

In the ‘Celtic tiger’ period, two factors — making a link between Ireland and a global economy — were important for successful income convergence of Ireland towards EU levels (Čech and Macdonald, 2004). First, a good condition of the international economy was fundamental for the economic turnaround which actually reached a long period of unbroken growth in the world economy in the 1990s. In this respect, sectoral composition of economic growth was also important, with ICT and chemical sectors linked significantly to the US economy. Second, a high openness of the Irish economy facilitated the pass-through of the global boom. In this regard, Barry (2000) discusses the ‘regional boom hypothesis’. This argument builds largely upon Krugman (1997), who argues that we should think of Ireland as a ‘regional economy’. In such environment, capital

<sup>(1)</sup> The rates shown correspond to the average of imports and exports (of both goods and services) at current prices as a percentage of GDP.

<sup>(2)</sup> Ireland ranked second in the 2002 ‘trans-nationality index’ of FDI host economies (Unctad, 2004). This index is computed as the average of four ratios: FDI inflows to gross fixed capital formation for 1999–2001; FDI inward stocks to GDP in 2001; value-added of foreign affiliates to GDP in 2001; and employment of foreign affiliates to total employment in 2001.

Graph 2: Ireland's openness



NB: The rates shown correspond to the average of imports and exports (of both goods and services) at current prices as a percentage of GDP.  
Source: OECD factbook, 2005.

and labour inflows were able to generate not only 'intensive growth' (based on productivity improvements), but also 'extensive growth' (i.e. additional factors of production, such as inward capital flows and immigration). Barry (2000) concludes that convergence would have

been much less rapid in the 1970s or 1980s even if appropriate macro policies had been followed at the time, because there would have been much less foreign direct investment (FDI) available than in the era of the EU internal market and the spectacular US-led boom.

### 3. Ireland — global integration boosts the economy in the 1990s

The integration into the global economy and FDI flows have significantly imprinted themselves into the Irish economic landscape. In particular, Ireland's capacity to absorb (i) high inflows of direct investment and (ii) high international labour mobility were crucial factors in explaining the extraordinary boom of the 1990s. Kelly and Everett (2004) also put forward an argument that it was the global integration of Irish banks that removed domestic resource constraint flows and together with (iii) financial liberalisation and innovation, made an important contribution to economic growth in the 1990s. We discuss these factors in turn.

#### 3.1. Foreign direct investment

Ireland's economic pick-up has been strongly linked with the development of the foreign sector. Table 2 below makes clear why FDI is nowadays so important for the Irish economy, which shows a considerably higher inward FDI stock than the EU average (but with outward investment in Ireland somewhat stagnating since the early 1990). The inflow of foreign direct investment into Ireland dates back to the 1960s<sup>(1)</sup>, but accelerated strongly in the 1990s (in particular in the electronics, software and pharmaceuticals sectors)<sup>(2)</sup> when the overall stock of the inward FDI more than doubled. Barry et al. (1999)<sup>(3)</sup> makes a link between this FDI inward surge and inflow of the US direct investment to the EU during this period, pointing out the Irish ability to secure the bulk of these inflows<sup>(4)</sup> (and in the period when the pick-up in global FDI flows was notably strong).

<sup>(1)</sup> The Control of Manufactures Act which prohibited foreign ownership was abolished in 1957 (Murphy, 2000).

<sup>(2)</sup> See, for instance Forfas (2000): [http://www.forfas.ie/publications/inter-trade\\_00](http://www.forfas.ie/publications/inter-trade_00)

<sup>(3)</sup> US FDI data in this study were based on the US Department of Commerce *Survey of current businesses*.

<sup>(4)</sup> Ireland has received, based on US Bureau of Economic Analysis data, around 10 % of total annual US FDI outflows into the EU in the second half of the 1990s compared with only 2.5 % in the 1980s (Forfas, 2000).

Table 2

**Inward and outward FDI stocks (as a % of GDP)**

		1990	1995	2000	2003
Ireland	Inward	71.5	60.2	144.1	129.7
	Outward	24.0	19.9	33.9	22.5
EU-15	Inward	10.9	13.2	28.5	32.8
	Outward	11.6	15.0	37.5	39.6

Source: Unctad (2004).

#### 3.1.1. Ireland's features relevant for FDI flows

Why was Ireland so well positioned in attracting foreign investment? Navaretti and Venables (2004) suggest that two policy aspects were crucial in this respect: (i) the corporation tax regime<sup>(5)</sup>; (ii) the activities of Ireland's development agencies<sup>(6)</sup>. Murphy (2000) identifies some other factors in explaining the growth of FDI inflows as (iii) the deepening Irish integration into the EU (including the single market and, at a later stage, EMU) and (iv) the abundant and increasingly computer-literate young labour force. Surveys of multinational companies operating in Ireland attribute Ireland's success also to (v) labour force flexibility and (vi) English language (see also Table 3).

<sup>(5)</sup> Navaretti and Venables (2004) show that the top corporation tax rate on manufacturing in Ireland was significantly lower than in any other EU country in 1997, at 10 % in Ireland and 28 % in Sweden (the country with the second lowest corporate tax rate in the EU-15) respectively. Honohan and Walsh (2004) argue that a low corporation tax regime offers to the multinational firms an incentive to shift profits to Ireland via 'transfer pricing' to monopoly (often patent-related) profits of multinationals that were booked in Ireland.

<sup>(6)</sup> Murphy (2000) points out, in particular, the successful targeting of the Industrial Development Authority (IDA) of emerging US multinationals in high-tech sectors.

Table 3

**IDA survey — Factors influencing FDI decisions (%)**

Main criteria in international location decision	
Low-cost labour/environment	51
Educated/skilled workforce	36
Tax regime	33
Proximity to marketplace	26
Infrastructure	18
Advantages of operating in Ireland	
Educated/skilled workforce	67
Tax regime	65
Work ethics	35
English language	32
Flexible approach of workforce	24

Source: IDA customer survey (2004).

Another possible factor in explaining the attractiveness for inward investment flows has also been the ‘demonstration effect’ of other large multinational firms operating successfully in Ireland. Recent literature on international trade theory indeed predict that agglomeration effects could also explain FDI flows, as they are likely to occur with firms concentrating in regions where activity is already high and in the areas which proved satisfactory. In fact, ‘FDI first mover’ advantage coupled with the concentration of FDIs in high-tech industries reduced Irish peripheral location disadvantage. Barry et al. (1999) argue that the importance of agglomeration effects in the growth of inward investment in Ireland cannot be rejected, but it seems difficult to prove conclusively as the clusters of foreign firms could be partly explained by the activities of the Irish industrial development authorities targeting firms in particular sectors.

**3.1.2. Characteristics of the foreign sector in Ireland**

What are the key characteristics of inward investments in Ireland? Navaretti and Venables (2004) identify that foreign industry predominates high-tech sectors while most indigenous firms are present in low-tech sectors <sup>(1)</sup> (Table 4 below). Barry et al. (1999) finds that traditional measures of comparative advantage had little explanatory power for the sectors into which the direct investments flowed in Ireland. On the basis of O’Malley’s (1992) work, he concludes that the Irish experience seems to suggest that

<sup>(1)</sup> As classified by OECD.

export-oriented FDI has flowed primarily to the sectors with increasing returns to scale at firm level, such as chemicals, office machinery and electrical equipment <sup>(2)</sup>.

Table 4

**Shares of indigenous and foreign employment in sectors classified by level of technology**

	Low-tech	Medium-tech	High-tech
Indigenous	74	16	10
Foreign	24	20	56

Source: Navaretti and Venables (2004).

In industry, while foreign subsidiaries in Ireland started from practically zero in the 1950s, they accounted for around 80 % of gross output and almost 50 % of total employment in 2002. The analysis based on the most recent data on the Irish industry <sup>(3)</sup> for the year 2002 reveals the following. Firstly, foreign units tend to be larger (in terms of both gross output and persons engaged) and more productive <sup>(4)</sup> (net output per person engaged). Furthermore, the level of wages and salaries per person engaged in indigenous manufacturing was only at around two thirds of the level in foreign plants. Secondly, foreign plants are more globalised in terms of trade orientation. In particular, the output of US plants in Ireland is clearly for export, as only around 3 % of their gross output in 2002 went to the Irish market. Also interesting is that almost half the Irish indigenous manufacturing output is still oriented towards the UK <sup>(5)</sup>. Thirdly, foreign units have also significantly higher expenditures on R & D and training of employees <sup>(6)</sup> (see Navaretti and Venables, 2004).

The presence of the foreign subsidiaries can have both positive and negative effects on the indigenous sector.

<sup>(2)</sup> NACE codes 25, 33 and 34 respectively.

<sup>(3)</sup> 2002 Census of industrial production, Central Statistics Office, Ireland.

<sup>(4)</sup> Honohan and Walsh (2004) argue that, because of Ireland’s large FDI base and comparatively low corporate tax levels, part of the productivity improvement was due to monopoly (often patent-related) profits of multinationals that were booked in Ireland. Therefore, such comparisons of productivity are likely to be distorted and should be treated with caution.

<sup>(5)</sup> Barry et al. (1999) show that the most striking consequence of the opening to FDI inflow in the 1960s was a substantial reduction of exposure to the UK as the main destination for Irish exports and gradual lowering of the share of agricultural products in Irish exports.

<sup>(6)</sup> Navaretti and Venables (2004) report that expenditures on training per employee are five times greater than in the indigenous sector.



Table 5

**Indigenous and foreign firms in the Irish industry in 2002 (NACE 15-37)**

	Number of local units	Total persons engaged	Persons per local unit	Gross output (1 000 EUR)	Gross output (as % of total)
Irish	4 530	124 063	27.4	18 737 540	19.6
Foreign	726	116 238	160.1	76 859 997	80.4
— EU-15 countries	341	35 667	104.6	10 137 655	10.6
— non-EU-15 countries	385	80 571	209.3	66 722 342	69.8
— USA	317	71 332	225	64 347 530	67.3
Total	5 256	240 301	45.7	95 597 537	100.0

Distribution of output exported (in %)					
	Exports (as % of gross output)	UK	Other EU-15	USA	RoW
Irish	36.0	49.2	28.2	10.6	12.0
Foreign	94.0	14.4	52.0	15.2	18.4
— EU-15 countries	73.6	21.1	41.0	30.8	7.1
— non-EU-15 countries	97.0	13.7	53.3	13.4	19.7
— USA	97.4	13.5	53.7	13.5	19.3
Total	82.6	63.6	45.7	25.8	n.a.

NB: All manufacturing local units (NACE 15-34).

Source: Census of industrial production 2002 (CSO, Ireland).

On a positive note, foreign investment is often seen to promote innovation and technological spillovers emanating from multinational to indigenous firms in the host country. The positive spillovers can also include increased demand arising from sub-supplier activities. A considerable amount of literature provides rather mixed evidence on FDI-related efficiency spillovers, with the indigenous sector benefiting from positive externalities and becoming more efficient, but Gorg and Strobl (2001) show the nature of the data and estimation methods are important. In Ireland, Barrios et al. (2002) finds evidence of positive spillovers arising from foreign plants, but the positive externalities were found to be statistically significant only in the sub-group of firms with a sufficient absorption capacity<sup>(1)</sup>. On the other hand, the indigenous sector might be worse off due to the presence of the foreign affiliates when both groups compete in the product and factor markets. Table 5 suggests that, in Ireland, there is little competition between foreign and indigenous firms on the product markets, as 94 % of the gross

output of foreign manufacturing plants is export-oriented<sup>(2)</sup>. As regards factor markets, Navaretti et al. (2004) argue that the size of the foreign sector clearly influences wages at the macroeconomic level, leading to a possible ‘crowding-out’ of lower productivity sectors.

### 3.1.3. FDI in services

The importance of services FDI in total inward flows to Ireland has been growing dramatically over the last decade. Much of the inward investment in the services sector seems to be driven by new technologies. Ireland was reported in 2001 to be among world leaders in off-shored services (with India, Canada and Israel), together accounting for over 70 % of the total market. In particular, Ireland leads the global market for off-shored IT and IT-enabled services with a 25 % share (Unctad, 2004). Obviously, this also reflects the fact that new information and communication technologies (ICT) are changing the ‘tradability’ of services — firms are nowadays able to relocate to Ireland and retain close to important markets.

<sup>(1)</sup> While a plant’s ‘absorptive capacity’ is difficult to measure, Barrios et al. (2002) used as a proxy R & D expenditures and firm exports, as making those firm more likely to have higher levels of technology relative to firms operating just on the local market.

<sup>(2)</sup> Navaretti and Venables (2004) also argue that the export destinations and sectoral origins of foreign and indigenous firms are different.

Table 6

**Share of employment of affiliates under foreign control (in % of total employment)**

Country	Manufacturing	Services
Ireland	49.19	14.0
Hungary	45.20	15.1
France	30.78	5.6
Czech Republic	28.93	19.6
Poland	21.92	13.4
Austria	18.04	9.7
Finland	17.15	11.9
Italy	10.86	5.1
Portugal	8.56	3.8
Germany	5.83	2.9

Source: OECD, Navaretti et al. (2004).

The share of services in FDI inflows increased from a very low level of around 3½ % in the period 1990–94 to around 47 % in the period 2001–02. The scale of the contribution of services to overall foreign sector performance <sup>(1)</sup> can be illustrated too in employment figures (Table 6). Navaretti et al. (2004) suggest, on the basis of

<sup>(1)</sup> As compared to the industrial sector, relatively little is known due to data constraints.

OECD data, that Irish employment in affiliates of foreign companies comprised around 14 % of total services sector employment, i.e. a higher proportion than in each of a group of 10 other-reported EU countries with the exception of Belgium.

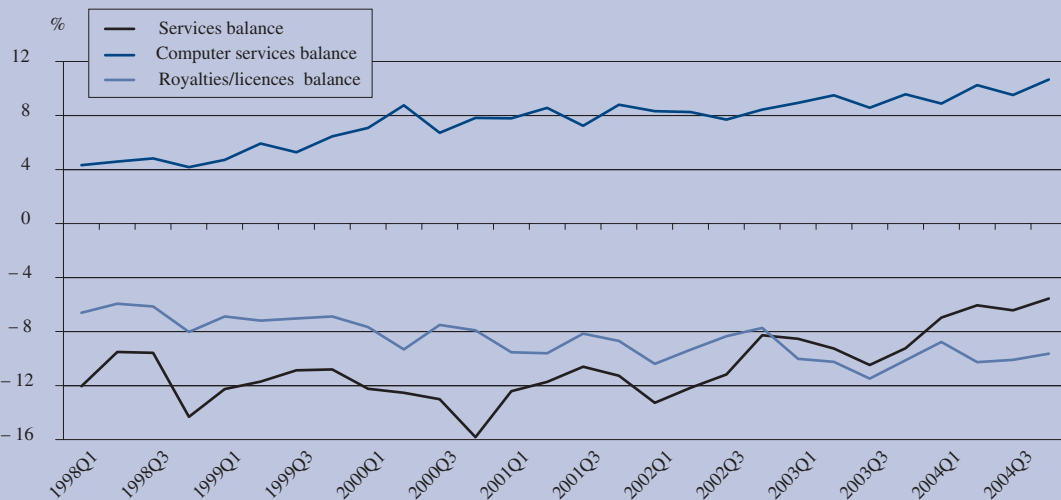
The observed global trend of increased tradability of services is visible also in the Irish balance-of-payments statistics. Services exports rose from 15 % to 26 % of GDP in 1998 and 2004 respectively. In particular, computer services contributed significantly to this increase and in 2004 comprised 38 % of Irish services exports. Ireland’s services balance with the rest of the world is negative (Graph 3 above), but recent evidence suggests that a pronounced shift towards more service-oriented exports in recent years has lowered the negative service-balance deficit significantly <sup>(2)</sup>.

**3.2. Inward migration and labour market issues**

Labour mobility has traditionally had profound impacts on the Irish labour market and economy. Ireland lost a substantial part of its population through emigration in

<sup>(2)</sup> This also reflects the recent pattern of foreign direct investment. For discussion see, for example, *Quarterly Bulletin* (1/2005) of the Central Bank and Financial Services Authority of Ireland.

Graph 3: Ireland — BOP services balance (in % of GDP)



Source: CSO Ireland, Commission services calculations.

the post-war period. The high emigration during the 1950s was responsible for the historically low population level of 2.8 million recorded in 1961. In the 1970s, Ireland experienced a wave of return migrants, mainly driven back by an increase in living standards. However, the failure to generate economic growth and employment on a sustainable basis triggered a second wave of out-migration (often connected with a ‘brain-drain’ effect) in the mid-1980s.

The rapid income convergence of Ireland towards the EU-15 average in the 1990s was accompanied by a substantial increase in inward immigration flows. The migration turnover <sup>(1)</sup> has been broadly stable since the mid-1980s (Graph 4), but inward migration rose dramatically in the 1990s as many of the 1980s emigrants returned with acquired wealth and skills (and enjoyed wage premia in the booming Irish economy). The estimated annual net inward migration picked up in the period 1991–95 and accelerated dramatically in the second half of the 1990s (Graph 4). After 2000, this second return wave dissipated so that most immigrants are currently non-Irish. In 2004, the total Irish population was estimated at just above four million, the highest figure since 1871. The inward migration flows have been an important factor in maintaining Irish competitiveness (by exerting a downward pressure on wages), especially

in years with high employment growth and tight labour demand.

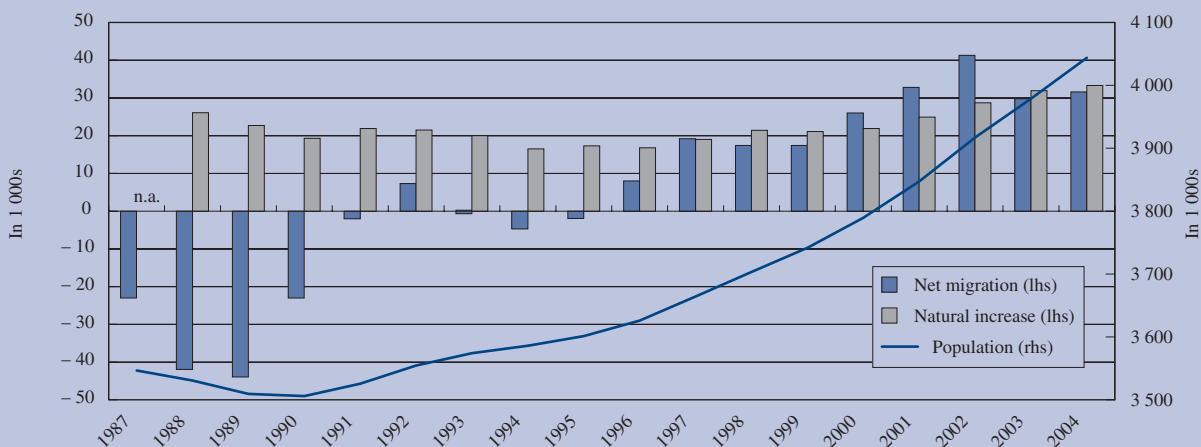
A number of theoretical studies ask whether migrants are more likely to be skilled or unskilled. The skills of immigrants probably do matter, as they can possibly fill economic needs not met by the ‘domestic’ labour force (Minns, 2005). In this respect, O’Rourke and Sinnott (2003) argue that asymmetric information might favour unskilled workers, as employers in rich countries may not be able to correctly monitor the migrant’s skill levels. Borjas (1987) focuses on the self-selection procedure in the source economies and suggests that the benefits of migration may vary between individuals in accordance with their skills. He argues that workers would tend to migrate if: (a) the correlation between their potential earnings in the home and destination economies is sufficiently high; (b) if income is more dispersed in the destination country than in the home country <sup>(2)</sup>. Economies with higher income dispersion levels are predicted to offer higher earnings to skilled workers, i.e. being more attractive as a destination of potential migration.

What was the nature of recent migration flows to Ireland? Surveys of immigration have found the immigrants to be

<sup>(1)</sup> Inward plus outward migration flows.

<sup>(2)</sup> In fact, the selection should also depend on the relationship between host country and source country income distribution. For discussion, see O’Rourke and Sinnott (2003).

**Graph 4: Ireland — migration flows and population**



Source: CSO Ireland.

Table 7

**Income inequality in the EU Member States**

Country	P90/P10
Estonia	5.08
United Kingdom	4.58
Ireland	4.57
Italy	4.33
Poland	3.59
Hungary	3.57
France	3.54
Germany	3.18
Czech Republic	3.01

Source: Nolan and Smeeding (2004).

substantially more educated than the Irish population <sup>(1)</sup>. In the 1990s, multinationals have exported some of their activities to Ireland through foreign investments and production in special economic zones that also attracted potential immigrants. Minns (2005) shows that the Irish ‘returnees’ (traditionally from the USA and the UK) are being increasingly replaced by immigrants from the EU. The immigrants to Ireland also appear as highly skilled relative to the populations in source countries. Minns (2004) argues that intra-EU <sup>(2)</sup> immigrants migrating freely to Ireland are an example of a positive self-selection procedure induced predominantly by economic migrants, as income inequality in Ireland exceeds that in most EU countries (Table 7) and high-skilled migrants are likely to receive a higher wage premia on their skills. Barrett (2005) concludes that the inward immigration into Ireland with such high-profile qualifications of migrants has had a clearly positive effect on the growth potential of the Irish economy <sup>(3)</sup>.

**3.3. Financial integration**

Financial liberalisation and innovation that increased the supply of lending are among the fundamental reasons for

the notable Irish economic pick-up in the 1990s. Indeed, a positive link between development of financial markets and growth is widely accepted in the academic literature. For instance, Beck et al. (2000) find that financial intermediaries exert a large, positive impact on total factor productivity growth which, in turn, feeds through to overall GDP growth. Some other contributions to the literature go further and link international financial liberalisation to accelerating economic growth, in particular by encouraging efficiency in the domestic financial system. Levine (2001) suggests that deep and efficient financial markets are likely to contribute to increased efficiency in resource allocation. He identifies two main channels for increased globalisation in financial flows to lead to improvements in the domestic financial sector: competition in the domestic banking sector is likely to be enhanced by greater foreign bank presence and aggregate productivity growth tends to be promoted by greater stock market liquidity.

As regards the liberalisation of capital flows, Ireland moved relatively quickly in the context of the provisions of the Single European Act. In the period between 1988 and 1993, exchange controls were relaxed and most capital controls were progressively dismantled. Over the last decade, the Irish banking system has also operated in a more competitive environment as deregulation eliminated credit controls, leaving banks free to compete in terms of interest rate charged and new entrants were allowed entry on the Irish banking market (Kelly and Everett, 2004). The strengthening of the supply side of financial intermediaries in Ireland interacted over the 1990s with increased demand for credit. Interest rates fell sharply in the run-up to the economic and monetary union (EMU), helping to increase the demand for credit. Households and firms could then borrow more without assuming higher debt service costs. Consequently, the decline in real interest rates by early 1999 was accompanied by a surge in private sector credit growth (Honohan and Lane, 2003).

Kelly and Everett (2004) argue that global integration of Irish banks removed domestic resource constraints in the boom years, as the lending of the Irish domestic banks was not limited just to the resident deposit base. In the second half of the 1990s, Irish banks actually bridged the gap between private sector credit growth and domestic resources by recourse to foreign funding. This observation is in line with the structural change and increased globalisation of the Irish financial sector, enabling Irish banks to respond when demand for credit increased.

<sup>(1)</sup> Barrett (2005) argues, analysing the trends in immigration in the mid-1990s, that almost 70 % of immigrants aged 25–29 had third-level qualifications compared to only 32 % of the indigenous population. In the 30–39 age group, 65 % of immigrants had third-level qualifications compared to only 27 % of the indigenous population.

<sup>(2)</sup> Minns (2005) finds the average EU-15 migrant into Ireland to be more skilled than any other major group of immigrants, including anglophone immigrants (from North America, southern Africa, etc) and immigrants from central and east European countries.

<sup>(3)</sup> Barrett (2005) estimated that the inflow of immigrants into Ireland in the late 1990s increased GNP by about 1.5 percentage points.

Moreover, the anticipation of EMU facilitated this process, as the Irish banks strengthened their links with other European banks and benefited from participation in the euro-area money market. On the other hand, some new risks related to the rapid expansion of the domestic credit have emerged. Financial market liberalisation combined with low interest rates have resulted in a rapid increase

in household credit which (together with rapid growth in disposable income) fuelled a boom in the housing market. This, in turn, raises the concerns about financial system soundness, despite the fact that the financial system is relatively well capitalised and profitable, and the negative macroeconomic impact of a possible 'hard landing' of the housing market.

## 4. Conclusion — lessons to be drawn from the Irish experience of globalisation

Since the 1990s, Ireland has been able to exploit well the opportunities offered by globalisation and has achieved a long overdue structural transformation. As a result, the massive catch-up in the 1990s and rapid increase in openness of the economy implied some new policy challenges. In particular, the fortunes of the Irish economy are now notably linked with developments in the foreign sector. It seems that new ICT technologies facilitate the global relocation of low-skill manufacturing and out-sourced services jobs to lower wage countries (Unctad, 2005). Within the European Union, some increased competition for FDI is also expected following the most recent enlargement in 2004, although Barry (2004) argues that there is no evidence of such diversion of FDI away from Ireland thus far. One downside implication of Ireland's integration into the wider global economy is the rapid transmission of shocks elsewhere (e.g. ICT shock) and that sectoral specialisation, although inevitable, might require a higher flexibility of the labour and product markets.

Structural reforms in Ireland (European Commission, 2004) should therefore be supportive for maintaining the attractiveness of Ireland to foreign direct investments <sup>(1)</sup>. Reforms should: (i) include the removal of structural bottlenecks inherited from the past catch-up, notably in transport infrastructure; (ii) be supportive to the functioning of the labour market (in particular, immigration — including the migrants from the EU new Member States — and labour mobility should not be restricted by the associated high housing market costs); (iii) facilitate a competitive supply of basic input and intermediate goods. This can be tackled, in particular, through the

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<sup>(1)</sup> The cost of doing business in Ireland (i.e. wage costs and price of services in general) has increased significantly over the last decade and, at the same time, the investment incentives for the foreign companies investing in Ireland are expected to be less generous than in the past. For instance, the European Commission decided in 2005 that Irish investment incentives associated with a planned Intel expansion project were not compatible with EU rules on State aid to companies.

elimination of obstacles to competition in sectors such as utilities and distribution. The high exposure of the Irish economy to developments in the foreign sector can also be tackled by policies promoting further innovation and technological spillovers emanating from multinational to indigenous firms.

The Irish experience of globalisation might also be used to illustrate general messages about the globalisation process in terms of challenges and opportunities, in particular for other converging economies — notably for the recently acceded EU Member States that may seek to emulate the Irish success of the 1990s <sup>(2)</sup>. Ireland's experience is instructive, not only because of the success achieved in the 1990s, but also because of the shortcomings in earlier periods. By avoiding such failings, the new Member States may possibly ensure a smoother convergence towards EU-15 income levels.

A first lesson to be learnt is that membership of the EU (EEC) and the euro area have been important factors in Ireland's experience of globalisation. EU/EMU membership: (i) cemented the policies of opening the economy (and, at an earlier stage, diluted trade dependence on the UK); (ii) facilitated the macro-stabilisation process and the structural reforms of the economy, also through significant EU transfers; (iii) encouraged FDI by providing access to the EU market.

Second, many studies focus on the 'Celtic tiger' period, but often neglect the Irish experience of the 1980s that in many ways offers an equal number of lessons. A painful path towards macroeconomic stabilisation in the 1980s

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<sup>(2)</sup> As regards the corporate tax rate, Navaretti et al. (2004) argues that the corporation tax harmonisation across the EU could lead to a reduction of inward FDI to Ireland by as much as between 50 % and 80 %. While it is difficult to make a firm conclusion based on these estimates, withstanding global competition for FDI inflows appears crucial.

(see Section 2.1.) halted the process of real convergence towards EU average income levels. This provides a direct lesson to the new EU Member States in macroeconomic management. Apart from the direct costs involved, the policy failures prior to the 1990s also limited the capacity of the economy to exploit the benefits of increased access to the global economy. Macroeconomic stabilisation and a broad range of microeconomic reforms sowed the seeds of success for the following decade when Ireland was able to capitalise on the opportunities offered by an increasingly globalised world economy.

Third, while learning from the Irish experience, the new Member States should bear in mind that Ireland is not a

typical example of economic convergence in all aspects. It is partly because the Irish pick-up was leveraging many of the more specific endowments (such as English language, cultural ties with the USA and a relatively young and abundant labour force) and partly because the positive experiences of globalisation were often intensified by one-off favourable developments in the global economy <sup>(1)</sup>. Thus the new Member States can realistically seek to emulate the Irish experience in some, but certainly not all, respects.

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<sup>(1)</sup> For instance, the 1987–90 consumption boom particularly in the United Kingdom and the US stock-market-led economic boom in the 1990s.

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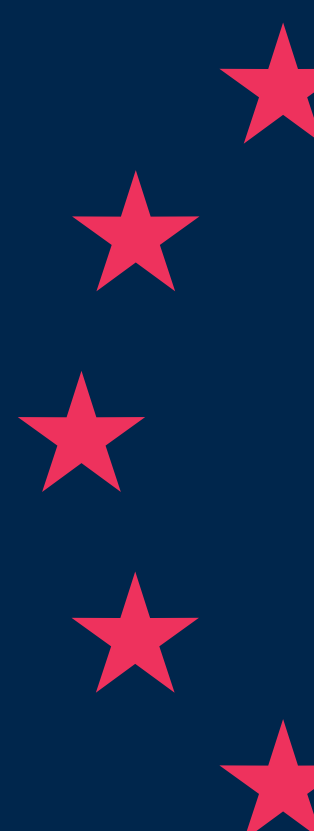


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