

**Analysis of
development in the
field of direct
investment and M&A**

Final Report

**EC Internal Market
and Services DG**

Prepared by

London Economics

November 2008

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The conclusions, recommendations and opinions presented in
this report reflect the opinion of the consultant and do not
necessarily reflect the opinion of the Commission

November 2008

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Glossary

FOC	Foreign-owned companies
IMF	International Monetary Fund
MNC	Multinational corporation
MNE	Multinational enterprise
OECD	Organisation for Economic Cooperation and Development
SWF	Sovereign Wealth Fund
UNCTAD	United Nations Conference on Trade and Development

Member State abbreviations

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

1 Introduction

The present report consists of two parts:

- Part I provides a description of developments in capital movements in 2007 and through the first half of 2008.
- Part II examines the impact of foreign-owned enterprises on the economy of the EU and its Member States. At the present time Eurostat provides only partial information on the economic performance of foreign-owned companies (FOC). The Eurostat information is limited in terms of the geographical coverage and the time period covered¹. Therefore, as an alternative, in this report, we review the information which can be extracted from the Amadeus databank², the largest pan-European databank providing company-level economic and financial information. We also provide separately some analysis of the Eurostat data.

To assess the impact of foreign-owned enterprises, we adopted a two-pronged approach.

- First, we quantified the actual share of turnover, value added, employment, etc. accounted for by foreign-owned companies, distinguishing between foreign-owned companies from other EU27 Member States and from outside the EU27.
- Second, using the database which was created for the first exercise, we examined to what extent the economic performance in terms of growth in turnover, employment, etc. of foreign-owned firms differs from that of domestic firms over the period 2001-2006. In this analysis, we also distinguish between foreign firms from other EU Member States and from the rest of the world.

¹¹ The Eurostat data on foreign-controlled firms in the EU are available at http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/intrse/sbs_spec/fats&language=en&product=EU_MASTER_industry_trade_services_horizontal&root=EU_MASTER_industry_trade_services_horizontal&scrollto=176. Information is available for only 17 Member States (Austria, Belgium, Cyprus, Czech Republic, Estonia, France, Hungary, Latvia, Lithuania, the Netherlands, Portugal, Romania, Slovenia, Slovakia, Spain and Sweden) for the period 2003-2005. Not all data are available over the full 3-year period for this group of countries. Following the adoption of *Regulation (EC) No 716/2007 of the European Parliament and of the Council of 20 June 2007 on Community statistics on the structure and activity of foreign affiliates* (OJ L 171, vol. 50) comprehensive Inward Foreign Affiliates Statistics (IFATS) will start to be collected with 2007 as first reference year.

² The Amadeus databank is published by Bureau Van Dijk (<http://www.bvdep.com/>).

- In addition, this second part of the report provides also a brief overview of the findings in the literature regarding the impact of foreign-owned firms. This review of the literature focuses only on the impact of foreign-owned firms in industrialised countries and the transition countries in Central Europe as its purpose was to inform the analysis described above.
- Due to the voluminous amount of detailed data and estimation results underpinning the results presented in the second part of the report, these data and the estimation results are provided in two stand-alone annexes.

**Part I: Developments in FDI and M&A in 2007 and
the first half of 2008**

2 Introduction

The Economic and Financial Committee is obliged under Art. 114 (2) of the Treaty

"to examine, at least once a year, the situation regarding the movement of capital and the freedom of payments, as they result from the application of this Treaty and of measures adopted by the Council; the examination shall cover all measures relating to capital movements and payments; the Committee shall report to the Commission and to the Council on the outcome of this examination."

The purpose of the report, circulated as background material for the Economic and Financial Committee's tenth annual examination^{3,4} of capital movements under the above mentioned Article of the Treaty, is to facilitate the work of the Committee in carrying out the 2008 examination.

3 The economic context

The 2007 saw a sharp break from the favourable economic conditions which had characterised the global economic environment for many years.

After a strong first half in 2007, during which most economies continued to enjoy robust growth, reflecting sustained demand growth based on easy financing conditions, steady income growth and solid consumer and business confidence, the economic environment deteriorated sharply through the second half, especially in the USA.

The sub-prime crisis of late summer and fall 2007, which impacted directly the financial sector in the USA, and some parts of the financial sector in Western Europe, and a rapidly deteriorating housing market and construction sector as well as a weakening labour market brought rapidly the US expansion to a halt.

In addition to the direct fallouts of the financial turmoil, and the ensuing reduced credit availability, business and households had to confront an

³ Five examinations were conducted by the Monetary Committee. The first examination was conducted in 1994 and was the subject of a report of 10/1/1995 (MC/II/681/94-Rev.2).

⁴ The 1999 examination was the subject of the first report of the Economic and Financial Committee to the Commission and the Council of 8/12/1999. The most recent (eighth) examination was conducted in 2006 on the basis of a report of the Commission services (MARKT (2006)14205) of 24/10/2006 and was the subject of a report of 15/11/2006 (ECFIN/CEFCPE(2006)REP/56882) from the EFC.

unprecedented rise, in terms of speed and magnitude, in raw material prices, including oil and food prices, further eroding households purchasing power and squeezing many economic sectors, especially those which are heavily dependent on commodities and had only limited scope to pass on the full cost increases to their customers.

These set of adverse factors continued to bear down on the US economy and the latter continued to weaken well into 2008 after showing a modest temporary pick-up in response to the consumer fiscal stimulus package of spring 2008. By late spring 2008, the sharp deceleration in economic growth started to be felt in the euro zone and other EU Member States. Member States in which the construction sector had been a major engine of growth in previous years were particularly affected by this financial sector turmoil as new mortgage lending was sharply reduced and sales of new and existing houses fell abruptly. The latest EC forecast show very weak growth through the second half of 2008 and in 2009.

The global economy, however, weathered the downturn in the Western economies relatively well though 2007 and into 2008, although signs weakening are now apparent in a number of emerging economies.

International capital markets were significantly affected by a number of developments, some of which were a direct consequence of the financial turmoil while others reflected more of an ongoing-trend.

Commodity producing countries, especially oil producers, continued to run large current account surpluses in 2007. While commodity prices have recently fallen somewhat from their peak levels reached in the spring of 2008, their levels remain high nevertheless and will continue to feed current account surpluses in 2008. China, a non-commodity producing economy, posted in 2007 a record high current account surplus, which reflected its policy of maintaining the exchange rate of its currency below its equilibrium exchange rate. However, through 2008, weaker demand in Western countries, especially in the USA, has been eroding China's external surplus.

Reflecting weaker domestic conditions, the US current account deficit narrowed sharply through 2007. Moreover, the US dollar depreciated sharply, on an effective basis, through 2007 and up to July 2008, thus contributing to support US growth. However, at the same time, this depreciation eroded the value of US \$ denominated assets held by foreigners and led a number of such investors to rebalance their portfolios towards non US\$ denominated assets. More recently, the dollar has appreciated again, especially in recent weeks, as the US currency is viewed again as a refuge currency and US investments funds repatriate funds invested in emerging economies.

In response to the wiping out of a significant part of the capital of a number of major US financial institutions in the second half of 2007 and early 2008, a

number of Sovereign Wealth Funds (SWFs) made major contributions to the recapitalisation of these financial institutions. However, as the problems of the financial sector deepened through 2008 and further financial institutions required significant injections of new capital, SWFs remained on the sideline because of concerns about mounting losses on their previous investments and, in some cases a redirection of focus to investments closer to home.

The financial sector turmoil has led financial institutions in many countries to sharply tighten up their credit conditions and to slow down substantially the rate of growth of their lending to corporates, thus reducing, among others, the availability of credit for new mergers and acquisitions (M&A), including for cross-border M&A. As this development materialised mainly in 2008, the impact of foreign direct investment will be mostly felt in 2008. That being said, the financial sector crisis has also given rise to cross-border take-overs of failing or weak financial institutions and cross-border acquisitions of parts of failed institutions in the financial sector, thus offsetting to some extent the negative impact of reduced credit availability on non-financial sector foreign direct investment.

However, perhaps the most important factor, which will impact in 2008 and future years on the level of capital flows (i.e. the of sum direct investment, portfolio investment, derivatives and other investments⁵), is the high degree of caution characterising the financial sector at the present and the deleveraging process which is currently going on and still has to run its full course.

Write-downs of bad or toxic assets affect only the figures of the stocks of portfolio, derivatives and other investments. In contrast, deleveraging and the new degree of extreme caution exhibited by the financial sector will reduce the financial sector's appetite for new assets, domestic and foreign, and this, in turn, will reduce the level of international capital flows.

⁵ According to the IMF Balance of Payment definitions, "other investment" covers short- and long-term trade credits; loans (including use of Fund credit, loans from the Fund, and loans associated with financial leases); currency and deposits (transferable and other – such as savings and term deposits, savings and loan shares, shares in credit unions, etc.); and other accounts receivable and payable. Transactions covered under direct investment are excluded.

4 International capital flows

International capital flows can be examined from a number of different perspectives. As the purpose of the present review is to provide a high level review of trends and recent developments, this section is based on the IMF Balance of Payments data⁶ and focuses on:

- a) total gross financial resources (i.e. the current account balance + inward foreign direct investment + inward portfolio investment + other inward investments) that flowed to countries;
- b) gross private capital outflows (i.e. the sum of outward direct investment and outward portfolio investment); and,
- b) the use of financial inflows for the accumulation of reserves, outward foreign direct investment, outward portfolio investment and other outward investments.⁷

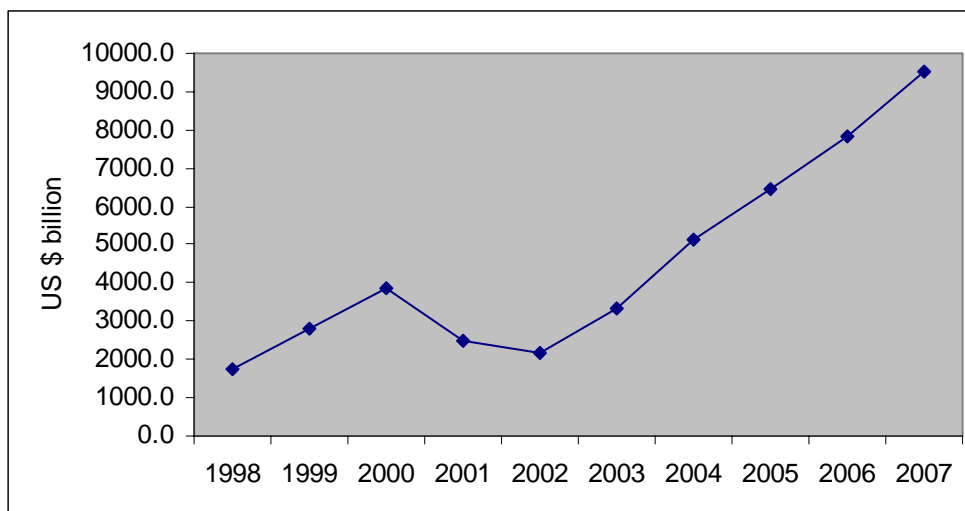
4.1 Gross financial inflows

In 2006, total gross financial inflows world-wide reached a new record high of US \$7.8T, up more than 21% from U.S. \$6.5T in 2005 and continuing a trend of rapid growth which began in 2003 (see Figure 1). Moreover, while full data for 2007 are not yet available, preliminary data suggest that total gross financial inflows are likely to be in the range of US \$9.5T, posting another annual increase of more than 20%.

Overall, from 2003 to 2007, annual gross financial inflows increased by 342%, much faster than world GDP. This rapid growth is the result of growing current account imbalances among the various countries and financial globalisation in a context of growing leveraging and product innovation in the financial sector.

⁶ As available on 30 October 2008.

⁷ In theory, inflows and use of capital should be identical but, in practice, due to errors and omissions, the two positions do not balance.

Figure 1: Trends in world-wide inflows of financial resources - 1998-2007

Note: Financial resources inflows = current account balance + inward foreign direct investment + portfolio investment into the country + other investments into the country + derivatives (liabilities)

Source: IMF Balance of Payments Statistics, London Economics' calculations

Such gross financial inflows are heavily concentrated within the industrialised countries, although a number of emerging economies, such as China, Russia, Singapore, Taiwan, Korea, Saudi Arabia, Hong Kong, Kuwait, India, Brazil, and Malaysia, have become major players in international capital flows. Full data for all countries in 2007 are not yet available. But the data for the period 1993-2006 show that (see Table 1 and Table 10 at the annex to the present chapter for detailed country information):

- Five countries (the UK, the USA, Belgium-Luxembourg, Germany and France) accounted for about 55% of total gross financial inflows world-wide over the period 1993-2006.
- A further five countries (Ireland, China, Japan, Italy and Switzerland), accounted for about 20% of total gross financial inflows world-wide over the same period.
- Finally, regarding the emerging economies, China, Russia, Singapore, Taiwan, Korea, Saudi Arabia, Hong Kong, Kuwait, India, Brazil and Malaysia accounted for about 10% of total gross financial inflows world-wide over the period 1993-2006.

Table 1: Share in total world financial resources inflows¹				
	Top 5 countries	Top 10 countries	Top 20 countries	Top 30 countries
1993-2006	54.8%	74.4%	89.0%	94.5%
2000-2006	54.8%	73.5%	88.0%	94.5%

Note: Financial resources inflows = current account balance + inward foreign direct investment + portfolio investment into the country + other investments into the country + derivatives (liabilities)

The group of top 5 countries comprises over the period 1993-2006 the United Kingdom, the USA, Belgium-Luxembourg, Germany and France. The same countries comprise the top 5 group over the period 2000-2006.

The group of top 10 countries comprises the group of the top 5 countries + Ireland, China P.R., Japan, Italy and Switzerland over the period 1993-2006. The same countries, with the exception of Switzerland which is replaced by Spain, comprise the top 10 group over the period 2000-2006.

The group of top 20 countries comprises the group of the top 10 countries + Spain, Netherlands, Canada, Russia, Norway, Singapore, Austria, Taiwan, Korea, and Denmark over the period 1993-2006. Over the period 2000-2006, Saudi Arabia and Hong Kong replace Korea and Denmark in the top 20 group.

Finally, the top 30 group comprises over the period 1993-2006, the top 20 group + Finland, Saudi Arabia, Sweden, Australia, Hong Kong, Kuwait, Portugal, India, Brazil and Malaysia.

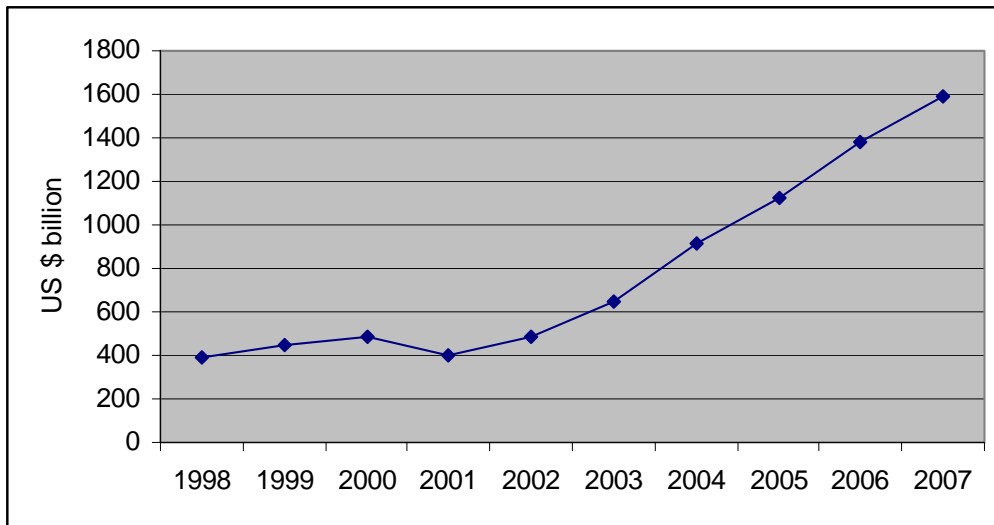
Source: IMF Balance of Payments Statistics, London Economics calculations

In recent years, the share of total gross financial inflows into the emerging economies listed above has been growing, reflecting the very significant current account balance surpluses registered by some of these economies and/or FDI and portfolio investment opportunities.

Indeed, current account imbalances over the last years have grown significantly in recent years, reflecting a combination of high commodity prices and exchanges rates that, in a number of cases, were maintained by policy below their equilibrium value.

This growth in current account imbalances is illustrated by the fact that the total of both current account surpluses and current account deficits has expanded very rapidly. For example, preliminary estimates suggest that the sum of world-wide current account surpluses reached \$1.6T in 2007, up from just over \$0.4T in 2000 (see Figure 2).

Figure 2: World-wide sum of current account surpluses - 1998-2007



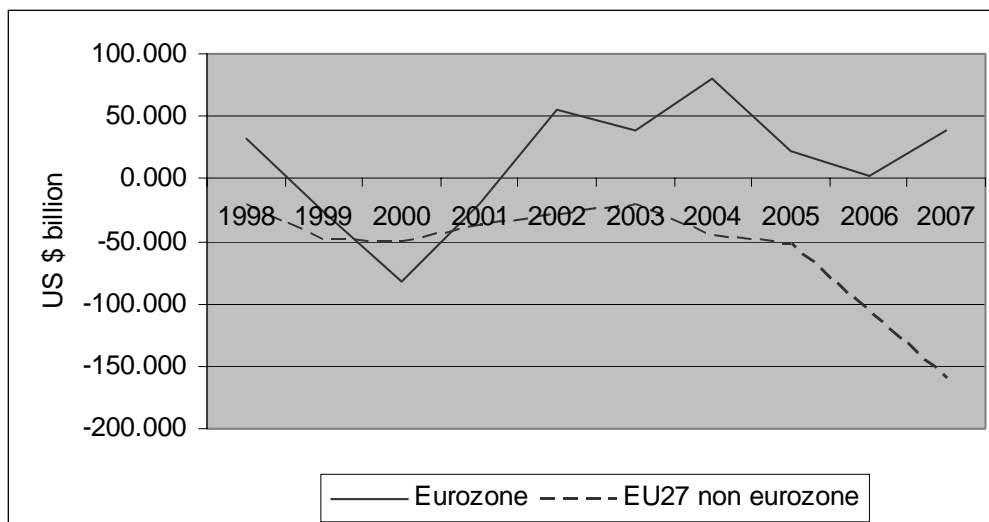
Note: 2007 = estimate

Source: IMF Balance of Payments Statistics, London Economics calculations

While the world-wide sum of current account surpluses grew rapidly in recent years, the current account balance of the euro-zone shows a much more mixed picture. After falling from a high of almost US\$ 80 billion in 2004 to just US\$ 1.5 billion in 2006, it recovered in 2007 to US\$ 39 billion, the second best performance of the last 10 years.

In contrast, the total of the current balances of the non-euro-zone Member States shows a steady deterioration over the last 5 years, to reach an aggregate deficit of US\$ 160 billion in 2007. The aggregate current balance deficit of the non-euro-zone countries increased by US\$ 53 billion in 2007, of which the UK accounted for US\$26 billion and Romania for US\$ 10 billion (Figure 3).

Figure 3: Current account balance of euro-zone and EU27 non-euro-zone - 1998-2007



Note: Current account balance of EU27 non-euro-zone = sum of current account balances of EU27 non - euro-zone Member States while euro-zone current balance = balance of current account transactions between euro-zone residents and non euro-zone residents

Source: IMF Balance of Payments Statistics, London Economics calculations

In 2007, the 20 emerging economies with the largest current account surpluses accounted for almost 51% of total world-wide current account surpluses (see Table 2). Of these countries, mainland China accounted for slightly more than 23% of total world-wide current account surpluses and Saudi Arabia for slightly more than 6%.

Table 2: Emerging economies with largest current account surpluses in 2007:

Country	Current account surplus, US\$ billion	Share of world-wide current account surpluses	Foreign exchange reserves 2007 (excluding gold)
China Mainland	371.8	23.3	1528
Saudi Arabia	99.1*	6.2	32
Russia	76.2	4.8	466
Kuwait	47.5	3.0	16
Singapore	36.3*	2.3	163
Malaysia	28.9	1.8	101
China Hong Kong	28.0	1.8	153
Libya	22.2*	1.4	78
Venezuela	20.0	1.3	24
Thailand	14.9	0.9	85
Angola	10.7*	0.7	11
Indonesia	10.4	0.7	55
Azerbaijan	9.0	0.6	4
Argentina	7.5	0.5	44
Chile	7.2	0.5	17
Brunei Darussalam	5.2*	0.3	625
Korea	6.0	0.4	262
Philippines	5.8	0.4	30
Bahrain	2.9	0.2	n.a.
Botswana	1.9*0	0.1	10
Total	1,595	50.9	6398

Note: * = 2006

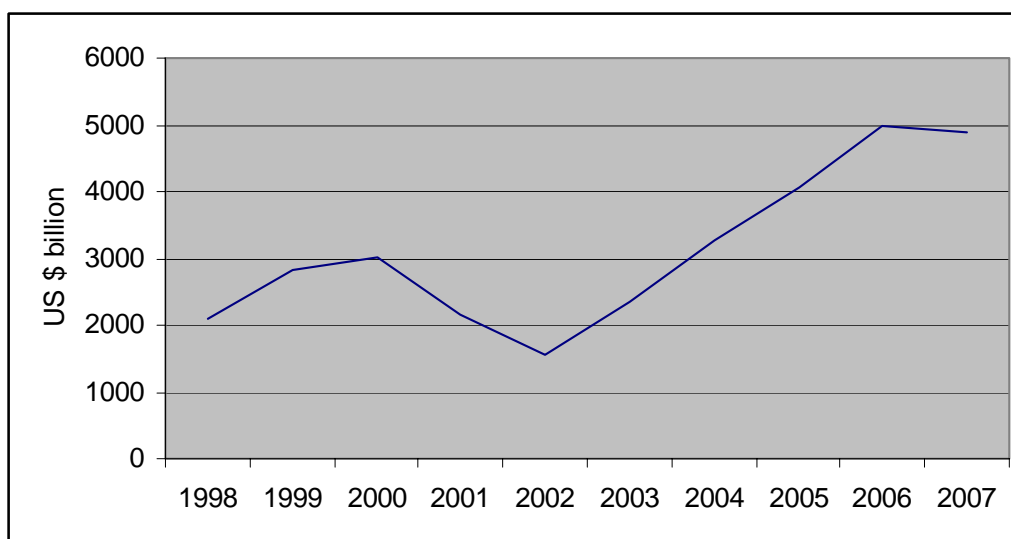
Source: IMF Balance of Payments Statistics, London Economics calculations

That being said, while major emerging economies registered very large current account surpluses in recent years, these countries' share in total capital inflows remains still relatively small, reaching 11.5% on average over the period 2000-06 and slightly more than 13% in 2007.

4.2 Total private capital outflows

Total outflows of private capital, defined as the sum of outward foreign direct investment and portfolio investment is estimated to have been broadly stable at almost \$5T in 2007 after having grown rapidly from just \$1.5T in 2002 to almost \$5T by 2006 (see Figure 4).

Figure 4: Trends in world-wide outflows of private capital - 1998-2007



Note: Outflows of private capital = outward foreign direct investment + outward portfolio investment. 2007 data is a preliminary estimate

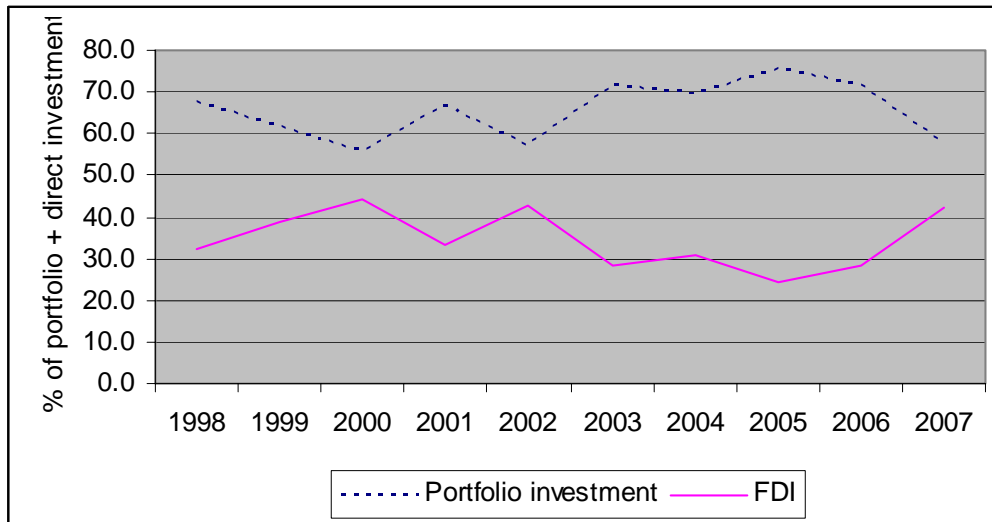
Source: IMF Balance of Payments Statistics, London Economics calculations

While the overall level of private capital outflows increased rapidly over the period 1998 – 2007, the mix of capital outflows changed as well.

Although the share of outward FDI in total private capital outflows fluctuates from year to year, a slight downward trend is observable over the period 1998 - 2005 which is then fully reversed in 2006 and 2007. Obviously, the share of outward portfolio investment mirrors in the opposite direction the evolution

of the share of outward FDI, showing first a small trend increase from 1998 to 2005 which is subsequently reversed (see Figure 5).

Figure 5: Trends in shares of outward FDI and portfolio investment in world-wide outflows of private capital - 1998-2007

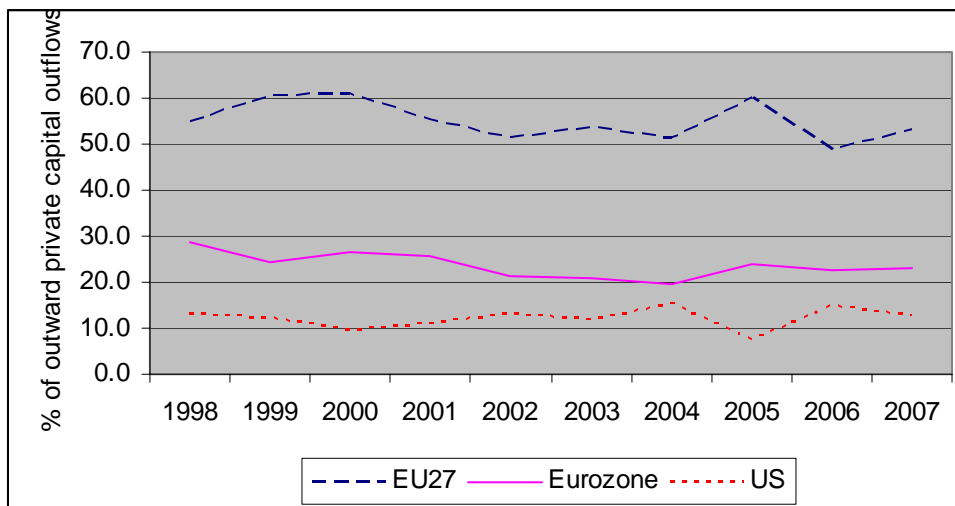


Note: Outflows of private capital = outward foreign direct investment + outward portfolio investment. 2007 data is a preliminary estimate

Source: IMF Balance of Payments Statistics, London Economics' calculations

The EU27 is by far the largest source of outward private capital flows and accounts typically for between 50% and 60% of total private capital outflows. In contrast, the US typically accounts for between 10% and 15% of total outward private capital movements while the contribution of the euro-zone typically exceeds that of the US by a significant margin. It is important to note that the data referring to the EU27 are gross flows and do not net out intra-EU flows, while the euro-zone data reflect only transactions of euro area residents with non-euro area residents (see Figure 6).

Figure 6: Contribution of EU27, euro-zone and US to outward private capital outflows - 1998-2007



Note: Outflows of private capital = outward foreign direct investment + outward portfolio investment. 2007 data is a preliminary estimate. EU27 is the sum of private capital outflows across the 27 Member States while the euro-zone refers to private capital outflows from the euro-zone to outside the euro-zone.

Source: IMF Balance of Payments Statistics, London Economics' calculations

4.3 Use of gross financial inflows

With the exception of Japan, all the industrialised countries in the group of the 30 countries having attracted most of financial resources world-wide resources almost entirely employed these resources for outward direct investment, portfolio and other investments.

In contrast, reflecting frequently the pursuit of quasi-fixed exchange rate policies, many of the non-industrialised countries used a very large part of these gross financial inflows to accumulate official foreign reserves (see Table 3 for level of financial inflows and Table 4 for use of financial inflows).

Table 3: International financial inflows into key emerging economies – 1993-2007			
Country			
	Total 1993-2006, US \$ billion	Total 1993-2006 US \$ billion	2007
China P.R.	1,600	1,231	613
Russia	713	559	269
Singapore	583	353	n.a.
Taiwan	447	349	n.a.
Korea	409	259	91
Saudi Arabia	284	304	n.a.
Hong Kong	195	348	257
Kuwait	181	157	68
India	173	136	n.a.
Brazil	165	126	115
Malaysia	151	128	40

Source: IMF Balance of Payments Statistics, London Economics calculations

Box 1

The analysis of the use of international financial inflows is based on an analysis at the level of the different emerging economies of the shares of a) the accumulation of reserves; b) the share of the level of FDO outflows; c) the share of direct portfolio outflows; and d) the share of other investments abroad and increase in derivatives liabilities in the total of these four financial account components.

Indeed, over the period 1993-2006, countries such as China, Russia, Taiwan, Korea, India, Brazil and Malaysia used between 32% and 91% of the gross financial inflows to accumulate foreign official reserves (see Table 4 below).

In contrast, other countries such as Saudi Arabia, Kuwait, Hong Kong, and to a somewhat lesser extent Singapore, use only a very small amount of the gross inflow of financial resources to build up reserves. Saudi Arabia and Kuwait privileged portfolio investments while, in the case of Hong Kong and Singapore, funds were used for foreign direct, portfolio and other investments.

Among all the countries listed in Table 4 and for which 2007 information is available, only two (Korea and Malaysia) reduced the share of inflows allocated to reserves while, in contrast, Brazil significantly increased its share of financial inflows kept as reserves.

A number of countries (Kuwait and to a lesser extent Russia and Korea) increased the share of financial inflows used for the funding of outward FDI while, with the exception of Korea, Brazil and Malaysia, the share of portfolio investment either fell or remained broadly unchanged.

The bottom-line is that, so far, there is little evidence suggesting that emerging economies have experienced very substantial changes in the composition of the use of their financial inflows.

However, as the level of financial inflows has risen sharply in recent years and the emerging economies' share of total world-wide financial inflows is growing slowly, the absolute level of financial resources that can be allocated by emerging economies to the different uses is growing as well. Indeed, the growing international activities of Chinese and Indian multinational corporations are a clear illustration of such a trend.

Table 4: Use of international financial inflows - 1993-2007

Country	Use of financial resources in % of total											
	Average 1993-2006				Average 2000-2006				2007			
	R	FDI	P	O	R	FDI	P	O	R	FDI	P	O
China P.R.	69	4	12	15	73	3	14	10	73	3	4	24
Russia	47	13	2	38	57	14	2	27	58	18	3	22
Singapore	15	16	27	42	15	15	27	43	n.a.	n.a.	n.a.	n.a.
Taiwan	37	15	43	5	41	12	48	0	n.a.	n.a.	n.a.	n.a.
Korea	54	14	20	12	60	12	27	2	17	17	58	20
Saudi Arabia	7	0	66	28	3	0	65	32	n.a.	n.a.	n.a.	n.a.
Hong Kong	12	113	123	-149	6	56	72	-35	6	20	25	50
Kuwait	5	3	62	31	5	5	57	33	5	22	55	18
India	85	12	0	3	91	15	0	-6	n.a.	n.a.	n.a.	n.a.
Brazil	32	31	6	31	37	34	4	26	77	6	8	17
Malaysia	42	14	3	41	43	15	4	38	29	2	9	38

Note: Financial resources inflows = current account balance + inward foreign direct investment + portfolio investment into the country + other investments into the country + derivatives (liabilities). Use of financial resources = accumulation/decumulation of reserves + foreign direct investment abroad + portfolio investments abroad + other investments abroad. R = reserves, FDI = outward foreign direct investment, P = outward portfolio investment; O = other outward investments

Source: IMF Balance of Payments Statistics, London Economics calculations

5 Trends in worldwide inward and outward FDI

In contrast to the previous section which focused on the overall level of capital flows, the present section presents an overview of worldwide FDI trends. The analysis uses the latest UNCTAD FDI data which were released in September 2008.

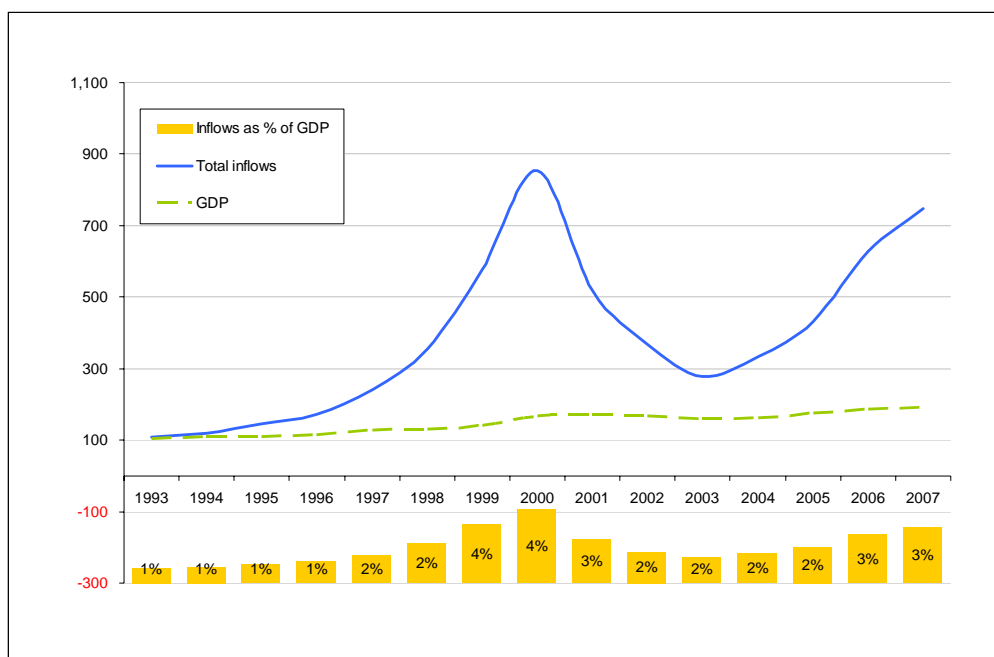
5.1 Inward FDI

General trend

Mirroring the overall pattern of capital inflows described in the previous section, and despite the tumultuous developments in the world economy through the second half of 2007, the September 2008 UNCTAD figures for 2007 show that inward FDI world-wide reached a new record level of US\$ 1,844 billion (EUR 1.338 billion) in 2007. However, its annual rate of growth decelerated sharply, from 47% in 2006 to 30% in 2007.

Total inward FDI worldwide more than doubled between 2003 (the last trough) and 2007. Its growth has been much faster than that of GDP since 1993, leading to an increase in the ratio of FDI to GDP from 1% to 3%. This is the highest level over the last 25 years if one abstracts from the 4% ratio reached during the dotcom boom of 2000 and 2001 (see Figure 7).

Figure 7: Trends in world-wide inward FDI and GDP - 1993-2007 (average 1992-1994 = 100)



Source: IMF WEO database and UNCTAD Major FDI indicator database, London Economics calculations

Distribution of inward FDI across the world

FDI into the developed world in 2007 accounted for about two-thirds of total inward FDI, about the same as in 2006 and 2005. The share of the developed world has fluctuated between a high of 81% in 2000 and a low of 56% in 2004.

Within the group of developed countries, the European Union⁸ accounted 44% of total inward investment in 2007. This is up from only 41% in 2006. But, it should be noted that the European Union's share fluctuated considerably in recent years and, overall, the European Union's performance is broadly in line with the pattern exhibited since the late 1990s.

⁸ The European Union FDI data from the UNCTAD refer to inward investment originating from outside and inside the EU27.

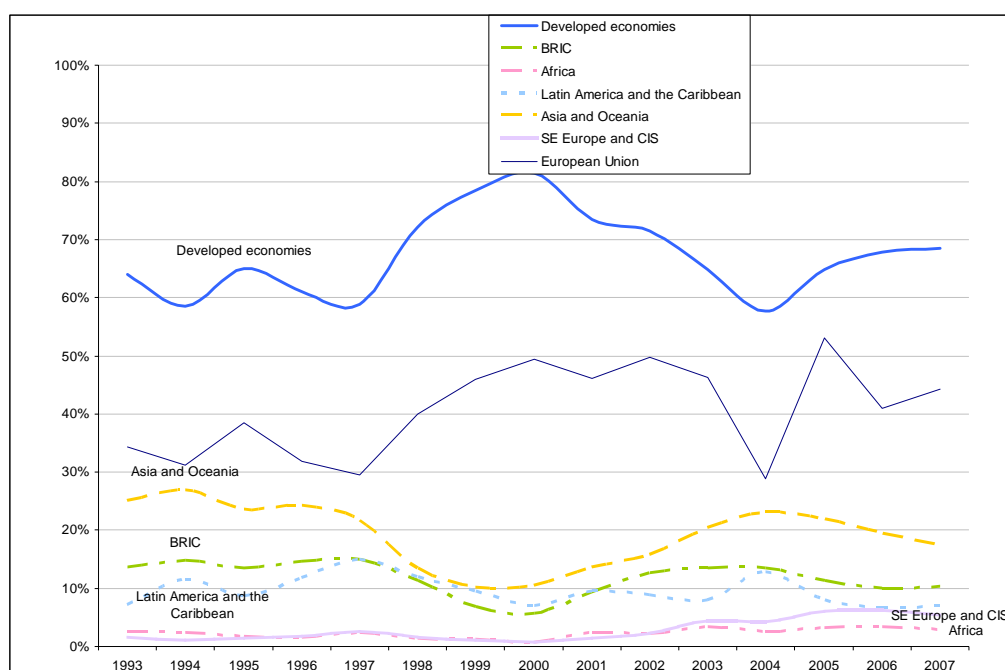
Outside the developed world, Asia and Oceania was second most important destination of inward investment, accounting for 17% of total inward FDI in 2007. However, its share is on a slow downward trend since 2004, reflecting in part a decline in China's share (see Figure 8).

The Transition Economies (South-East Europe and CIS) experienced a small decline in their share of total inward investment, by 1 percentage point to 5% in 2007.

Latin America's share of inward investment was 7% in 2007 and it has fluctuated within range of 6.9% and 12.3% since 2000.

Africa continues to attract very little interest, accounting for 3.0% of total inward FDI in 2007. Its share has fluctuated between 0.7% and 3.3%.

Figure 8: Regional shares of world-wide inward FDI, 1993-2007



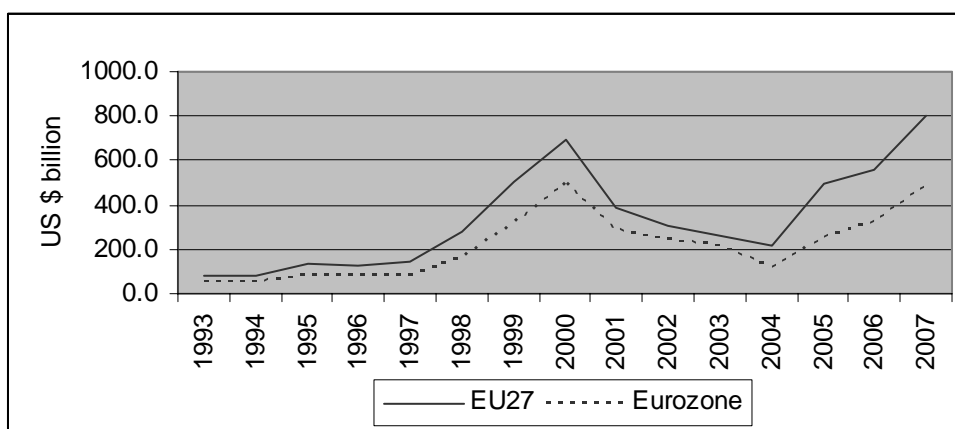
Source: UNCTAD Major FDI indicator database, London Economics calculations

Of note is the fact that, in 2007, the BRICs⁹ attracted only 10% of total inward FDI in 2007, the same as in 2006, but a decline from the 11% to 13% observed from 2002 to 2005.

Total inward investment, as defined by UNCTAD, received by all EU27 Member States from other EU27 Member States or from outside the EU27 reached a record high of US\$ 804 billion in 2007, up 43% from 2006 while total inward investment received by Member States from the euro-zone from other euro-zone Member States or from outside the euro-zone increased by almost 50% to a new record high of US \$ 488 billion (see Figure 9).

The ratio of EU27 inward investment to inward investment into euro-zone Member States has fluctuated between 1.2 and 2.0 over the period from 1993 to 2006 and averages 1.5 over the 15-year span. In 2007, the ratio stood at 1.6, an indication that non-euro-zone Member States attracted a slightly larger share of total inward investment into the EU27, in line with the higher ratio observed over the last few years.

Figure 9: Levels of EU27 and euro-zone inward foreign direct investment - 1993-2007



Source: UNCTAD Major FDI indicator database, London Economics calculations

Importance of FDI as a proportion of GDP

While the developed countries attract by far the largest share of inward FDI, this inward FDI into developed countries as a group has been generally

⁹ The BRIC countries comprise Brazil, Russia, India and China.

smaller as a proportion of nominal GDP than in all other regions (see Figure 10).

That being said, the overall performance within the group of developed countries masks significant differences between the EU and other developed countries.

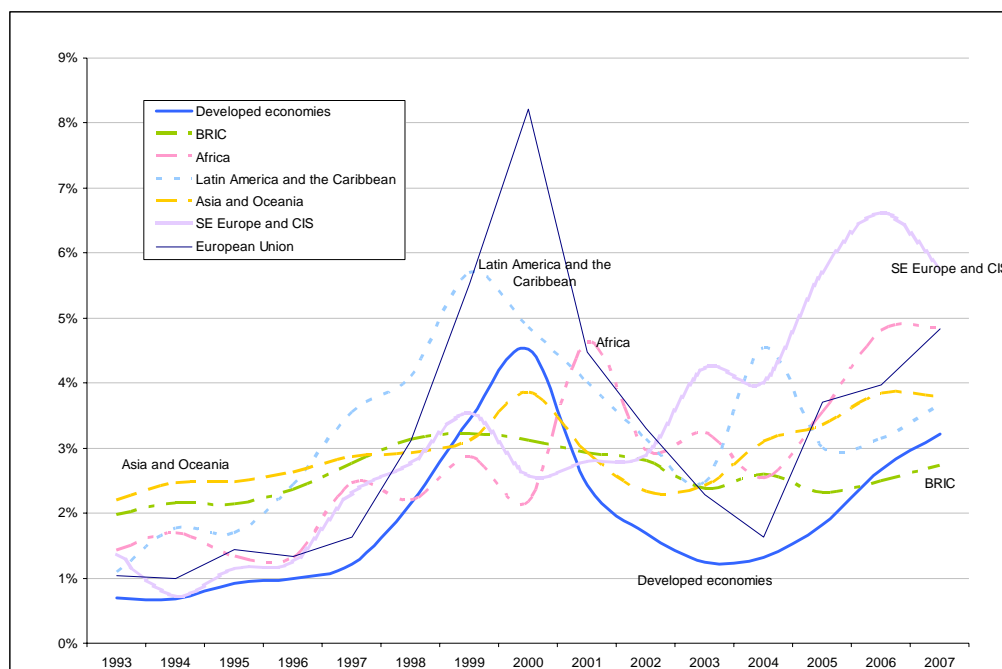
With regards to the EU, it is important to note that, in 2007, the ratio of inward investment to GDP reached 5%, up one percentage point from 2006 and the highest level since the exceptionally high level of 8% in 2000 which was related in part to the dotcom boom and M&A activity in that sector.

In contrast, at 2%, the ratio of inward investment to GDP was much lower in 2007 in the USA. In fact, the level of inward investment to GDP remained at 2% or below since 2001.

The pattern of the importance of inward investment to GDP varied considerably outside the developed world, ranging from 4% in the Caribbean and Latin America a high of 6% in South-East Europe and CIS (see Figure 10).

Different regions wax and wane in popularity, and there seems to be a high degree of fluctuation. Asia and Oceania attract more direct investment as a share of GDP than before, but the growth experienced has been less quick than that in other parts of the world, most notably the Transition Economies (South-East Europe and CIS), Africa, and Latin America and the Caribbean.

Any analysis of the ratio of inward investment to GDP should carefully take account of changes in both the nominator and denominator. For example, in the late 1990s, Latin America and the Caribbean attracted a large share of FDI in relation to GDP, and part of this was due to a temporary reduction in GDP. In contrast, South-East Europe and the CIS have enjoyed high levels of inward investment, which was accompanied by rapid growth in GDP.

Figure 10: Regional inward FDI as percentage of nominal GDP, 1993 to 2007

Source: IMF WEO database and UNCTAD Major FDI indicator database, London Economics calculations

5.2 Outward FDI

Main sources of FDI

Since 1993, the earliest period for which reliable and comparable UNCTAD data are available, reflecting the size of its economy, the developed world is by far the largest source of outward foreign direct investment, accounting for between 80% and 90% of total outward investment. In 2007, this figure stood at 85%, about the same as for the last five years (see Figure 11).

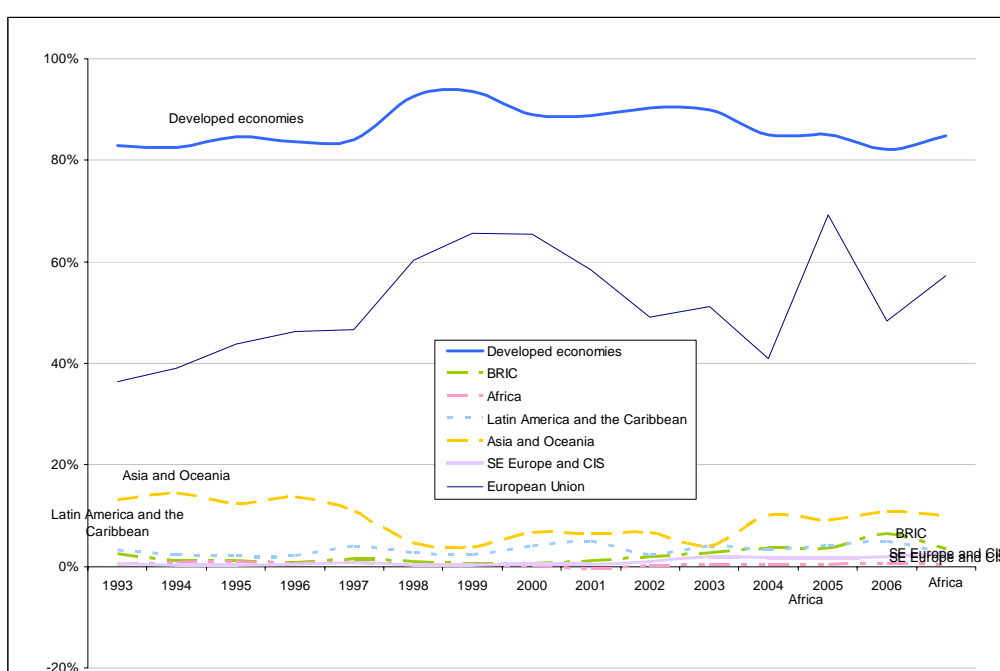
The share of total outward foreign direct investment accounted for by the European Union has fluctuated considerably, ranging from 34% in 1993 to 69% in 2005. In 2007, it reached 57%, broadly in line with the trend share since 2000.

Within the developing economies, the only group of countries which is also a relatively important source of outward foreign direct investment is Asia and

Oceania, a region which in recent years and in 2007 accounted for about 10% of total outward investment.

While the very visible presence on the world scene of multinationals from the BRICs is often viewed as evidence that the BRICs are becoming a significant source of outward FDI, the 2007 data show that, in fact, the BRIC's share of total outward investment was only 3%, down from 6% the year earlier and in line with pattern prevailing the preceding 3 years.

Figure 11: Regional shares of world-wide outward FDI, 1993 - 2007



Source: UNCTAD Major FDI indicator database, London Economics calculations

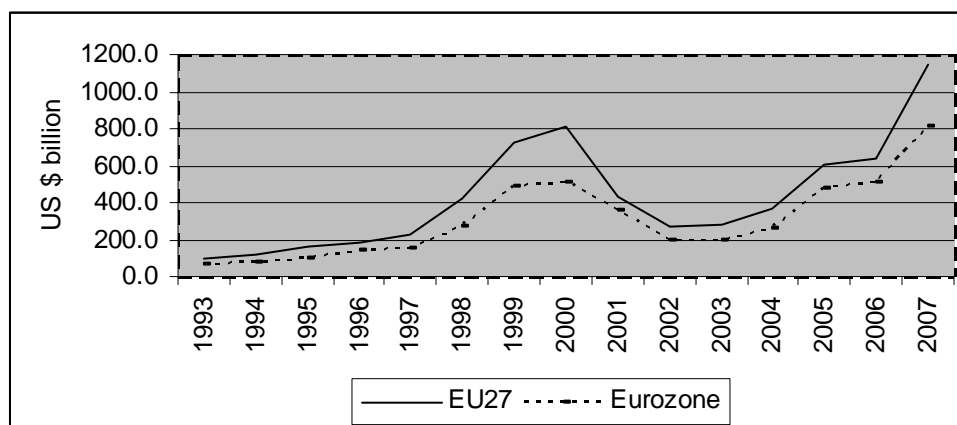
Total foreign direct investment outflows from the EU27 Member States to the other EU Member States and non EU Member States reached a record high of US\$ 1,142 billion in 2007, up 80% from 2006.

Similarly, foreign direct investment outflows from the euro-zone Member States to other Member States within the euro-zone and to destinations outside the euro-zone also reached a new record high in 2007 of US\$ 810 billion (see Figure 12).

Since 1993, the ratio of total outward foreign direct investment from the EU27 to total outward foreign direct investment from the euro-zone has fluctuated

between 1.2 and 1.6. In 2007, this ratio stood at 1.4, the same as its average of 1.4 over the period 1993 to 2006.

Figure 12: Levels of EU27 and euro-zone outward foreign direct investment - 1993 - 2007



Source: UNCTAD Major FDI indicator database, London Economics calculations

Relative importance of FDI

As already noted above, the size of the outward foreign direct investment flow of a country or region is to a large extent determined by the size of the respective economies.

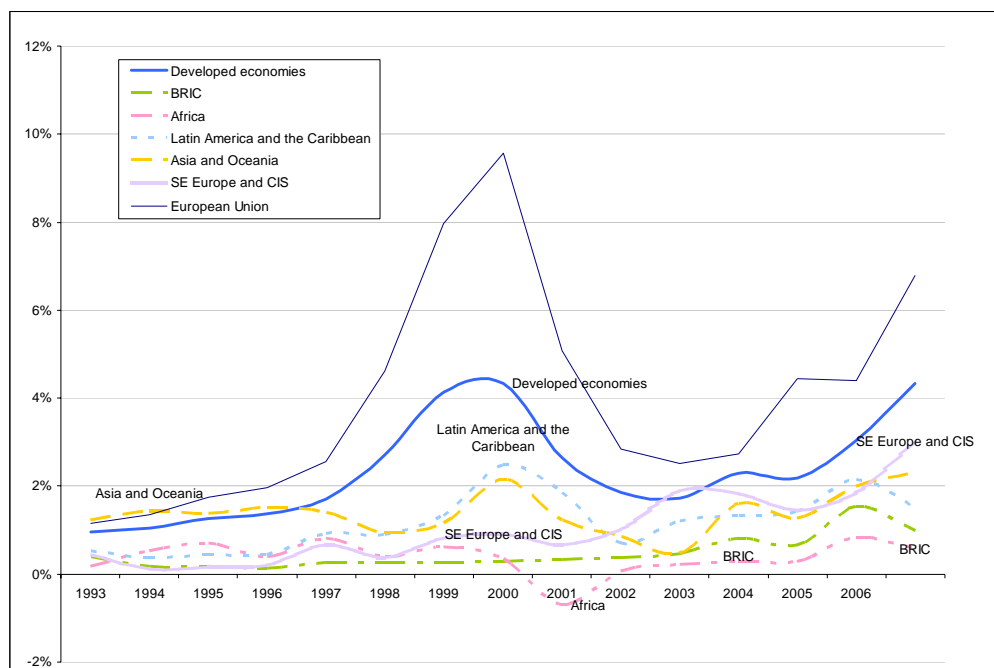
However, the data reported in the figure overleaf shows that the correlation between the two economic dimensions is far from perfect as many other factors are at play. These factors include among others, different saving patterns, different cyclical positions, differences in terms in investing in foreign assets, etc.

While total outward foreign direct investment flows stood in 2007 at 4% of world GDP, in the case of the EU the similar figure stood at 7%, up from the 3% to 4% figure observed during the previous 5 years (see Figure 13). This means, that in 2007 and relative to the size of the economy, the EU was by far the largest source of outward foreign direct investment.

That being said, even if one abstracts from the particular high level of outward direct investment as a percentage of GDP in 2007, since 1995, the EU

is always the economy with the highest level of outward foreign direct investment as a proportion of GDP.

Figure 13: Regional outward FDI as percentage of nominal GDP - 1993-2007



Source: WEO database and UNCTAD Major FDI indicator database, London Economics calculations

Within the BRIC countries, in 2007, only Russia was a significant source of outward foreign direct investment as a proportion of GDP. In the case of Russia, this ratio stood at 4%, up from 2% the previous two years. In contrast, this ratio stood at 1% in 2007 in the case of Brazil and India, and less than 0.5% in the case of China.

In Table 5 overleaf, we examine more generally whether, in the case of foreign direct investment, the BRIC countries and oil-rich countries from Gulf region are becoming more outward than inward oriented by computing the ratio of outward to inward foreign direct investment.

The picture which emerges differs considerably across the various countries:

- First, with regards the West Asian countries, fuelled by growing current account surpluses and the high oil price, the ratio of outward investment has rebounded to more than 50% of the level of inward investment, a level last seen in 2000.

- Second, so far, Brazil and China show no evidence of a systematic shift towards an increasing importance (in relative terms) of outward foreign direct investment.
 - While the ratio of outward to inward foreign direct investment increased sharply in 2006 in China, this proved to be a short-lived change as, in 2007, the ratio fell back sharply.
 - In the case of Brazil, the ratio jumped in 2007 but it not clear whether this reflects particular circumstances or a systematic change.
- Third, in contrast, both India and Russia show a rising trend towards outward foreign direct investment as, in these two countries, the ratio of outward to inward investment has increased markedly in recent years.
 - In 2007, in Russia, outward foreign direct investment stood at about 60% of inward investment, a substantial increase from the figures of the early 2000s.
 - In the case of India, the ratio increased only to about 27% in 2007, but this is a very significant increase from the early 2000s when this ratio was typically in the single digit range.

	2000	2001	2002	2003	2004	2005	2006	2007
West Asia	52.1	38.0	28.8	25.4	41.5	37.2	51.4	50.7
Brazil	42.9	-15.7	26.2	-18.2	38.8	28.8	36.4	61.8
China	7.0	-10.1	15.0	2.5	54.0	16.7	149.8	20.4
India	2.2	14.7	4.8	5.3	9.1	16.9	29.3	26.9
Russia	14.2	25.5	29.8	43.5	37.8	39.2	65.3	60.4

Note: West Asia = major oil producing countries from the Middle East

Source: UNCTAD Major FDI indicator database, London Economics calculations

6 Trends in inward and outward FDI into the EU27

In this section, we first provide an overview of recent developments in EU27 inward and outward foreign direct investment using the latest Eurostat data. Next, we review in greater detail trends and latest developments in inward FDI. Subsequently, we present information on mergers and acquisition activity in the EU27. Finally, we analyse trends and latest developments in outward FDI.

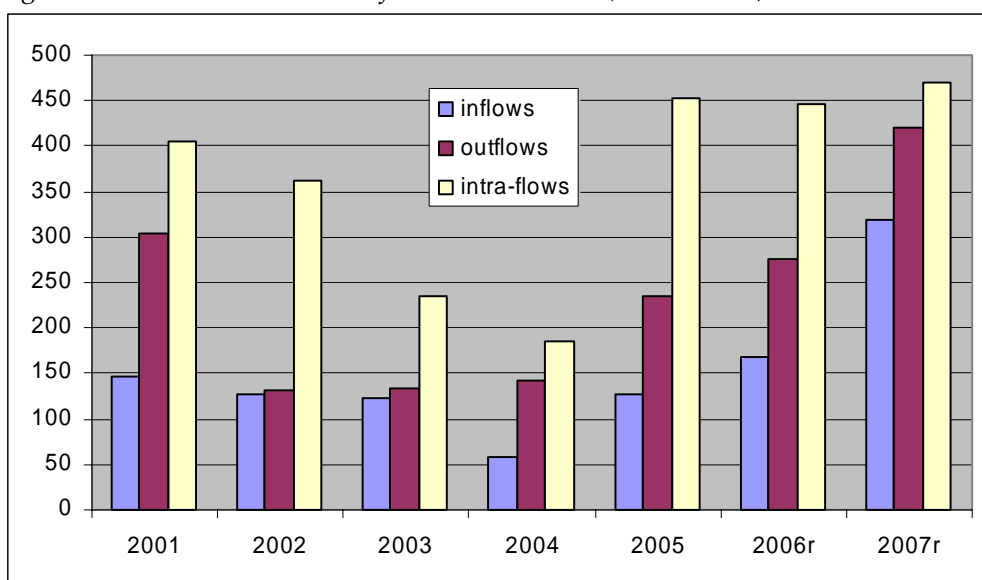
6.1 High level review of inward and outward FDI developments in 2007

Consistent with the general picture of buoyant inward and outward direct investment flows shown in the previous section, inward and outward investment in the EU showed strong growth in 2007.

While intra-flows within the EU remain the largest component of FDI in the EU27, at EUR 469 billion in 2007, they increased only moderately (Figure 14).

In contrast, outflows from the EU27 rose sharply by 53% and reached almost €420 billion in 2007. Inflows also grew markedly, by 90% to €319 billion in 2007.

Figure 14 EU direct investment flows 2001 – 2007 (EUR billion)



Source: EUROSTAT direct investments main indicators
(r) Data subject to revision; Intra-flows as inflows

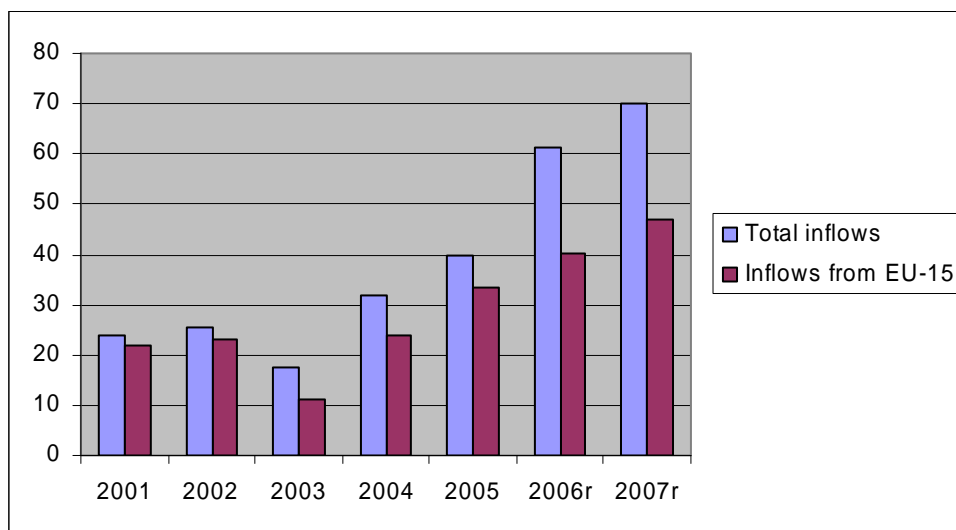
The most striking feature of the evolution of direct investment flows for the EU27, as a bloc, is the steady increase in both inflows and outflows of foreign direct investment into and from the region. This is taking place alongside an almost plateau level of intra-flows within the EU27.

Total direct investment flows into the 12 New Member States have increased by three-fold in the past seven years, from EUR 24 billion in 2001 to EUR 70 billion in 2007. With the exception of 2003, this growth has been continuous (Figure 15).

There was a big jump in inflows of 53% in 2006, compared to the previous year, and this level looks set to be maintained in 2007, with a further 15% increase, according to Eurostat's data.

Interestingly, the recent increase in inflows does not seem to have come from the EU15 Member States, but rather from non-EU countries. The share of inflows into the New Member States attributable to the EU15 fell from 83% in 2005 to 65% in 2006 and remaining at 67% in 2007.

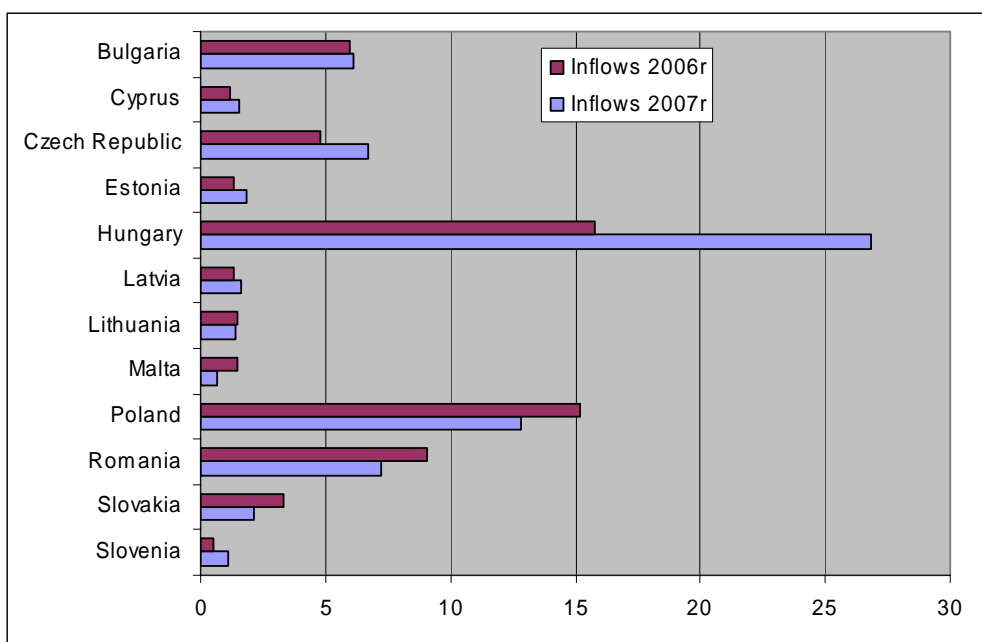
Figure 15 Direct investment inflows to New Member States 2001 - 2007 (EUR billion)



Source: EUROSTAT direct investments main indicators
(r) Data subject to revision

While, as a group, the 12 New Member States registered a very sharp increase in foreign direct investment inflows in 2007, only Hungary, and to a lesser degree the Czech Republic, benefited to significant extent from the sharp increase. In contrast, foreign direct investment inflows actually fell in Poland, Romania and Slovakia and in the other Member States its level remained unchanged from 2006 or increased only slightly (Figure 16).

Figure 16 Direct investment inflows to New Member States, 2006 and 2007 (EUR billion)



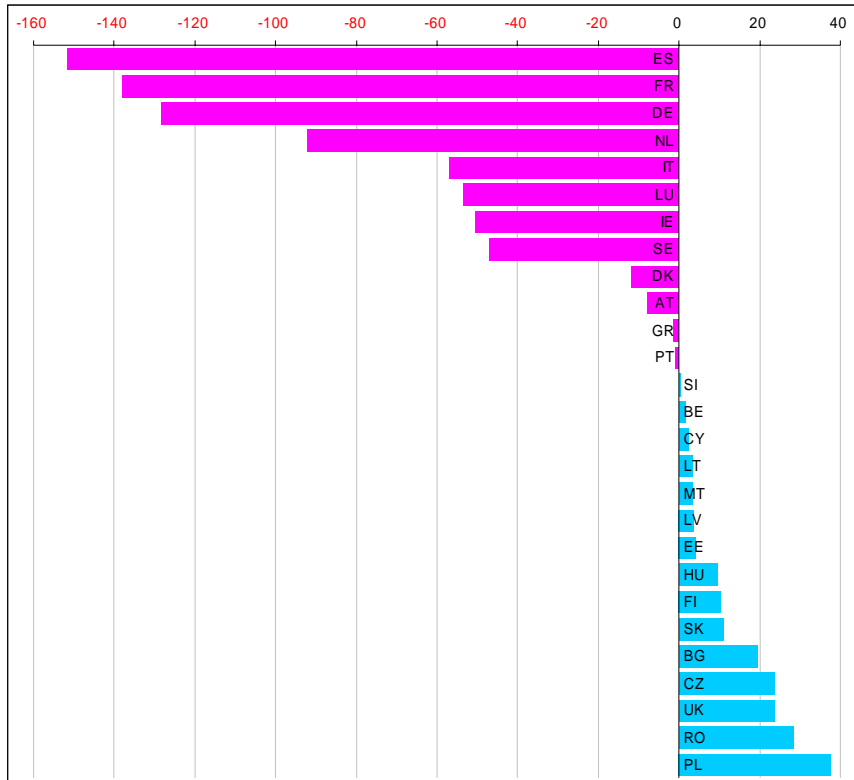
Source: EUROSTAT

(r) Data subject to revision

The 12 New Member States of the EU are all net receivers of direct investment, based on the total net inflows they received over the past five years. In particular, the large (Poland, Czech Republic) and more recent new members (Romania, Bulgaria) have benefited the most.

This has happened against a backdrop of the EU being a net supplier of direct investment. Figure 17 shows the total net inflows over the past five years for each Member State. It shows that eight countries have net outflows greater in magnitude than the net inflows of the highest net recipient (Poland). Only the United Kingdom and Finland, of all the EU15, have been substantial net receivers of direct investment in that period.

Figure 17 Total direct investment net inflows to EU Member States, 2003-2007r (EUR billion)



Source: EUROSTAT

(r) Data subject to revision

Missing data for Denmark (2004), Greece (2003) and Portugal (2005).

6.2 Detailed analysis of inward FDI - extra and intra EU27

The mix of source countries of inward investment is far from uniform across Member States.

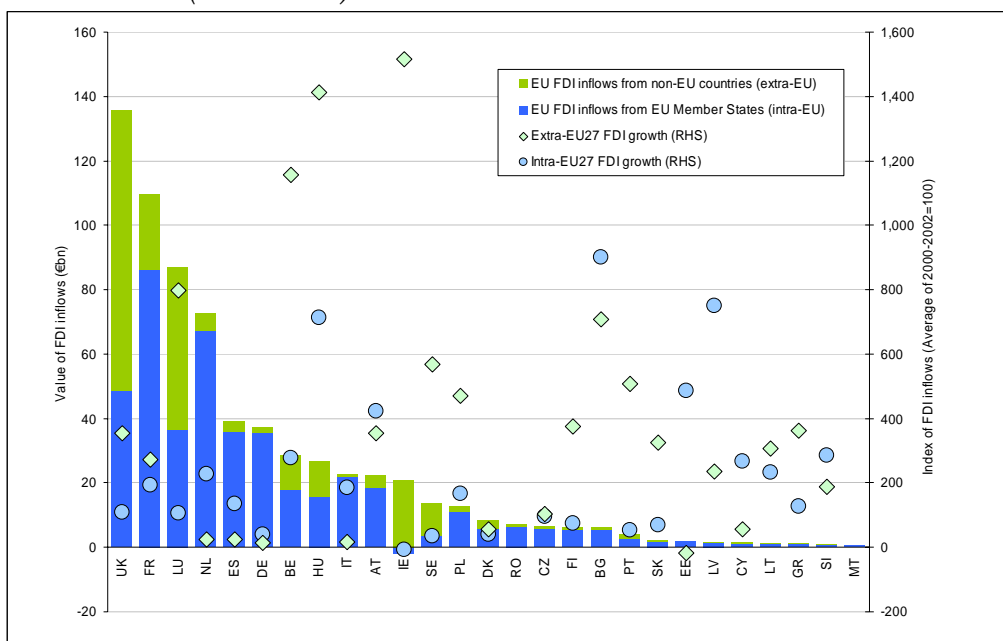
- Although the United Kingdom receives the greatest inflows, the majority comes from outside of the EU. This is also true for Ireland and Luxembourg.
- In contrast, most other countries receive a majority of their inward investment flows from other EU Member States. France and the Netherlands receive the most intra-EU inflows.

The bars in Figure 18 provide a graphical illustration of these findings.

There is also little correlation between the growth rate of intra- and extra-EU direct investment flows and their levels. The markers in Figure 18 show the growth in direct investment inflows between 2001 and 2007 for each Member State by source of inflow. The higher the marker, the more inflows have grown over the period.

There may be some correlation to be found for external inflows, which seem to have grown most rapidly in Member States in the middle of the distribution shown in Figure 18. This is likely to reflect growing markets in these economies, contrasting with underdeveloped ones in the smaller Member States and mature ones closer to saturation in the larger Member States.

Figure 18 Value (2007) and growth in direct investment inflows (2001-2007) to EU Member States (EUR billion)



Source: EUROSTAT data, London Economics calculations
Missing growth data for Malta and Romania.

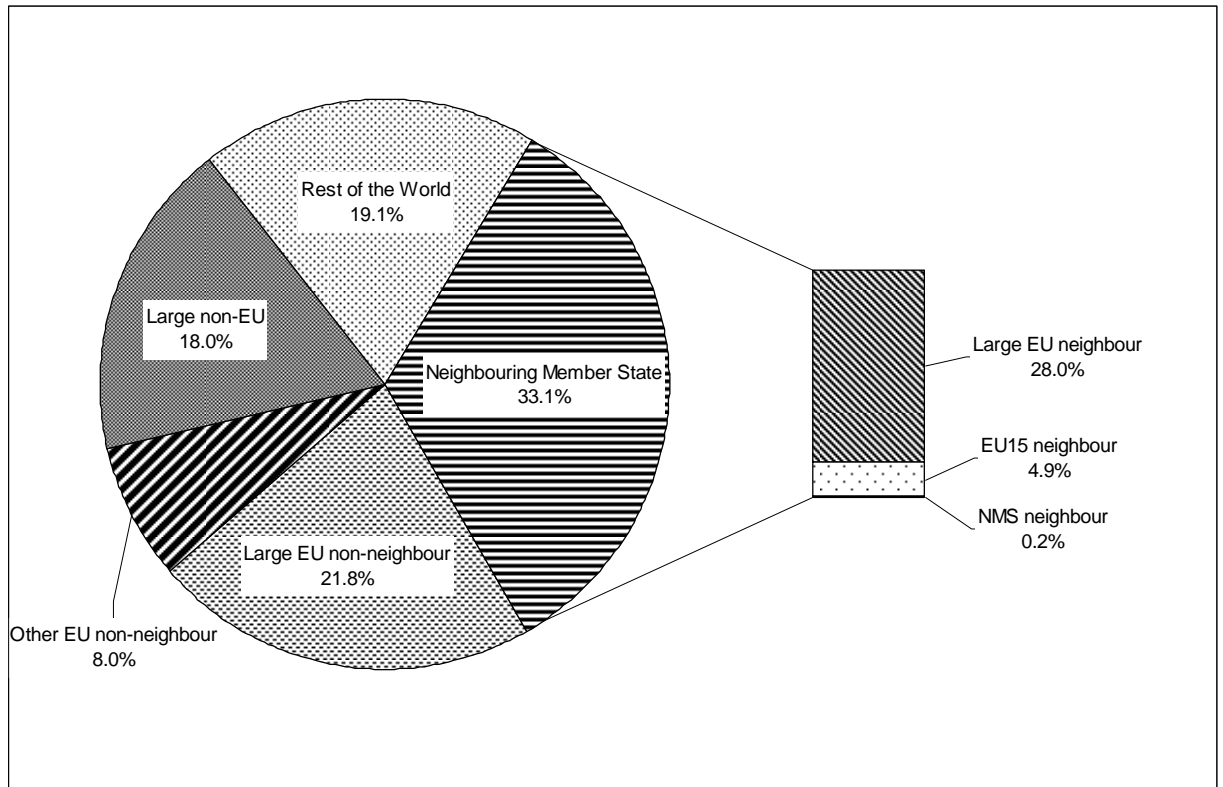
The importance of intra-EU inflows is highlighted again in Figure 19, which shows the share of inflows into EU Member States aggregated over the whole of the EU.

The total of inward direct investment stock in the EU was €331 billion in 2006. Direct investment from EU Member States accounts for 63% of the

stock¹⁰. About 1/3 comes to Member States from their neighbouring Member States. The majority of direct investment stock held in EU Member States is by large EU Member States (defined as those which held the most investment stock in other EU Member States¹¹).

Inward direct investment stock originating from outside the EU accounted for 37% of the total EU stock, with 19% coming from the United States and Switzerland (defined as large non-EU countries).

Figure 19 Share of direct inward investment stock in EU Member States, categorised by source relative to each Member State, 2006



Notes: For the purpose of the analysis of the regional breakdown of the inward FDI stock, investments in SPEs in Austria, Luxembourg and Netherlands are not included in the total stock figure as a regional breakdown for these SPEs is not available. Large non-EU includes the US and Switzerland

Source: EUROSTAT data: London Economics' calculations

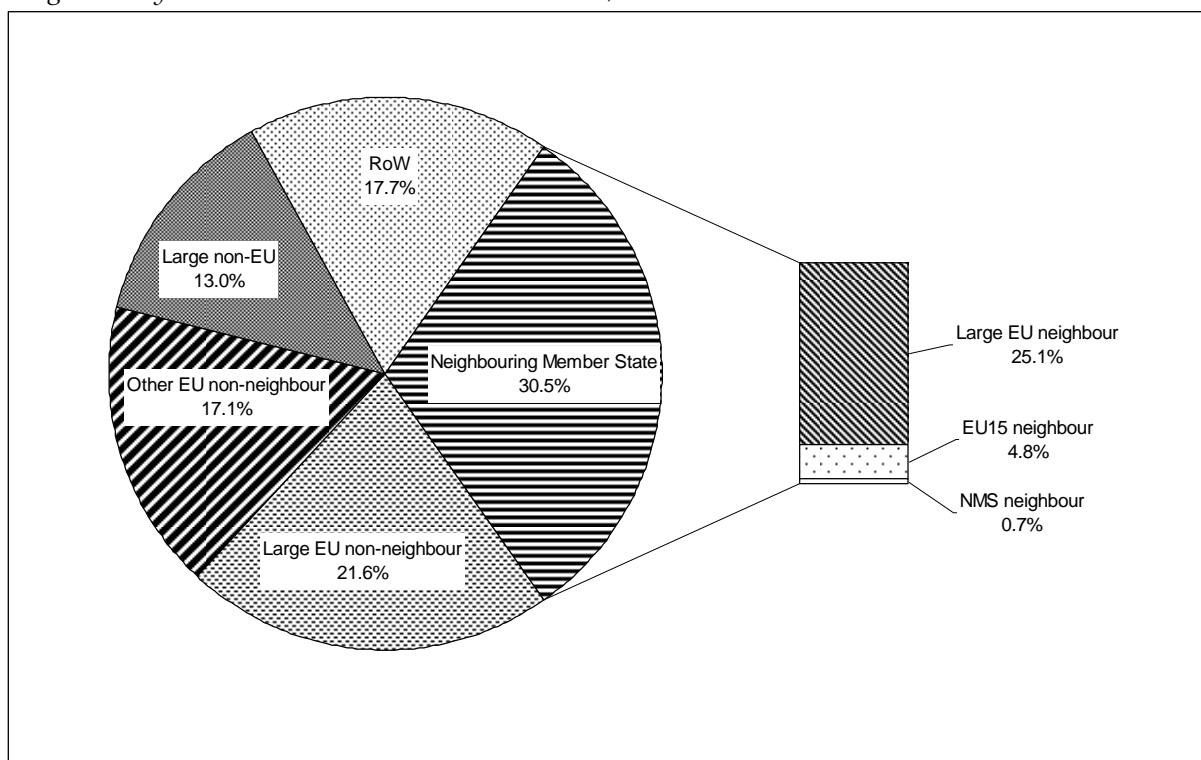
¹⁰ For the purpose of the analysis of the regional breakdown of the inward FDI stock, investments in Special Purpose Entities (SPEs) in Austria, Luxembourg and the Netherlands are not included in the total stock figure as a regional breakdown for these SPEs is not available.

¹¹ These are Belgium, Germany, France, Luxembourg, Netherlands and the United Kingdom

Total inward investment inflows into EU Member States (including intra- and extra EU investments) were €15 billion in 2006. The distribution by source country of inward investment flows¹² suggests that the sources of direct investment are changing from neighbouring and large countries to those farther a field. These are shown in Figure 20. For example:

- The share of EU investment inflows from large neighbouring EU Member States and large non-EU countries is lower than the share of inward investment stocks.
- The share of smaller non-neighbouring EU Member States is about nine percentage points higher in inflows than in stocks.

Figure 20 Share of direct inward investment flows into EU Member States, categorised by source relative to each Member State, 2006



Notes: For the purpose of the analysis of the regional breakdown of the inward FDI flows, investments in SPEs in Austria and Netherlands are not included in the total flow figure as a regional breakdown for these SPEs is not available. Large non-EU includes the US and Switzerland

Source: EUROSTAT data, London Economics' calculations

¹² For the purpose of the analysis of the regional breakdown of the FDI inflows, investments in SPEs in Austria and the Netherlands are not included in the total flows figure as a regional breakdown for these SPEs is not available

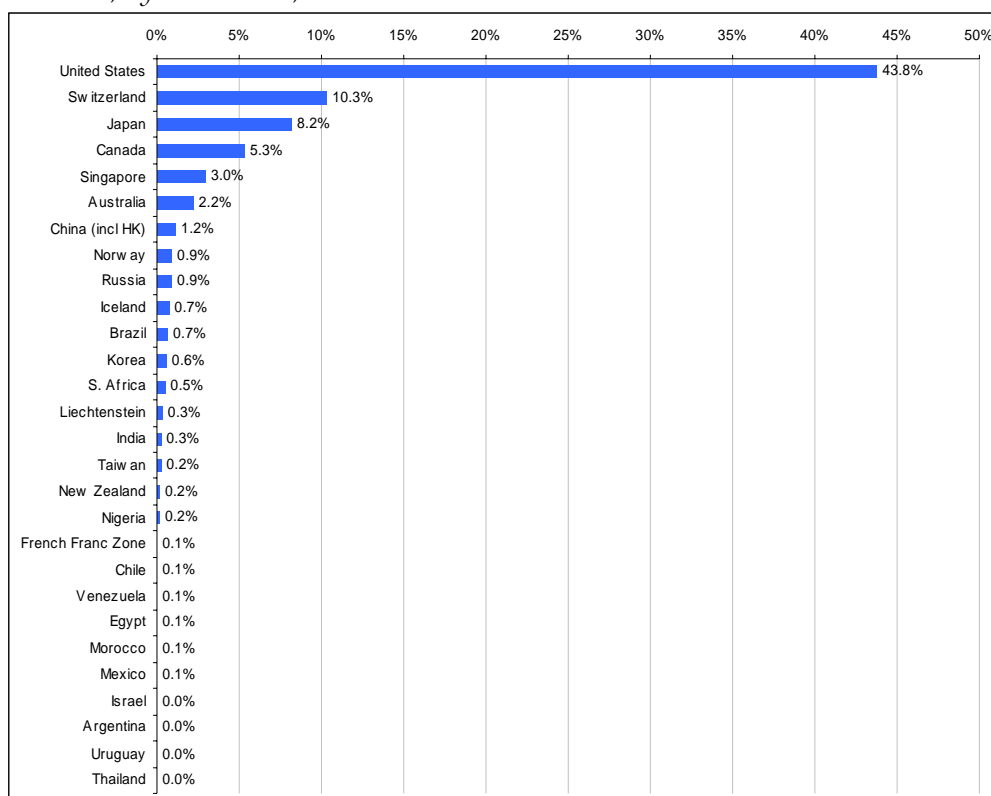
Direct investment inflows into the EU27 from outside the EU totalled €169 billion in 2006. The share of direct investment flows into the EU27 in 2006 by source is highly concentrated among a small number of countries, as shown in Figure 21.

The top 10 sources accounted for 76% of all EU direct investment inflows from non-EU Member States in 2006.

Figure 21 illustrates the continued dominance of the United States and, to a lesser degree, Switzerland as investing countries. Japan was also a big direct investor in 2006, reflecting flows in excess of the proportion of its holding of stock (4.8% of EU direct investment external to the EU).

The next highest suppliers of direct investment into the EU are Canada, Singapore, Australia and China (with each accounting for between 1 and 6% of total inward FDI from outside the EU27).

Figure 21 Share of total inward direct investment flows into EU27 from non-EU countries, by destination, 2006r



Source: EUROSTAT direct investments main indicators, London Economics calculations
(r) Data subject to revision

6.3 Cross-border mergers and acquisitions in the EU27

Cross-border merger and acquisitions activity in 2007 broadly remained at the level observed in 2006 in terms of the aggregate value of the deals and the numbers of deals (see Table 6).

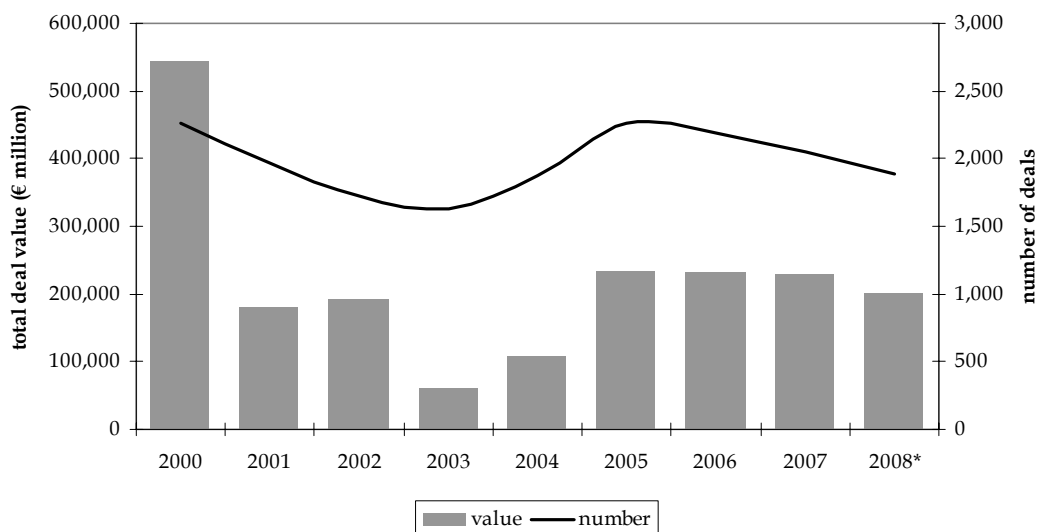
Data available for the first half of 2008 suggest that the pace of cross-border M&A activity is weaker so far than in 2007 and in the absence of a pick-up in pace, the year will end somewhat below the annual levels observed in 2007 (see Figure 22).

Table 6: M&A activity into the EU, 2000-2008						
Year	EU cross-border deals		In the EU from outside the EU deals		All deal in the EU	
	Value (€mn)	Number of deals	Value (€mn)	Number of deals	Value (€mn)	Number of deals
2000	461,653	1,465	81,112	796	542,765	2,261
2001	124,105	1,290	56,586	674	180,691	1,964
2002	120,994	1,087	72,216	641	193,210	1,728
2003	27,317	1,056	34,103	574	61,420	1,630
2004	63,000	1,102	45,655	771	108,655	1,873
2005	175,939	1,382	58,556	878	234,495	2,260
2006	167,293	1,285	64,617	901	231,910	2,186
2007	168,867	1,242	61,896	812	230,763	2,054
2008*	72,498	530	28,000	414	100,498	944

Note: 2008 data for the first half, numbers not annualized

Source: ZEPHYR database, London Economics search, using the merger and acquisition search criterion

Figure 22 Total cross-border M&A activity



Note: 2008 data for the first half year, numbers annualized

Source: ZEPHYR database, London Economics search, using the merger and acquisition search criterion

The two tables below list the 10 largest from within EU27 and from outside EU27 cross-border M&A deal.

In the case of the within cross-border deals, the largest ten deals account for almost 75% of the total value of such deals in 2007 and the largest deals were in the power and financial sectors (see Table 7).

In the case of the M&A cross-border deals from outside the EU27, the largest ten such deals accounted for almost 60% of the total deal value of this type of deals in 2007. The two largest deals were in the pharmaceutical and insurance sectors (see Table 8).

Table 7: Largest M&A cross-border EU deals, 2007			
	Target name	Acquirer name	Deal value (€ mn)
1	Endesa SA	Enel Energy Europe SRL	32,155
2	Scottish Power plc	Iberdrola SA	17,233
3	Bank Austria Creditanstalt AG	UniCredito Italiano SpA	12,500
4	Rodamco Europe NV	Unibail Holding SA	11,189
5	Electrabel SA	Suez SA	10,922
6	Koninklijke Numico NV	Groupe Danone SA	8,087
7	Depfa Bank plc	Hypo Real Estate Holding AG	5,696
8	Sampo Pankki Oyj	Danske Bank A/S	4,050
9	Ceska Pojistovna AS	Generali PPF Holding BV	3,600
10	Telefónica Publicidad e Información SA	Yell Group plc	3,249
top 10 deal value			104,631
top 10 share of Total deal value in 2007			72.2%

Note: Eurotunnel transaction in February 2007 is excluded from the list

Source: ZEPHYR database, London Economics search, using the merger and acquisition search criterion

Table 8: Largest M&A deals into the EU from outside the EU, 2007			
	Target name	Acquirer name	Deal value(€mn)
1	Organon Biosciences NV	Schering-Plough Corporation	10,950
2	Equitable Life Assurance Society *	Canada Life Financial Corporation	6,723
3	Fastweb SpA	Swisscom AG	3,988
4	GLG Partners LP	Freedom Acquisition Holdings Inc.	2,363
5	SPP Livförsäkring AB SPP Fonder AB Handelsbanken Life & Pensions Ltd	Storebrand ASA	1,920
6	Rompetrol Group NV, The	KazMunaiGaz JSC	1,834
7	Quest International Nederland BV	Givaudan SA	1,729
8	BMG Music Publishing Ltd	Universal Music Group Inc.	1,630
9	Actaris Metering Systems SA	Itron Inc.	1,245
10	BP plc's Coryton Refinery in Essex	Petroplus Holdings AG	1,042
top 10 deal value			33,424
top 10 share of Total deal value in 2007			59.7%

Note: * Equitable Life Assurance Society's non-profit annuity business

Source: ZEPHYR database, London Economics search, using the merger and acquisition search criterion

6.4 Distribution of inward FDI into the EU27 across economic sectors

As shown in Table 9, according to the latest data available from Eurostat, the service sector is the sector which attracted the bulk of inward FDI (about 75%) into the EU27 from both other EU Member States and from outside the EU27. More detailed country-specific information is provided at Annex V for the countries for which Eurostat provides such information.

Within the service sector, the “financial intermediation” sector is the most important attractor of inward direct investment, accounting for slightly more than 42% of total inward investment.

The “real estate and business activities” sector is by far the second largest attractor of foreign direct investment, accounting for somewhat less than a ¼ of total foreign direct investment.

Manufacturing as a whole attracted only about 16% of total foreign direct investment, but the manufacturing sub-sector with the largest share of foreign direct investment, the “petroleum, chemical, rubber, and plastic products” sector accounts for less than 6% of the total stock of foreign direct investment in the EU27 in 2005.

While the sectoral shares of FDI from the EU27 and from outside the EU differ slightly in many cases, there is no sector where the attractiveness to inward foreign direct investment varies markedly between FDI from the EU27 and from outside the EU27.

Table 9: Sectoral share of inward FDI stock in the EU27 in 2005, by source (%)

Sector	FDI originating from ...		
	EU27	Non-EU27	Total
Total services	76.5	74.5	75.9
Financial intermediation	42.0	42.0	42.0
Real estate and business activities	21.3	24.3	22.3
Trade and repairs	6.2	4.7	5.7
Transport, storage and communication	4.6	2.5	3.9
Manufacturing	15.2	17.4	15.9
Food products	1.7	2.5	1.9
Total textiles and wood activities	1.9	2.4	2.1
Wood, publishing and printing	1.7	2.0	1.8
Textiles and wearing apparel	0.2	0.4	0.3
Total Petroleum, chemical, rubber, plastic products	5.5	5.8	5.6

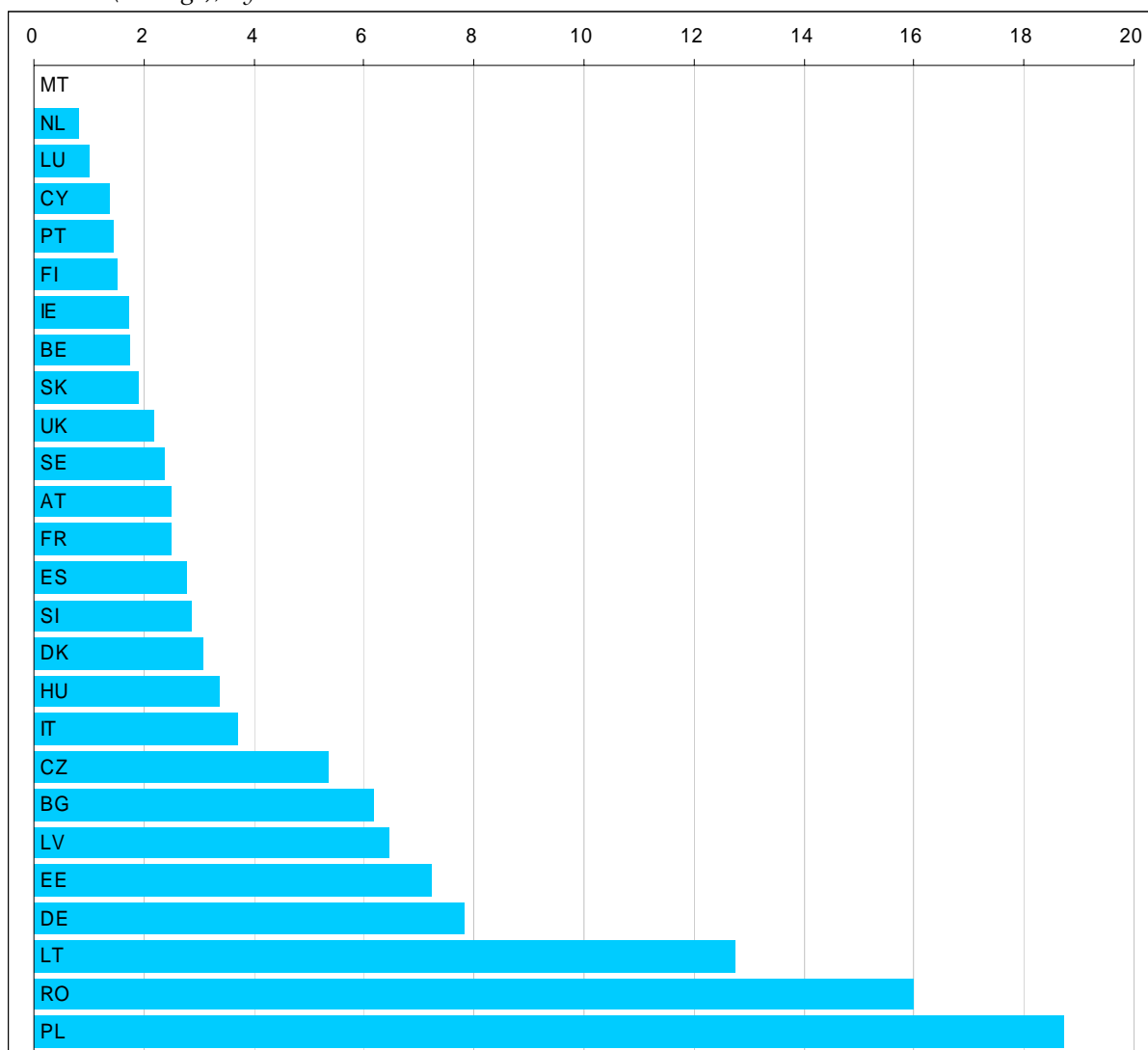
Refined petroleum products and other treatments	0.8	0.8	0.8
Manufacture of chemicals and chemicals products	4.0	4.4	4.1
Rubber and plastic products	0.7	0.6	0.6
Total metal and mechanical products	1.8	2.6	2.0
Metal products	0.9	0.6	0.8
Mechanical products	0.8	2.0	1.2
Total office machinery, computers, RTV, communication equipments	1.0	1.2	1.0
Office machinery and computers	0.2	0.4	0.2
Radio, television, communication equipments	0.8	0.7	0.8
Total vehicles and other transport equipment	1.5	1.2	1.4
Mining and quarrying	2.9	2.3	2.7
Electricity, gas and water	1.8	0.8	1.4
Private purchases and sales of real estate	0.6	0.8	0.7
Construction	0.4	0.3	0.4
Recreational, cultural and sporting activities	0.3	0.2	0.3
Agriculture and fishing	0.1	0.1	0.1

Source Eurostat data; London Economics' calculations, column for non-EU27 derived from EU27 and total data

6.5 Detailed analysis of outward FDI (extra and intra EU27)

There has been very large growth in outward direct investment flows between 2003 and 2007 in several Member States. In nine Member States, the growth has been four-fold. With the exception of Germany, these are new Member States, with Poland showing the strongest growth (Figure 23).

Figure 23 Growth in direct investment outflows between 2002-3 (average) and 2006r-7r (average), by EU Member State



Source: EUROSTAT
(p) Provisional data

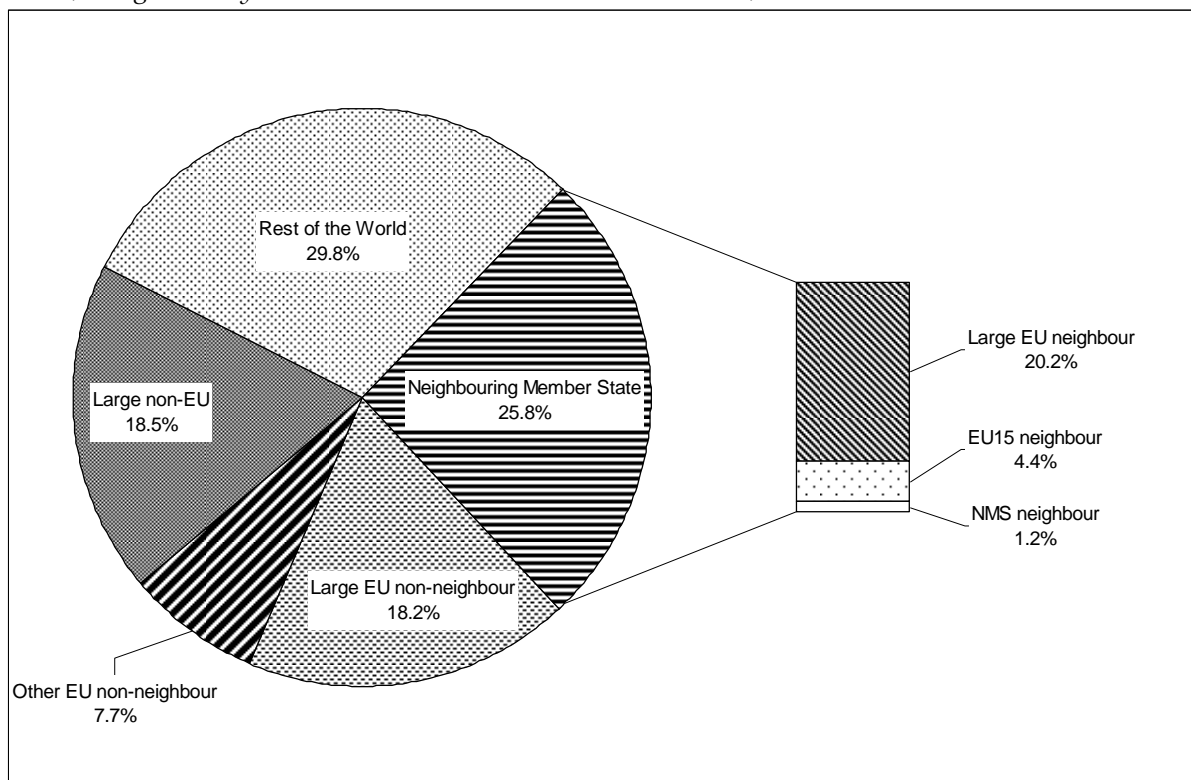
As was the case for inward investment, neighbouring and large economies have been the main recipients in the stock of outward investment from EU Member States, though their dominance is slightly less so.

The value of the stock of outward direct investment from the EU was €7022 billion. The share of direct investment directed outside of the EU was almost 50% of all outward direct investment in 2006.¹³ At 26%, the share of

¹³ For the purpose of the analysis of the regional breakdown of the outward FDI stock, investments by SPEs in Austria, Luxembourg and Netherlands are not included in the total stock figure as a regional breakdown for these SPEs is not available.

neighbouring Member States was about the same as that of non-neighbour Member States (Figure 24).

Figure 24 Share of direct outward investment stock originating from EU Member States, categorised by destination relative to each Member State, 2006r



Notes: For the purpose of the analysis of the regional breakdown of the outward FDI stock, investments by SPEs in Austria, Luxembourg and the Netherlands are not included in the total stock figure as a regional breakdown for these SPEs is not available. Large non-EU includes the US and Switzerland

Source: EUROSTAT data, London Economics' calculations

The value of direct investment outflows from EU Member States (including intra-and extra EU investments) was €730 billion in 2006. The distribution across of destination countries of direct investment outflows¹⁴ is also similar to the pattern observed for inflows in that large neighbouring economies are less important in flows than in stocks in the investment (see Figure 25).

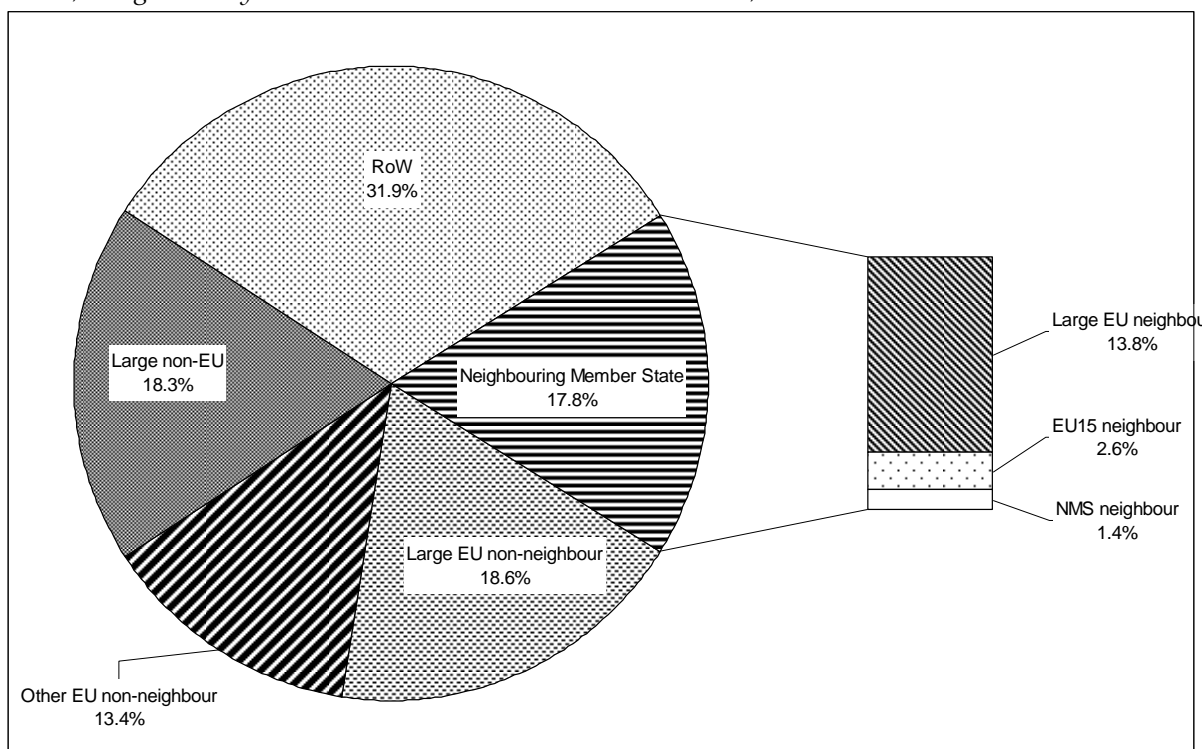
The difference is much more pronounced in the case of outflows than in the case of inflows, despite the addition of Spain as another large EU Member State. Here, neighbouring Member States account for less than 18% of outward bound direct investment flows from other EU Member States, and the

¹⁴ For the purpose of the analysis of the regional breakdown of the FDI outflows, investments by SPEs in Austria and the Netherlands are not included in the total flows figure as a regional breakdown for these SPEs is not available

share to the EU as a whole was just below 50% in 2006. Large EU Member States (neighbouring and non-neighbouring) were the destination for slightly less than a one-third of direct investment outflows, 6 percentage points less than their share in the outward stock.

Outflows to the rest of the world (excluding the United States and Switzerland) made up almost one third of all outflows from EU Member States, slightly more than their share of the stock.

Figure 25 Share of direct outward investment flows originating from EU Member States, categorised by destination relative to each Member State, 2006r



Note: For the purpose of the analysis of the regional breakdown of the FDI outflows, investments by SPEs in Austria and the Netherlands are not included in the total flow figure as a regional breakdown for these SPEs is not available. Large non-EU includes the US and Switzerland

Source: EUROSTAT data, London Economics' calculations

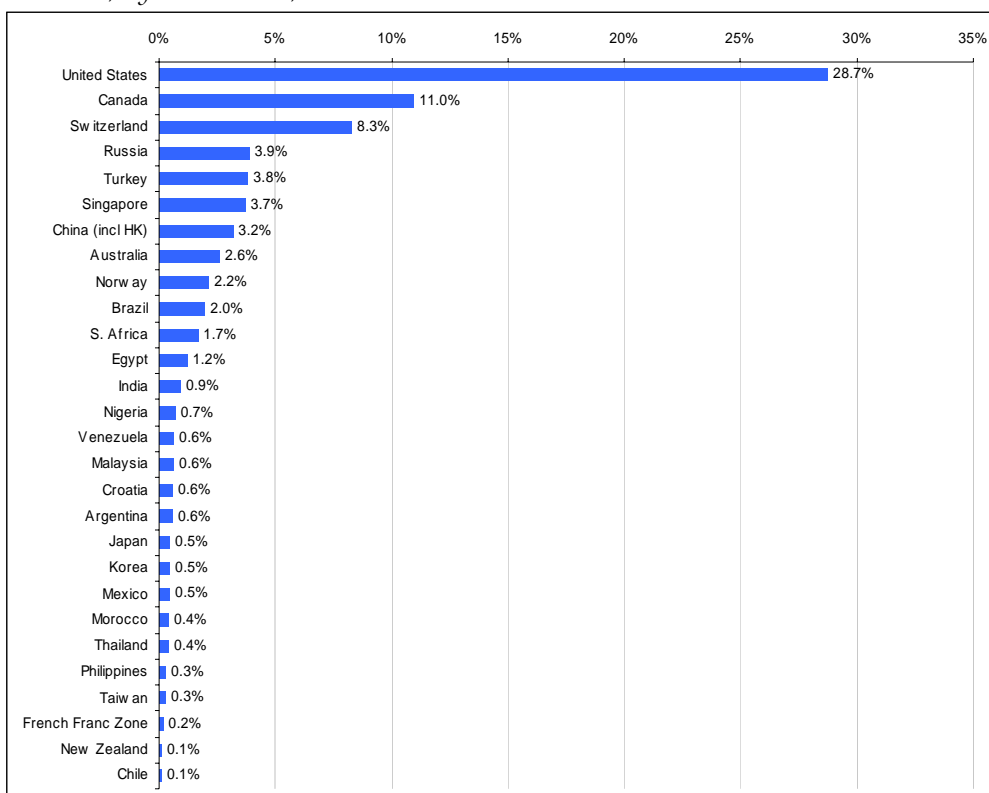
Direct investment outflows to outside the EU from the EU27 totalled €275 billion in 2006. The share of EU external direct investment flows in 2006 by destination is highly concentrated in a small number of countries, as shown in Figure 26.

The top 10 destinations accounted for 70% of all EU direct investment outflows outside the EU in 2006.

Figure 20 illustrates the continued dominance of the United States and, to a lesser degree, Switzerland in receiving funds. Canada received a high share of EU direct investment in 2006, reflecting flows in excess of the proportion of its holding of stock (4.4% of EU direct investment external to the EU).

The next highest recipients of direct investment flows are Russia, Turkey, Singapore and China (with between 3 and 4%), then Australia, Norway and Brazil (with between 2 and 3%).

Figure 26 Share of total outward direct investment flows from EU27 to non-EU countries, by destination, 2006



Source: EUROSTAT direct investments main indicators

Annex I - Analysis of capital flows

Table 10: Total inflows of international financial resources and composition of use

Country	Total inflow of financial resources- US \$ billion and rank of country in (.)		Use of financial resources in % of total															
	1993-2006	2000-2006	Average 1993-2006				Average 2000-2006				2005				2006			
			R	FDI	P	O	R	FDI	P	O	R	FDI	P	O	R	FDI	P	O
<i>United Kingdom</i>	6,889.2 (1)	5,388.0 (1)	0	18	21	61	0	14	22	64	0	7	22	71	0	10	30	60
<i>United States</i>	6,205.4 (2)	4,056.3 (2)	0	30	30	40	0	28	30	42	-3	-2	48	57	0	22	40	38
<i>Belgium-Luxembourg</i>	3,941.1 (3)	3,181.2 (3)	0	31	36	34	0	32	31	38	0	20	40	40	0	23	27	49
<i>Germany</i>	3,426.1 (4)	2,263.5 (5)	-1	18	42	41	-1	12	42	47	-1	12	54	34	-1	15	38	48
<i>France</i>	3,372.9 (5)	2,644.4 (4)	1	28	49	22	0	25	49	26	-1	19	38	44	2	18	53	26
<i>Ireland</i>	1,915.7 (6)	1,599.1 (6)	0	5	63	33	0	5	66	30	-1	5	50	46	0	4	66	30
<i>China, P.R. Mainland</i>	1,599.5 (7)	1,231.2 (7)	69	4	12	15	73	3	14	10	71	4	9	17	61	4	27	8
<i>Japan</i>	1,584.3 (8)	1,024.8 (8)	49	27	99	-75	59	28	97	-84	16	32	140	-88	33	52	74	-60
<i>Italy</i>	1,508.8 (9)	839.1 (10)	0	15	51	34	0	19	43	37	0	16	44	40	0	18	21	61
<i>Switzerland</i>	1,240.4 (10)	711.0 (11)	-1	26	31	44	-2	30	36	36	-12	32	34	45	0	39	28	32

<i>Spain</i>	1,152.9 (11)	904.1 (9)	-3	36	41	26	-2	36	41	25	-1	21	59	21	0	44	5	51
<i>Netherlands</i>	971.6 (12)	587.2 (12)	-2	66	85	-48	0	70	88	-58	-1	115	67	-81	1	20	40	39
<i>Canada</i>	751.3 (13)	562.6 (14)	2	44	37	17	0	44	40	16	1	35	46	17	1	31	48	21
<i>Russia</i>	712.8 (14)	558.8 (15)	47	13	2	38	57	14	2	27	53	11	9	27	63	13	-4	27
<i>Norway</i>	674.7 (15)	568.2 (13)	5	14	54	26	4	12	55	28	4	20	39	37	3	9	69	18
<i>Singapore</i>	582.9 (16)	353.3 (17)	15	16	27	42	15	15	27	43	21	8	23	48	18	9	22	51
<i>Austria</i>	482.4 (17)	371.7 (16)	-2	12	53	37	-3	12	51	40	-1	12	53	36	-1	4	31	66
<i>Taiwan</i>	446.9 (18)	349.3 (18)	37	15	43	5	41	12	48	0	31	9	52	8	11	14	76	-1
<i>Korea</i>	408.7 (19)	258.6 (22)	54	14	20	12	60	12	27	2	53	11	38	-2	36	12	44	7
<i>Denmark</i>	359.1 (20)	265.3 (21)	4	26	49	20	0	22	55	23	-2	23	50	30	-12	16	49	47
<i>Finland</i>	344.0 (21)	248.9 (23)	0	26	50	24	-2	18	57	26	-1	20	75	6	-9	0	74	35
<i>Saudi Arabia</i>	283.5 (22)	303.5 (20)	7	0	66	28	3	0	65	32	0	0	70	30	1	0	81	18
<i>Sweden</i>	249.1 (23)	139.1 (26)	-2	103	102	-103	2	113	98	-113	1	112	54	-67	2	42	64	-8
<i>Australia</i>	241.5 (24)	175.8 (24)	14	25	63	-2	14	22	76	-12	-39	181	-114	71	12	28	55	5
<i>China, P.R.:Hong Kong</i>	194.5 (25)	347.7 (19)	12	113	123	-149	6	56	72	-35	2	40	61	-3	5	33	38	24
<i>Kuwait</i>	181.1 (26)	156.5 (25)	5	3	62	31	5	5	57	33	2	14	28	56	6	13	42	39

<i>Portugal</i>	179.6 (27)	112.5 (30)	-5	23	57	24	-8	28	64	16	-11	14	124	-27	-11	17	39	55
<i>India</i>	172.6 (28)	136.1 (27)	85	12	0	3	91	15	0	-6	64	11	0	25	71	29	0	0
<i>Brazil</i>	165.3 (29)	126.0 (29)	32	31	6	31	37	34	4	26	36	21	15	28	46	42	-1	13
<i>Malaysia</i>	151.3 (30)	127.7 (28)	42	14	3	41	43	15	4	38	30	24	6	40	29	26	9	36

Source IMF Balance of Payments data - London Economics calculations

Annex II EU and euro area direct investment flows

(EUR billion)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Inflows EU-27							146	126	124	58	127	169	319
Outflows EU-27							305	132	134	142	235	275	420
Intra-flows EU-27*							405	362	235	186	452	446	469
Inflows EU-15	42	37	50	96	126	188	144	125	122	61	139	162	307
Outflows EU-15	62	69	110	219	327	437	322	140	138	160	268	301	448
Intra-flows EU-15*	46	49	75	136	356	764	382	337	221	151	400	392	411
Inflows euro area ¹			49	91	206	440	223	195	137	89	152	259	365
Outflows euro area ¹			93	173	331	455	333	173	146	170	360	416	455
Intra-flows euro area* ¹			40	75	119	318	221	229	194	83	240	247	356

Source: EUROSTAT, ECB

EU data as published in May 2008 and euro data as published in November 2008

(*) Intraflows as inflows

(1) Euro area 11 1997-1998, Euro area 15 from 1999 onwards

Annex III Direct investment outflows and inflows in EU Member States and in the OECD

	Outflows								Inflows							
	2000	2001	2002	2003	2004	2005	2006r	2007r	2000	2001	2002	2003	2004	2005	2006r	2007r
Austria	6.2	3.5	6.2	6.3	6.7	9.3	7.9	23.2	9.6	6.6	0.4	6.3	3.1	9.0	4.5	22.6
Belgo-Luxembourg	237.0	120.6	:	:	:	:	:	:	239.8	108.7	:	:	:	:	:	:
Belgium	:	:	13.0	34.0	27.4	26.3	44.8	37.9	:	:	17.3	29.7	35.1	27.6	50.9	28.5
Luxembourg	:	:	133.7	88.3	67.7	99.7	88.2	132.9	:	:	122.4	79.7	63.7	93.6	99.6	86.8
Bulgaria	0.0	0.0	0.0	0.0	-0.2	0.2	0.1	0.2	1.1	0.8	0.6	1.9	2.7	3.1	6.0	6.1
Cyprus	0.2	0.3	0.6	0.5	0.6	0.4	0.7	0.8	0.9	1.1	1.1	0.8	0.9	1.0	1.2	1.5
Czech Republic	0.0	0.2	0.2	0.2	0.8	0.0	1.2	1.0	5.5	6.3	9.0	1.9	4.0	9.4	4.8	6.7
Denmark	30.9	14.1	6.6	-0.5	-9.0	13.0	6.8	11.9	38.8	10.7	5.2	-2.3	-8.4	10.4	2.9	8.3
Estonia	0.1	0.2	0.1	0.1	0.2	0.5	0.9	1.1	0.4	0.6	0.3	0.8	0.8	2.3	1.3	1.8
Finland	26.1	9.4	7.8	-2.0	-0.9	3.4	2.5	6.3	9.6	4.2	8.5	2.9	2.3	3.8	4.4	6.2
France	190.5	103.9	53.6	47.1	45.7	97.3	91.7	159.3	46.6	61.6	52.1	37.7	26.2	65.2	64.6	109.5
Germany	61.4	44.3	20.1	5.2	11.9	44.6	75.5	122.3	215.2	29.5	56.9	28.7	-7.4	28.8	44.0	37.2
Greece	2.3	0.7	0.7	0.0	0.8	1.2	3.3	3.9	1.2	1.7	0.0	0.6	1.7	0.5	4.3	1.4
Hungary	0.6	0.4	0.3	1.5	0.9	1.8	15.0	25.8	1.8	4.4	3.2	1.9	3.6	6.2	15.8	26.8
Ireland	5.0	4.5	9.0	4.9	14.6	11.5	11.7	12.1	28.7	10.8	30.8	20.2	-8.5	-25.5	-0.7	18.9
Italy	13.4	24.0	18.3	8.1	15.5	33.6	33.5	64.2	14.5	16.6	15.5	14.5	13.6	16.0	31.2	22.7
Latvia	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.4	0.1	0.3	0.3	0.5	0.6	1.3	1.6
Lithuania	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.4	0.4	0.5	0.8	0.2	0.6	0.8	1.4	1.4
Malta	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.7	0.3	-0.5	0.8	0.3	0.5	1.5	0.7
Netherlands	82.1	56.5	34.0	39.0	23.5	109.2	37.5	22.8	69.3	58.0	26.6	18.6	3.7	38.4	6.4	72.7
Poland	0.0	-0.1	0.2	0.3	0.6	2.7	7.1	2.4	10.1	6.4	4.4	4.3	10.1	8.3	15.2	12.8
Portugal	8.8	7.0	-0.2	7.1	6.3	1.7	5.6	4.5	7.2	7.0	1.9	7.6	1.9	3.2	9.0	4.1
Romania	0.0	0.0	0.0	:	:	0.0	0.3	0.0	1.1	1.3	1.2	1.9	5.2	5.2	9.1	7.3
Slovakia	0.0	0.1	0.0	0.2	0.0	0.1	0.3	0.2	2.3	1.6	4.0	1.9	2.4	2.0	3.3	2.2
Slovenia	0.2	0.3	0.2	0.5	0.4	0.5	0.7	1.2	0.4	0.3	0.9	0.9	0.6	0.7	0.5	1.1
Spain	63.2	37.0	34.8	25.4	48.8	33.6	79.9	87.4	43.0	31.7	41.7	22.9	19.9	20.1	21.4	39.0
Sweden	34.7	7.1	6.6	18.7	16.7	21.4	17.5	26.8	21.8	13.3	12.5	4.4	9.4	8.2	18.3	13.7
United Kingdom	253.1	65.7	53.4	55.0	73.3	65.0	72.4	165.4	128.8	58.8	25.5	14.9	45.0	141.6	117.7	135.7

Source: EUROSTAT direct investments
main indicators

(r) Data subject to revision

: Data missing or confidential

Japan	34.1	42.7	34.2	25.5	24.9	36.8	40.0	53.6	9.0	6.9	9.7	5.6	6.3	2.3	-5.2	16.4
United States	172.3	158.8	163.5	132.5	196.4	7.3	192.1	243.2	347.7	186.4	89.3	56.6	107.2	88.3	192.7	199.6
Other non-EU OECD countries	115.8	83.5	53.3	54.5	78.4	75.4	126.2	122.0	146.8	96.0	70.6	50.9	63.9	36.8	134.5	164.1
OECD total	1337.1	770.6	655.2	551.5	649.6	698.9	961.0	1326.5	1392.4	708.7	608.5	411.1	394.9	600.2	832.4	999.1

Source : OECD

(r) Data subject to revision

Annex IV direct investment outward and inward investment stock and flows by EU member state and destination/source category, 2006

(EUR billion)

	Outward stock by destination category							
	Large EU neighbour	EU15 neighbour	NMS neighbour	Large EU non-neighbour	Other EU non-neighbour	Large non-EU	Rest of the World	World
Austria	6.3	2.2	13.7	10.3	12.0	6.1	12.8	63.4
Belgium	234.2	0.0	0.0	-0.3	54.0	22.2	79.1	367.0
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Bulgaria	0.0	1.3	0.0	0.5	0.6	0.3	1.1	3.8
Cyprus	0.2	0.0	1.2	0.5	0.6	0.1	0.9	3.4
Czech Republic	171.8	45.9	25.1	91.3	58.2	180.6	125.8	698.7
Germany	11.3	12.4	1.9	29.5	14.4	19.5	24.3	113.3
Denmark	0.0	0.1	0.9	0.1	1.2	-0.0	0.4	2.7
Estonia	25.3	21.2	0.0	151.7	39.2	39.9	109.8	387.2
Spain	0.0	19.0	1.3	32.0	3.6	5.1	10.4	71.3
Finland	129.4	41.8	0.0	95.5	37.9	180.6	562.7	1,047.9
France	0.0	0.1	6.3	1.4	2.8	1.1	5.5	17.0
Greece	0.0	0.0	2.9	9.2	1.0	18.1	4.9	36.2
Hungary	24.3	0.0	0.0	22.7	2.1	11.8	32.9	93.8
Ireland	27.6	5.0	0.5	158.9	19.9	31.8	44.0	287.7
Italy	0.0	0.0	0.3	0.0	0.2	0.0	0.3	0.8
Lithuania	28.1	0.0	0.0	33.3	12.3	5.3	25.9	104.8
Latvia	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.4
Malta	0.0	0.0	0.0	0.1	0.1	0.0	0.6	0.8
Netherlands	184.2	0.0	0.0	79.9	68.6	111.1	102.0	545.8
Poland	0.3	0.3	2.9	4.7	0.7	2.3	1.2	12.4

Portugal	8.2	0.0	0.0	10.6	8.2	0.7	15.2	42.9
Romania	0.0	0.0	0.1	0.2	0.0	0.0	0.4	0.7
Sweden	8.6	44.2	5.2	60.0	7.5	31.4	36.9	193.7
Slovenia	0.0	0.1	0.0	0.5	0.3	0.1	2.5	3.5
Slovakia	0.0	0.0	0.6	0.1	0.1	0.0	0.2	0.9
United Kingdom	196.4	34.5	0.0	153.8	70.0	290.7	348.7	1,094.1
EU27 total*	1,737.1	326.8	93.4	1,556.7	601.4	1,267.5	1,438.7	7,021.7

Source: EUROSTAT direct investments main indicators, London Economics calculations

(*) Data for individual Member States based on Eurostat published data. EU27 total scaled to match EU27 aggregate, so rows do not sum to EU27 total.

	Outflows by destination category							
	Large EU neighbour	EU15 neighbour	NMS neighbour	Large EU non-neighbour	Other EU non-neighbour	Large non-EU	Rest of the World	World
Austria	-0.8	1.1	1.7	1.3	1.8	-0.2	3.1	7.9
Belgium	27.9	0.0	0.0	-0.0	4.8	2.6	9.4	44.8
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Bulgaria	0.0	0.0	0.0	0.1	0.0	0.0	0.6	0.7
Cyprus	0.1	0.0	0.1	0.5	0.4	0.0	0.1	1.2
Czech Republic	1.7	-1.7	2.8	7.9	21.5	23.5	19.8	75.5
Germany	2.3	1.3	0.2	-4.2	-0.2	2.1	5.3	6.8
Denmark	0.0	0.2	0.3	0.0	0.3	0.0	0.1	0.9
Estonia	5.9	2.1	0.0	45.1	6.8	8.5	11.5	79.9
Spain	0.0	-2.5	0.2	4.0	0.1	-0.0	0.7	2.5
Finland	32.6	4.4	0.0	8.4	4.5	25.5	16.3	91.7
France	0.0	0.0	0.5	-0.3	0.2	0.1	2.9	3.3
Greece	0.0	0.0	0.3	2.6	0.7	8.3	3.0	15.0
Hungary	4.5	0.0	0.0	-3.4	-0.0	4.0	6.7	11.7
Ireland	1.9	0.1	0.1	12.1	4.3	5.3	9.6	33.5
Italy	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.2
Lithuania	14.9	0.0	0.0	29.9	11.9	11.9	19.5	88.2
Latvia	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Malta	0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	0.0
Netherlands	-4.3	0.0	0.0	8.7	9.6	5.9	17.6	37.5
Poland	0.1	0.0	2.0	3.8	0.2	0.6	0.3	7.1

Portugal	0.6	0.0	0.0	0.8	0.3	0.2	3.7	5.6
Romania	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.3
Sweden	-0.9	3.1	-0.0	7.6	1.4	1.3	5.0	17.5
Slovenia	0.0	0.0	0.0	0.1	0.0	0.0	0.6	0.7
Slovakia	0.0	0.0	0.1	0.2	0.0	-0.0	0.0	0.3
United Kingdom	-2.9	7.5	0.0	-12.3	12.3	10.6	57.2	72.4
EU27 total	83.5	15.7	8.5	112.8	81.2	110.7	193.2	605.6

Source: EUROSTAT direct investments main indicators, London Economics calculations

	Inward stock by source category							World
	Large EU neighbour	EU15 neighbour	NMS neighbour	Large EU non-neighbour	Other EU non-neighbour	Large non-EU	Rest of the World	
Austria	25.8	1.1	-0.0	14.6	4.8	9.4	7.8	63.4
Belgium	361.7	0.0	0.0	0.0	102.7	25.4	15.6	480.0
Luxembourg	0.0	0.8	0.1	2.1	3.7	0.4	8.9	16.0
Bulgaria	0.0	3.1	0.0	2.9	0.7	1.0	3.3	11.1
Cyprus	12.8	6.9	1.2	26.9	5.9	4.9	2.8	61.5
Czech Republic	273.7	31.8	0.8	46.8	49.9	112.4	55.8	571.3
Germany	4.5	19.2	0.1	40.5	9.4	13.6	15.4	102.8
Denmark	0.0	6.3	0.2	1.1	0.7	0.3	0.9	9.6
Estonia	22.3	14.0	0.0	187.2	28.8	64.7	17.3	334.4
Spain	0.0	29.0	0.1	13.6	3.1	1.8	2.9	50.5
Finland	99.0	48.4	0.0	90.9	14.3	112.2	414.0	778.9
France	0.0	0.5	1.2	23.5	0.8	2.4	2.9	31.4
Greece	0.0	5.9	0.0	30.7	4.4	3.1	44.9	89.0
Hungary	16.4	0.0	0.0	67.7	8.9	13.3	12.6	118.9
Ireland	42.7	2.2	0.2	108.1	18.7	39.0	13.0	223.8
Italy	0.0	0.9	2.0	1.5	2.7	0.3	1.0	8.4
Lithuania	36.7	0.0	0.0	54.0	13.1	5.5	21.5	130.8
Latvia	0.0	0.9	0.8	1.2	1.2	0.4	1.2	5.7
Malta	0.0	0.2	0.0	1.1	1.3	0.2	1.9	4.8
Netherlands	135.8	0.0	0.0	52.5	34.8	90.4	67.8	381.3
Poland	15.5	6.0	0.2	43.9	14.7	9.3	4.9	94.5

Portugal	0.0	15.6	0.0	26.1	3.6	2.1	17.1	64.6
Romania	0.0	0.0	0.7	13.2	15.8	3.0	1.8	34.5
Sweden	11.3	21.9	-0.2	73.9	0.1	39.6	17.2	163.7
Slovenia	0.0	2.6	0.0	2.4	0.3	1.1	0.4	6.8
Slovakia	0.0	4.2	3.4	14.4	5.3	1.1	1.0	29.3
United Kingdom	262.5	12.2	0.0	90.6	54.0	292.4	147.0	858.6
EU27 total	1,957.4	287.4	11.5	1,528.6	489.2	1,201.5	855.8	6,331.3

Source: EUROSTAT direct investments main indicators, London Economics calculations

(*) Data for individual Member States based on Eurostat published data. EU27 total scaled to match EU27 aggregate, so rows do not sum to EU27 total.

	Inflows by source category							World
	Large EU neighbour	EU15 neighbour	NMS neighbour	Large EU non-neighbour	Other EU non-neighbour	Large non-EU	Rest of the World	
Austria	3.3	0.1	-0.1	1.3	0.5	-2.0	1.4	4.5
Belgium	38.4	0.0	0.0	0.0	8.2	2.7	1.7	50.9
Luxembourg	0.0	0.3	0.0	1.8	1.7	0.3	2.0	6.0
Bulgaria	0.0	0.2	0.0	0.0	0.1	0.0	0.8	1.2
Cyprus	0.9	0.7	0.3	2.1	0.1	0.4	0.2	4.8
Czech Republic	7.3	4.4	0.6	2.3	4.7	4.3	20.5	44.0
Germany	-0.2	2.3	-0.0	2.6	-0.3	-0.7	-0.9	2.9
Denmark	0.0	1.1	0.1	0.1	0.1	-0.1	0.1	1.3
Estonia	1.6	0.4	0.0	10.3	3.3	3.7	2.2	21.4
Spain	0.0	1.6	-0.0	1.7	0.7	0.0	0.5	4.4
Finland	24.5	8.6	0.0	12.5	4.7	8.4	6.0	64.6
France	0.0	0.1	0.2	3.6	0.1	0.2	0.1	4.3
Greece	0.0	0.9	-0.0	5.1	2.4	2.1	5.3	15.8
Hungary	2.2	0.0	0.0	-8.5	4.6	0.6	0.4	-0.7
Ireland	8.9	0.1	0.0	14.6	4.8	2.1	0.7	31.2
Italy	0.0	0.1	1.8	0.2	0.3	0.0	-1.0	1.4
Lithuania	11.7	0.0	0.0	52.4	10.5	6.4	18.5	99.6
Latvia	0.0	0.2	0.3	0.3	0.3	0.1	0.3	1.3
Malta	0.0	0.1	0.0	0.1	0.0	0.1	1.2	1.5
Netherlands	7.5	0.0	0.0	-7.7	2.5	3.6	0.5	6.4
Poland	2.7	0.4	0.1	7.1	3.0	1.0	1.0	15.2

Portugal	0.0	1.9	0.0	2.7	0.5	0.2	3.8	9.0
Romania	0.0	0.0	0.2	2.8	5.4	0.5	0.1	9.1
Sweden	-0.1	0.4	0.0	11.1	-1.7	8.6	-0.1	18.3
Slovenia	0.0	0.2	-0.0	0.3	0.0	0.0	-0.0	0.5
Slovakia	0.0	0.4	0.4	1.0	1.1	0.1	0.3	3.3
United Kingdom	26.7	1.3	0.0	-2.8	35.0	27.4	30.2	117.7
EU27 total	135.4	25.7	3.8	116.7	92.5	70.0	95.8	539.9

Source: EUROSTAT direct investments main indicators, London Economics calculations

Annex V Sectoral distribution of inward FDI position in various EU Member States

Sectoral share of inward FDI position for top five sectors and total share of top five and top 10 sectors, by country, latest available data (either 2005 or 2006)															
Sector		AT	CY*	CZ	EE	FI*	FR	IE*	LT*	LV	NL*	RO*	SI*	SK	UK
Financial intermediation	Share	10.7%	42.9%	18.8%	38.8%	32.1%	16.2%	39.2%	15.9%	21.4%	19.1%	22.3%	20.7%	18.3%	20.6%
	Rank	3	1	1	1	1	2	1	2	1	2	1	1	1	1
Real estate and business activities	Share	45.1%	26.1%	12.3%	17.2%	13.0%	53.5%	4.5%		16.5%	26.7%	9.0%	15.8%		7.0%
	Rank	1	2	2	2	2	1	5		2	1	5	4		5
Trade and repairs	Share	18.3%	16.1%	9.8%	8.8%		6.5%		10.7%	14.0%	10.4%	12.2%	16.6%	11.8%	9.9%
	Rank	2	3	4	4		4		4	3	4	2	3	3	4
Total petroleum, chemical, rubber, plastic	Share	5.6%				5.8%	7.6%	33.4%	26.4%		16.6%		18.2%	8.7%	
	Rank	4				4	3	2	1		3		2	5	
Transport, storage and communication	Share		1.7%	12.1%		11.5%			10.8%	11.5%		9.3%			10.1%
	Rank		5	3		3			3	4		4			3
Total textiles	Share				5.9%			5.3%					5.1%	9.3%	

and wood activities	Rank				5			4					5	4	
Food products	Share	4.5%				5.6%					8.8%				
	Rank	5				5					5				
Electricity, gas and water	Share								10.5%	11.2%					
	Rank								5	5					
Total metal and mechanical products	Share										9.5%		12.1%		
	Rank										3		2		
Total vehicles and other transport equipment	Share			9.2%			2.2%								
	Rank			5			5								
Construction	Share		2.1%												
	Rank		4												
Mining and quarrying	Share														17.0%
	Rank														2
Private purchases and sales of real estate	Share				10.7%										
	Rank				3										

Total office machinery, computers	Share							5.8%							
	Rank							3							
Top 5 sectors' share	Share	84.2%	88.9%	62.2%	81.4%	68.0%	86.0%	88.2%	74.3%	74.6%	81.6%	62.3%	76.4%	60.2%	84.2%
Top 10 sectors' share	Share	97.5%	92.3%	91.1%	95.2%	83.2%	94.3%	93.9%	94.4%	90.0%	97.2%	88.4%	97.0%	93.7%	88.6%

Source: EUROSTAT direct investments positions, breakdown by country and economic activity, London Economics calculations

* data for 2006

Part II: Contribution of foreign-owned firms to the EU economy

7 Introduction to Part II

This part of the report consists of four different sections:

1. Section 8 provides a review of the literature on the impact of foreign-owned firms in industrialised and transition countries in Central Europe;
2. Section 9 below describes the data and data source used in the analysis below;
3. Sections 10 and 11 discuss the contribution of foreign-owned firms to the EU economy using respectively from the Amadeus databank and Eurostat;
4. Section 12, using a number of different economic indicators, examines whether the economic performance of foreign-owned firms differs from that of domestic firms.

8 Review of the literature

8.1 Introduction to review of the literature

There exists a view body of studies examining a variety of aspects of FDI, such as the macroeconomic and microeconomic determinants of FDI inflows and outflows, and the macro and microeconomic impacts and effects of FDI inflows on host and source countries.

The present literature focuses on the microeconomic impacts. As was already noted in the introduction to the present report, the literature review focuses exclusively on the impact of FDI on industrialised economies and the transition economies of Central and Eastern Europe, since the purpose of the literature review is to provide background information for the analysis of the impact of foreign-owned firms on the EU economy. Therefore, the literature review does not survey the vast literature examining the impact of FDI on developing and emerging economies.

The first distinction to be made in the discussion of foreign direct investment is between physical investment abroad, in operating business activities, and financial investment, which could be by private firms or, increasingly commonly, by sovereign wealth funds.

The primary concern for analysis of foreign direct investment, regardless of which type of investment is being considered, is how it will affect economic performance.

There are two central themes to the literature regarding direct investment by foreign firms in a host economy: the difference in productivity between foreign and domestic firms and the extent to which knowledge transfer is enhanced by the presence of foreign firms in a host economy. Subsequent intricacies in these themes relate to the cause of any differences and the direction of knowledge flows.

Popular topics of interest on the productivity front are whether the differences are symptomatic of the investment choices, or of the production processes, or of some specific characteristics of foreign firms that domestic firms cannot replicate.

In investigating the transfer of knowledge, researchers have tried to establish what the host economy gains, and the extent to which knowledge spills over beyond the foreign firm's walls, whether the foreign firm stands to benefit

from knowledge spill-over from its host economy, and whether the foreign firm can transfer any knowledge gained back to its home economy.

The findings suggest that there are so many idiosyncrasies pertaining to each combination of industry type and the relative standing of the two economies in question, that the effect of direct investment is not uniform, but, rather, depends on the balance of these factors in each situation.

The broad finding is that there is little about the difference in productivity achieved by foreign firms that cannot be explained by some difference in the mix of their usage of factors of production. Rather than their foreignness, it is their success that has given them the opportunity and the financial foundation to invest abroad.

Knowledge appears to diffuse from high concentration to low. Historically, investment abroad has been the preserve of established firms looking to extend their market reach and compete more directly with firms in host economies. There is evidence (described below), however, that knowledge transfer is not limited to moving from foreign firms to their host economy, but may move in the opposite direction, and that this knowledge can be transmitted back to the foreign firm's home economy. This implies that an economy can benefit from its own firms going abroad, which, up until recently, had not been extensively explored by research in this field.

8.2 Theoretical foundations for FDI affecting economic performance

Economic theory predicts that economic investment (in human and physical capital) raises economic performance by raising productivity, thus raising the output of the economy. At the same time, in doing so, investment increases the level of aggregate demand, since some share of the productivity increase can be appropriated by the work force in higher incomes.

Inward foreign direct investment, in particular, has been welcomed by countries, not only for the effect explained above, but also for the particular expectation that this form of investment is more potent in directly achieving productivity gains and also results in knowledge transfer from the foreign economy to the host economy via spill-over effects. These spill-over effects are externalities, whereby the transfer of knowledge is gained as an indirect consequence of the business activity, and the beneficiaries do not pay the source of knowledge for their gain.

To the extent that knowledge spill-overs do exist and are substantial, "international technology diffusion is important because it determines the pace at which the world's technology frontier may expand in the future"

(Keller, 2004). Foreign direct investment is a potentially important supply-side factor in the expansion of this frontier.

In a review of the literature regarding technology diffusion, Keller (2004) highlights a number of models that explore the mechanisms by which multinational enterprises (MNEs) may transfer knowledge. He cites a model, by Fosfuri, Motta and Rønde (2001), in which domestic firms gain from the training and turnover of workers at MNEs. These workers take their skills on to new job and enterprises, from which the knowledge is then able to spread further still. A second model (Rodriguez-Claré, 1996) explores the effect that high-quality intermediate inputs, produced by MNEs, have on domestic firms.

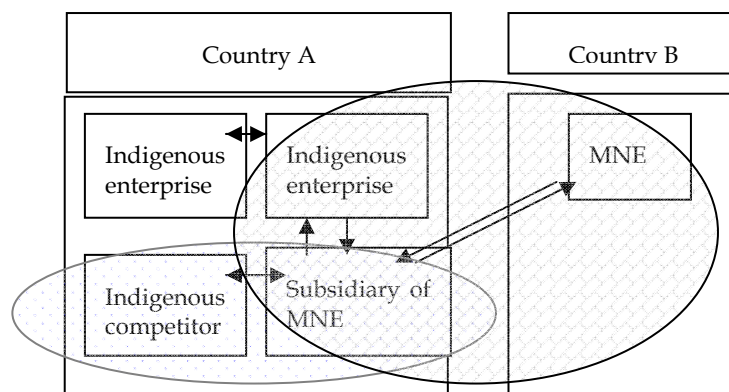
8.3 Empirical evidence of the effect of FDI

Different types of knowledge spill-over from FDI

When we want to evaluate the spill-over effects of FDI, it is useful to differentiate between the different types of knowledge and technology flows that may arise from FDI. Singh (2006) isolates six different flows of knowledge in and out of FDI host countries (these flows are illustrated in figure 1):

- Between indigenous enterprises in the host country;
- Between foreign controlled subsidies and indigenous competitors;
- From foreign subsidies to domestic enterprises in the host country;
- From domestic enterprises to foreign controlled subsidies;
- From foreign subsidiary in the host economy to parent in the home economy; and
- From parent in the home economy to foreign subsidiary in the host economy.

Figure 27: Knowledge flows between foreign and domestic firms



Typically however, the literature evaluating spill-over effects of FDI and productivity gains arising from such spill-overs, focus on just one or two of these flows. The most commonly analyzed flows are those of intra-industry spill-overs in the host country. Intra-industry spill-overs are referred to as horizontal spill-overs (Jabbour and Muccuilli, 2007). In addition, some studies analyze inter-industry spill-overs. These are typically referred to as vertical spill-overs (Jabbour and Muccuilli, 2007). These can be either direct between the parent company and the subsidiary or indirect between the foreign controlled subsidiary and indigenous up- or downstream companies.

We will consider horizontal and vertical spill-overs in turn because it is important to understand the channels through which knowledge spill-over happens (Keller, 2004).

Productivity gains from horizontal spill-overs in host countries

Horizontal knowledge spill-over is intra-industry related and may arise through i) informal networks (Haskel et al, 2004), ii) labour turnover (Haskel et al, 2004), iii) demonstrations (Griffith et al, 2002), and iv) pressures from increased competition (Griffith et al, 2002).

Jabbour and Muccuilli (2007), however, argue that horizontal spill-overs could be limited because foreign affiliates do not have a strong strategic

interest in diffusion of their technology and knowledge to local competitors. This could especially be the case if technological superiority of foreign affiliates is the main element of their competitive advantage (Jabbour and Muccuilli, 2007). As a result foreign-owned companies might try to limit knowledge diffusion through informal networks, labour turnover and demonstrations.

In addition, horizontal spill-over effects arising from competition might not be positive. Though increased competition could induce productivity improvements among competitors as a way to stay competitive, it could also imply that domestic firms are crowded out (Jabbour and Muccuilli, 2007; and Damijan et al, 2003). This is particularly likely to have happen in transition economies where FDI in the early stages could be associated with a sudden competition that indigenous firms are unprepared for (UNECE, 2001). Another consequence of increased competition is that indigenous firms that are not crowded out are likely to face increased competition in the labour market. Therefore, highly skilled workers may move away from indigenous firms, thus affecting productivity in indigenous firms negatively (Gorodnichenko et al, 2007).

Many studies have attempted to analyze if there are positive productivity gains from horizontal knowledge and technology spill-overs related to FDI in host countries. To do this researchers typically regress total factor productivity on a measure of the degree of foreign involvement in the sector or industry. Despite the large literature in the area, little consensus about the conclusion has been reached.

Grog and Stool (2001) use meta-analysis methods to analyze the results in 21 empirical studies of horizontal spill-overs. The studies are based on data from many different countries such as Mexico, the Czech Republic, the UK, Spain, Portugal, Canada, and Indonesia. They do not draw any firm conclusions about whether FDI actually leads to intra-industry knowledge spill-overs. However, they do observe that the results in the area are mixed. This conclusion is supported by two relatively recent surveys by Hanson (2001) and by Grog and Greenaway (2002). Both surveys conclude that there is no support for substantial intra-industry productivity effects of FDI in host countries.

According to Keller (2004), though, the pessimistic findings tend to arise when inappropriate and simplistic methods are applied and when data is not detailed enough. This claim is somewhat supported by the findings of the meta-analysis by Grog and Stobl (2001). In particular, Grog and Stobl (2001) conclude that the results of empirical studies in the area are sensitive to the methodology used and the variables used to define foreign presence. Studies using cross-section data tend to conclude that the productivity gains are rather large, whereas many studies using panel data find a negative effect of FDI on productivity (Grog and Stobl, 2001). Further, the main conclusion of

the studies generally depends on the country and sector under consideration (Barrios and Stobl (2002)).

On the other hand, Grog and Stobl (2001) conclude that there are no differences between studies using firm level data and those using industry level data. Thus, while the meta-analysis suggests that results depend on the methodology, it does not suggest that more advanced data or methods will be more likely to provide positive results. Interestingly, Keller (2004) on the other hand claims, with evidence from some of his own research (Keller and Yeaple, 2008), that more detailed datasets and more sophisticated techniques for isolating factors show significant and substantial knowledge spill-over effects. Consequently, Keller (2004) concludes that there seems to be some consensus in the FDI literature that there is positive horizontal spill-over from FDI.

Since conclusions seem to be highly dependent on the countries considered, we will focus on the results of empirical studies using data from industrialized countries and transition economies. In a European context, the possible existence of productivity gains from FDI raises interesting possibilities. If FDI induces technological transfer, knowledge spill-over and thus productivity gains in the host countries then FDI could be a means to facilitating convergence among old Member States and recently acceded Member States.

Griffith et al (2002) argue that the UK is an interesting case for studies of the effects of FDI for two reasons. Firstly, the UK has had a substantial inflow of FDI in the 1980s and 1990s. Secondly, the UK is generally thought to lag behind the international technology frontier and so there is a potential for productivity gains. Therefore, the experiences of FDI in the UK are relevant when we consider effects of FDI in industrialized countries as well as in transition economies. Griffith et al (2002) use UK manufacturing data from 1980 to 1992 and consider the degree of convergence of total factor productivity towards the technological frontier and the extent to which convergence is affected by foreign presence within an industry. They find evidence of intra-industry convergence in total factor productivity. That is, firms far away from the technological frontier experience faster growth rates in productivity. Further, Griffith et al (2002) conclude that foreign presence within an industry raises the speed of convergence.

These results are in line with those of Haskel et al (2004). Using plant-level data from the UK manufacturing sector from 1973 to 1992, Haskel et al (2004) find evidence of a positive effect of FDI on total labour productivity at the industry level. However, this result turns out not to hold at the regional level. That is, spill-overs are not attached to geographical areas rather they follow industry lines. Haskel et al (2004) further estimate that the size of the spill-overs in terms of per-job value is relatively small and does not justify government spending to attract FDI.

Keller and Yeaple (2008), using a more sophisticated methodology than most micro-level studies, find statistically significant and, moreover, substantial effects of horizontal knowledge spill-over in US manufacturing from 1987 to 1996. The authors estimate FDI spill-overs to have been responsible for 8-19% of the productivity growth observed over the period. However, the impact of spill-overs was not symmetrical: they were particularly strong in high-tech sectors, but largely absent in low-tech sectors. A further finding of the paper was that there seems to be convergence in productivity because small, low productivity firms benefited more from spill-over effects than large, more productive firms.

However, not all studies for industrialized countries suggest that there are positive horizontal spill-overs. Jabbour and Muccielli (2007) use a panel of Spanish manufacturing firms from 1990 to 2000. They find that horizontal spill-overs are negative. In other words, the potential for knowledge transfer is more than crowded out by the increased competition in the local market. These findings are in line with those of Barrios and Strobl (2001) who find that horizontal spill-overs in the Spanish manufacturing industry are insignificant when they control for the competitiveness of the host market. The results of these studies using only Spanish data are, however contrary to the findings of Barrios et al (2004) who undertake a comparative analysis of horizontal spill-over in Greece, Ireland and Spain. In order to do this, they construct a comparable panel data set covering the period from 1992 to 1997. They find evidence of positive horizontal spill-over from FDI in Ireland and Spain. The authors, however, stress that results are sensitive to the definition of foreign ownership (they use majority ownership).

The results for Ireland in Barrios et al (2004) are similar to those found by Ruane and Uur (2005). They use a plant-level panel dataset for Irish manufacturing firms in 1991-1998. They find some weak support for positive horizontal spill-over effects. However, this result does not arise when the conventional method to account for foreign presence is used. Instead it arises only when foreign presence is measured as the level and not the share of employment in the relevant sector.

Let us conclude the literature review for European industrialized countries with a study by Flôres et al (2007). They use data from the Portuguese manufacturing sector from 1992 to 1995 and find positive and significant horizontal spill-overs if the gap between the technology of the foreign subsidiary and that of the indigenous competitors is within an optimal range. Further, Flôres et al (2007) conclude that spill-overs seem to occur in sectors with large-scale gains and in relatively new sectors. This latter result is consistent with the finding of Keller and Yeaple (2008) who find spill-over effects to be largest in high-tech sectors.

The large literature focusing on horizontal spill-overs in industrialized countries has been supplemented by a substantial body of literature studying

the spill-over effects of FDI in the transition economies of Central and Eastern Europe (for instance (Gorodnichenko et al, 2007; Djankov and Hoekman, 2000a; Damijan et al, 2003; Vahter and Masso, 2006; and Stančik, 2007).

Djankov and Hoekman (2000a) analyze Czech enterprises from 1992 to 1996. They find that their horizontal spill-over variable is statistically significant and negative. Djankov and Hoekman (2000a) suggest that this finding can be explained by the fact that intra-industry productivity gains from horizontal spill-overs need more time than the period covered in their study to arise. Alternatively, they suggest that the results could be due to poor data quality. Whatever the reason, their results are consistent with those other studies using data from the Czech Republic. Stančik (2007), for instance, uses data from 1995 to 2003 for the manufacturing and service sectors in the Czech Republic and finds that there are negative horizontal spill-overs from FDI. These negative spill-overs lag 2 years behind the actual investment. That is, indigenous companies within the same sector as the foreign controlled subsidiary are negatively affected by increased competition but the effect does not occur for the first 2 years after the investment is initiated. Kinoshita (2000) and Jarlim (2001) use manufacturing data from the Czech Republic from the 1990s and both studies find no horizontal spill-over effects.

Other studies analyzing FDI the transition economies reach similar mixed conclusions. For instance, Vahter and Masso (2006) analyse FDI using enterprise-level panel data from Estonia from 1995 to 2002. They conclude that while there might be positive horizontal spill-over effects in some specifications, the statistical significance is not robust to the specification of the model. Similarly, Javorcik (2004) uses data from Lithuania from 1996 to 2000. The sample mainly consists of manufacturing firms. She finds no evidence consistent with the existence of horizontal spill-overs.

Interestingly, Altomonte and Pennings (2005) conclude that there were only positive horizontal spill-overs of the first few foreign investments in each sector in Romania from 1995 to 2001. As more multinational firms (MNFs) moved into each sector, horizontal spill-overs turned insignificant or negative. This suggests that when the number of MNFs in a sector is small then the knowledge transfer dominates but as more MNFs enter the competition effects dominate. This argument, however, does not explain why positive horizontal spill-overs tend to be found in industrialized countries where many MNFs operate.

Sgard (2001) also suggests that the degree of competition is important. He analyses a sample of Hungarian manufacturing and construction enterprises from 1992 to 1999 and concludes that the horizontal spill-over effects are positive and substantial. But, benefits mainly arise if the foreign-owned firm is exporting, such that crowding out of the domestic firms is limited. This result is consistent with that of Schoors and van der Tol (2002) who also use Hungarian data.

Some comparative studies of the spill-over effects of FDI in transition economies also exist. Gorodnichenko et al (2007) use firm-level data from a broad sample of 17 transition countries in Central and Eastern Europe, Balkan and Central Asia from 2002 to 2005. Data is collected from both manufacturing and service sectors while many other studies focus only on the manufacturing sector. Gorodnichenko et al (2007) conclude that horizontal spill-overs mostly are insignificant but that they are positive for old firms and firms in the service sector. Gorodnichenko et al (2007) also analyze whether FDI is more effective if the parent company is located in an advanced country. They conclude that spill-overs are not affected by the home country of the parent. Gorodnichenko et al (2007) also show that FDI is unaffected by the quality of the business environment in the host country.

Another comparative study is that of Damijan et al (2003). They use data from more than 8,000 firms in 10 advanced transition countries from 1995 to 1999. While their results do suggest that there are positive and statistically significant horizontal spill-overs, the size of the horizontal spill-overs are shown to be negligible compared to the size of vertical spill-overs. Hence Damijan et al (2003) conclude that vertical spill-overs are far more important than horizontal spill-overs. This is also the conclusion reached by Schoors and van der Tol (2002).

These findings of positive horizontal spill-overs are contrary to the findings in comparative studies by Konings (2000), Torlak (2004) and UNECE (2001). Konings (2000) concludes that there are no horizontal spill-overs in Poland while there are negative horizontal spill-overs in Bulgaria and Romania. UNECE (2001) and Torlak (2004) draw even more pessimistic conclusions. UNECE (2001) using data from 1993 and 1998 from the Czech Republic, Hungary, Poland and Slovenia conclude that there are no positive horizontal spill-overs and that the presence of FDI has been associated with relatively poor growth in manufacturing sectors. Torlak (2004) find either insignificant or negative horizontal spill-overs in Poland, Hungary, Romania, Bulgaria and the Czech Republic on data from manufacturing firms in 1993-1999.

In summary, the results of studies evaluating horizontal spill-over effects of FDI are very mixed. However, in general, studies conducted on data from developed countries seem more likely to suggest that there might be positive horizontal spill-over effects, while studies using data from transition economies often find that horizontal spill-overs are insignificant or negative (Gorodnichenko et al, 2007). Overall, the studies discussed in this section, along with the papers included in the meta-analysis by Grog and Strobl (2001), tend to suggest that negative spill-over effects typically are found in studies of less advanced transition economies. In advanced transition economies, horizontal spill-overs seem to be mainly insignificant. This conclusion suggests that more advanced economies are better able to extract the potential positive spill-overs associated with FDI. This has given rise to

speculations about whether it is important to control for the absorptive capacity of the host economy.

Absorptive capacity of host countries

A very common topic in the literature is the importance of absorptive capacity. Many authors (among them Jabbour and Muccielli, 2007; Barrios et al, 2004; and Barrios and Strobl, 2001) have argued that the extent to which technology transfer is successful could depend on the absorptive capacity of the indigenous firms in the host country. Knowledge diffusion is believed to be more efficient in firms with rather highly skilled workers and relatively modern technology. Therefore, it is typically expected that the gap between the technology of the foreign parent and that of the domestic industry cannot be too large if the full productivity effects are expected to be achieved. Barrios et al (2004), for instance, argue that it is possible to explain the lack of spill-over effects in Greece by a low ability to absorb spill-overs in the sectors affected by FDI. In Greece, FDI is primarily directed at traditional low-tech sectors. This argument is in line with Keller and Yeaple's finding that spill-overs are particularly strong in high-tech sectors.

However, the empirical results from studies testing the importance of absorptive capacity are mixed. Barrios and Strobl (2001) argue that exporting companies are more competitive and productive, and therefore better able to absorb spill-overs. Therefore, they further argue that their finding that exporting indigenous firms are more likely to benefit from positive spill-overs from foreign firms in their sector supports the idea that absorptive capacity is necessary. However, if Barrios and Strobl (2001) use the level of R&D as a proxy of absorptive capacity, they do not find support for the importance of absorptive capacity. These findings illustrate the typical findings in this area very well.

Kinoshita (2000) claims that absorptive capacity is important and shows that when she controls for it, horizontal spill-overs are in fact positive. To control for absorptive capacity, she uses a dummy for whether the firm has a R&D department. Similarly, Flôres et al (2007) argue that FDI spill-overs only occur if the gap between the technology of foreign-owned establishments and that of domestic establishments is not too large. They argue that some difference in technology is necessary for spill-overs to occur but that there is an optimal range for the technology gap. These findings are consistent with those of Schoors and van der Tol (2002).

Damijan et al (2003) on the other hand finds no effect of absorptive capacity, but conclude that this may be because the proxy used for absorptive capacity is poor. Similarly, Djankov and Hoekman (2000a) draw the very vague conclusion that there are indications of an effect of absorptive capacity.

Finally, Gorodnichenko et al (2007) conclude that there is only limited support for the effects of absorptive capacity. In particular, they find that the distance from the efficiency frontier tends to dampen horizontal spill-overs in manufacturing. This suggests that absorptive capacity is important. However, on the contrary, Gorodnichenko et al (2007) also find that firms with highly educated workers do not have larger benefits from FDI than firms with less well educated workers. This latter finding would tend to suggest that absorptive capacity is unimportant for the ability of firms to realize productivity gains from horizontal spill-overs.

Vertical spill-overs in host countries

Vertical spill-overs are defined as inter-industry spill-overs running either upstream or downstream in the supply chain. Vertical spill-overs may further be classified as either direct or indirect.

- Direct vertical spill-overs are knowledge and technology transfers between the parent company and the subsidiary in the host economy.
- Indirect vertical spill-overs are transfers between the foreign subsidiary in the host economy and its indigenous suppliers and buyers (Sančík, 2007).
 - Spill-over arising when foreign-owned subsidiaries upgrade the technology of their local suppliers is channelled through backward linkages.
 - Forward vertical linkages, on the other hand, could promote upgrading of domestic final good producers with knowledge and technology from foreign-owned suppliers (Jabbour and Muccuilli, 2007).

Jabbour and Muccielli (2007) argue that vertical spill-over effects are more likely to be positive than horizontal spill-over effects because the parent has relatively strong incentives to upgrade the technology of their suppliers and/or final good producers. Though the empirical literature evaluating the effect of technology and knowledge transfer through vertical linkages is relatively small, Jabbour and Muccielli (2007) conclude that the evidence from these studies typically is rather strong. In what follows, we will focus on studies evaluating vertical spill-overs in industrialized countries and transition economies.

The positive direct vertical spill-over effects found in studies of industrialized countries is generally also found in studies using data from transition economies (Sgard, 2001; Evenett and Voicu, 2001; Djankov and Hoekman, 2000a; Vahter and Masso, 2006; Schools and van der Tol, 2002; and Torlak, 2004). For instance, Djankov and Hoekman (2000a) analyze Czech enterprises from 1992 to 1996. They find that vertical spill-overs have positive and

statistically significantly effects on productivity. This is in line with the findings of Evenett and Voicu (2001) on Czech data. Similarly, Vahter and Masso (2006) find positive direct productivity gains of FDI for Estonian data from 1995-2002. That is, there are positive vertical spill-overs from the parent to the subsidiary in the host country. Further, Djankov and Hoekman (2000a) show that spill-over effects are larger in firms that are fully owned by a foreign firm than in firms that are engaged in joint-venture with a foreign firm.

However, not all studies arrive at so such strong results. Comparative studies generally have less clear conclusions. Konings (2000), for instance, conclude that direct vertical spill-overs are positive in Poland but that there seems to be not robust evidence of vertical pullovers in Romania and Bulgaria. Similarly Damijan et al (2003) use data from more than 8,000 firms in 10 advanced transition countries and conclude that vertical spill-overs generally are positive and much more important than horizontal spill-overs. Surprisingly, however, they find that the productivity of foreign subsidiaries lag behind the productivity of indigenous competitors in Poland and the Czech Republic.

Finally, a recent body of literature analyses indirect vertical spill-overs. Jabbour and Muccielli (2007), for instance, conclude that there are positive backward and forward indirect vertical spill-overs in Spain. In other words, backwards linkages between foreign subsidiaries and local suppliers tend to increase the productivity of the domestic suppliers. Furthermore, forward linkages with foreign-owned suppliers improve the productivity of the local final-good producers.

This is consistent with the findings of Javorcik (2004) using Lithuanian data from 1996 to 2000. She finds positive spill-overs through backward linkages. Further, she concludes that spill-over effects are not determined by the geographical location of firms. She also finds that the productivity effect is larger when the firm is focused on selling in the domestic market and not purely export-oriented. The latter finding is also consistent with Jabbour and Muccielli (2007) who conclude that backward spill-overs are highest for partially-owned subsidiaries with domestic market focus. Nevertheless, the largest potential for productivity gains is in export-oriented, fully-owned subsidiaries. This implies that host country policymakers should encourage backward linkages especially in the case of export oriented and fully-owned subsidiaries. Jabbour and Muccielli (2007) further conclude that it does not matter for forward spill-overs if the subsidiaries are fully- or partially-owned by the foreign parent company.

Damijan et al (2003) also analyzes indirect vertical spill-overs in transition economies. While they conclude that direct vertical spill-over is the most important spill-over channel, they also find evidence of positive indirect vertical spill-overs in some transition economies.

Stančík (2007), on the other hand, finds that indigenous firms in the Czech Republic supplying foreign controlled subsidiaries are negatively affected by the presence of foreign investors and FDI. That is, indirect backward spill-over effects are negative. Stančík (2007) suggests that this is because foreign investors prefer to import supplies instead of buying them locally. Further Stančík (2007) concludes that there is no evidence of a forward spill-over.

Finally, Gorodnichenko et al (2007) use firm-level data from 17 countries from 2002 to 2005, and while they find that backward spill-overs are consistently positive, forward spill-overs are only positive for old firms and firms in the service sector. Similar findings are reported by Schoors and van der Tol (2002) for Hungary. They find positive spill-overs through backward linkages and negative spill-overs through forward linkages.

In the context of horizontal spill-overs we also discussed absorptive capacity. Gorodnichenko et al (2007) hypothesize that vertical spill-overs might also be affected by absorptive capacity and that this might explain their finding that forward spill-overs only are positive for old firms and firms in the service sector. However, their results only offer partial support for this hypothesis. They do find that the distance from the efficiency frontier tends to dampen backward spill-overs among old firms, suggesting that spill-overs are largest if the technology of the firm is not too old. On the other hand, however, they also find that firms with highly educated workers do not have larger benefits from FDI than firms with less well educated workers. This is contrary to what one might expect, since well educated employees would be expected to be better able to absorb new knowledge and technology spill-overs.

In summary, the evidence from both developed and developing countries tend to suggest that direct vertical spill-over effects are positive and substantial and are the most important channel of knowledge spill-over (Damijan et al, 2003). In addition there might be positive indirect vertical spill-over effects. The literature analysing the latter tend to suggest that particularly backward linkages provide a channel for knowledge spill-over to domestic suppliers. In fact, indirect spill-overs via backward linkages might be a more important channel of knowledge spill-over than horizontal linkages (Schoors and van der Tol, 2002; and Damijan et al, 2003).

Why is foreign ownership an advantage?

Understanding which firms engage in outward foreign direct investments could be essential in order to understand why studies tend to find direct vertical spill-overs. A large literature tries to describe what characterizes the multinational firms and foreign firms that engage in outward FDI.

Griffith et al (2004) consider the relationship between foreign-ownership and productivity, concentrating on the role of multinationals in service sectors and the importance of R&D activity conducted by foreign multinationals.

Their data is from 1998-2001 and cover UK-based establishments in manufacturing, services and R&D. They show that the higher productivity of foreign-owned subsidiaries largely can be explained by greater investments and by greater use of intermediate inputs per employee in the foreign subsidiaries than in indigenous competitors. This finding is consistent with that of many other studies on UK data which suggest that factor inputs largely can explain the differences in productivity, and that foreign establishments tend to make more intensive use of physical and human capital (see for instance Griffith, 1999; Oulton, 1998a; Oulton, 1998b; and Griffith and Simpson, 2003). Oulton (1998a) for instance finds that differences in physical and human capital intensity are a significant determinant of productivity gaps (as measured by value-added per worker), and in another paper, Oulton (1998b) suggests that foreign ownership is correlated with better factor inputs because foreign-owned firms, on average, use more capital and better educated workers. The better factor inputs are found to raise productivity by about a third in non-manufacturing sectors in the UK.

One might ask why domestic firms do not simply copy their foreign-owned competitors. Oulton (1998b) suggests several reasons why this is not the case. Firstly, domestic firms might face a higher cost of capital than their MNE counterparts, who are not restricted to the UK market for funding. Secondly, UK firms may face less favourable risk-return trade-offs, and hence prefer less capital-intensive technologies. Lastly, UK firms may use inferior technology and business methods, which happen to make less intensive use of capital and skilled labour. In addition, we might add that foreign multinationals also undertake a substantial proportion of domestic R&D, suggesting that they could play an important role in knowledge transfer (Griffith et al, 2004).

Particularly, the first and last arguments suggest foreign-owned subsidiaries can use better factor inputs because their parent has a considerable size and a global focus. This suggests that what is determinant of productivity might not be foreign ownership but rather MNE ownership. Griffith et al (2004) find that multinational enterprises, be they British or foreign, have more productive facilities. This is consistent with the findings of Oulton (1998b). Consequently, the distinction is not between foreign- and domestically-owned establishments, but between multinational enterprises (MNEs), regardless of base country, and non-MNEs.

The reason why foreign-owned subsidiaries show a better performance on average could then be because the bulk of domestic firms are not MNEs while a rather large share of the foreign firms that engage in outward FDI are MNEs.

A further wrinkle is provided by a study by Benfratello and Sembenelli (2005), which suggests that the transfer of technology is dependent on the relative strengths of the MNE's origin country as well as the sector in which

the activity was occurring. In order to control for the various differences between the populations, they use a very general framework to analyse total factor productivity for a large sample of firms located in Italy for the period 1992 to 1999. On the aggregate sample they find no evidence of a general effect on productivity of foreign ownership, although there is evidence of correlation: foreign firms are more likely to be in a high-tech industry and, on average, have higher labour productivity.

However, using additional control variables, Benfratello and Sembenelli (2005) find that subsidiaries of US-based MNEs post a superior performance. These firms are found to be more productive than domestically-owned firms and firms owned by other non-US countries (including other EU Member States). This is consistent with the result in Oulton (1998a), that US-owned subsidiaries, and not those of other countries, have an additional productivity advantage of between 9-20% when controlling for their use of better factor inputs.

Benfratello and Sembenelli (2005) conclude from this that the transfer of technology seems to occur only if the difference between firms is sufficiently pronounced and that EU MNEs “appear less skilled and/or less equipped to transfer their proprietary assets efficiently compared to their US counterparts”.

In summary, it seems that direct vertical spill-overs occur because foreign-owned firms on average use better factor inputs. When controlling for this factor, only US-owned firms seem to show better productivity than domestically-owned firms. Further, it seems that foreign-owned firms on average have better productivity than domestic firms because a relatively large share of foreign-owned firms is owned by MNEs. In other words, it seems that it is not foreign ownership but MNE ownership that provides productivity gains to the foreign subsidiary.

Selection

One might suspect that one of the reasons why the productivity in foreign-owned subsidiaries is generally found to be higher than the productivity of indigenous competitors is that foreign companies that engage in outward FDI through merger and acquisition carefully select the most productive firms when they choose where to make the investment. That is foreign-owned firms may not be more productive because they are foreign-owned. Instead, they may be foreign-owned because they are highly productive.

Many studies in the literature raise this point. Keller (2004) and Keller and Yeaple (2008) highlight a number of differences between MNE subsidiaries and domestic firms. Firstly, MNE subsidiaries tend to be larger and more technologically intensive than the average firm in the host country. Thus, on average, purely on the basis of their factor inputs, their observed productivity

would be expected to be higher. Secondly, the MNE subsidiary made a decision to locate in the host economy for a particular reason, whereas the average domestic firm does not have this focus. In relatively high-tech sectors, MNEs could plausibly be expected to decide their location on the basis of the ease of technology sourcing. This makes them different from the set of domestic firms and is something that would need to be controlled for in establishing the impact, and, indeed, direction of knowledge transfer.

In addition, Barrios and Strobl (2001) note that foreign firms seem to be attracted to relatively concentrated markets, in which firms are more productive. Vahter and Masso (2006) conclude that for their sample of Estonian firms there is a significant self-selection effect. That is, more productive firms attract inwards FDI.

Furthermore, Griffith et al (2004) find that within establishments that have always been or have become foreign-owned, there is less evidence of improvement in productivity over time, or relative to establishments that were taken over by British firms. This, along with the finding that takeover is the dominant form of entry for a foreign firm, suggests that selection could be at least part of the reason why observed productivity levels differ between foreign- and domestic-owned establishments.

Most recent empirical studies do control for the selection and endogeneity problems (see for instance Evenett and Voicu, 2001; Keller and Yeaple, 2008; Barrios and Strobl, 2001; and Vahter and Masso, 2006). Therefore, we conclude that the problem of selection is largely dealt with in the literature and the conclusions of these studies therefore hold even though FDI tends to flow to productive firms.

Spill-overs analysing patents and citations

Rather than looking at micro-level data, some authors (Branstetter, 2000; Singh, 2004) have used patent citations as a measure of the spread of knowledge. In a new patent application, the applicant must list the existing patents that served to form the basis for their own project. By auditing the trail of these citations, researchers can measure the flow of ideas.

Branstetter (2000) concentrates on Japanese FDI into the United States and finds that FDI increases the flow of knowledge spill-overs both from and, notably, to the Japanese subsidiaries. His data cover 1981 to 1994.

Singh (2004) extends the work of Branstetter, by looking at patent citations in each of the United States, Japan, Germany, France and the United Kingdom. Singh's research is particularly interesting. Not just because it is a comparative study, but also because he examines several potential channels for knowledge spill-overs in detail. Singh (2004) finds that the strongest knowledge flows are between international divisions of the same multinational, and between rival foreign-owned subsidiaries within a host

economy. However, in general, he found that flows within a country were much greater than cross-border inter-organizational flows. He also concludes that multinationals gained from setting up foreign subsidiaries, since the flow of knowledge from domestic to foreign subsidiaries was greater than vice versa. This is true even to the extent that the home base gained more from its subsidiary abroad than domestic companies in the host economy. The flow of knowledge between subsidiaries and their parent were at similar levels in either direction. The lowest level of knowledge transfer occurred between indigenous firms and from multinationals to indigenous firms.

The validity of these aggregate findings in individual cases depends, crucially, though, on the sector and country concerned. Whilst the pattern held for Japan, the United States and Germany, no statistically significant pattern was found for France or Canada, and the United Kingdom exhibited the contrary pattern. That is, UK firms benefited from foreign subsidiaries more than the other way around.

This highlights a point also found in the micro-level data, that the level of technological advancement plays an important role in the flow of knowledge spill-overs. Evidence from OECD (1998) suggests that, unlike in the other countries, UK firms had a lower intensity of R&D spending than the foreign subsidiaries present in the UK economy. A general conclusion, might therefore be, that the direction of knowledge flow is from leaders to laggards in a given sector and location, and, depending on whether the foreign subsidiaries tend to be leaders or laggards, the knowledge spill-overs can be found thus.

8.4 Conclusions of the literature review

As already noted in the introduction to the literature review, the findings suggest that there are so many idiosyncrasies pertaining to each combination of industry type and the relative standing of the two economies in question, that the effect of direct investment is not uniform, but, rather, depends on the balance of these factors in each situation. However, a few general conclusions do emerge from the literature.

One of the central themes in the literature is whether foreign direct investments imply that the productivity of firms receiving FDI is higher than that of domestic firms not receiving FDI. A general conclusion is that there is little about the difference in productivity achieved by foreign-owned firms that cannot be explained by some difference in the mix of their usage of factors of production. Foreign-owned firms tend to have better factor inputs. This is partly because foreign investors are attracted to high productivity firms and partly because multinational investors generally use better factor inputs than domestic firms. Rather than their foreignness, it is their success that has given foreign firms the opportunity and the financial foundation to

invest abroad. Further, it seems that foreign-owned firms on average have better productivity than domestic firms because a relatively large share of foreign-owned firms is owned by MNEs. In other words, it seems that it is not foreign ownership but MNE ownership that provides productivity gains to the foreign subsidiary.

Another central question is whether FDI enhance knowledge transfer to the host economy. Such knowledge transfer would be expected to imply productivity gains for domestic firms. It is a general finding that there are technology and knowledge spill-overs directly from the foreign firm engaging in FDI to the receiving firm in the host economy. However, the evidence is less clear about whether knowledge diffuses into other firms in the host economy.

The literature evaluating possible intra-industry knowledge spill-overs of foreign direct investments is vast but also largely inconclusive. Nevertheless, there seems to be evidence that negative intra-industry spill-over effects typically are found in studies of less advanced transition economies while these effects often are found to be insignificant and positive in advanced transition economies and developed countries, respectively. This conclusion suggests that domestic competitors of foreign-owned subsidiaries in more advanced economies are better able to extract the potential positive spill-overs associated with FDI.

A new body of literature analyses the importance of inter-industry spill-overs from the foreign-owned subsidiary to its domestic suppliers and buyers. These studies tend to find positive spill-over effects, particularly, through backwards linkages from foreign-owned subsidiaries to their local suppliers. In fact, backward linkages could be a more important channel of knowledge spill-over than intra-industry linkages.

9 Data used in analysis of impact of foreign-owned firms on the EU economy

9.1 Introduction to the data section

For the purpose of the analysis in the second part of the report we used mainly the AMADEUS company database published by Bureau Van Dijk and the ZEPHYR merger and acquisition (M&A) database, also published by Bureau Van Dijk, to create the data sets used in the analysis presented in sections 10 and 12.

Below, we provide detailed information on the two data bases and the construction of the data sets.

9.2 The Amadeus and Zephyr databases

The main data source of information used in our analysis is the AMADEUS database which is published by Bureau Van Dijk. AMADEUS is the largest pan-European data base providing information on non-financial European companies, with historic data going back to as early as 1999. The database puts together all the publicly available economic and financial performance information on EU companies. As disclosure requirements vary across EU Member States and types of companies, the amount and detail of information available in the data base is highly uneven. Nevertheless, it is the most comprehensive company-specific data base currently available.

It contains economic indicators and other information on the company level.

We also used the Mergers and Acquisitions database from the same publisher, called ZEPHYR database. It contains transaction details for Mergers and Acquisitions mostly in Europe. Since this database is published by the same publisher as the publisher of AMADEUS and the same company identifier are used in the two databases, there are some opportunities to use them jointly, as discussed later.

9.3 Data from AMADEUS

The company level data were downloaded from the March 2008 version of the AMADEUS database. In total, we downloaded economic and financial information for more than 9.4 million companies.

The economic and financial indicators of interest were the following:

- Turnover (operating revenue)
- Profit (operating profit/loss)
- Number of employees (employment)
- Cost of employees
- Fixed assets
- Shareholder funds
- Long-term debt
- Sector code (primary and secondary NACE Rev. 1.1 code).

We downloaded all the information available for the period 2000-2006¹⁵, since, at the time of the download, data availability was still very limited for 2007.

It is important to note at this stage that missing observations are a recurrent problem affecting each variable. Information regarding a specific indicator may be only partially available for a given company. More importantly, not all the indicators listed above are populated with actual data across all companies and EU Member States. Below, we provide more information on the availability of each indicator.

The downloaded data were used to create, when feasible, the following additional indicators for all companies:

- Labour productivity (turnover per number of employees);
- Value added (the sum of profit/loss and cost of employees);
- Average wage (cost of employees per number of employees); and,
- Net investment (the change in absolute value of fixed assets between year t and year $t-1$).

The next step in assembling the necessary data for the analysis involved splitting the overall sample into sub-samples of domestically and foreign-owned companies. This step is explained in detail in the next sub-section.

¹⁵ For fixed assets we downloaded data for 1999 as well.

9.4 Identifying the domestic/foreign ownership status of companies

For the purpose of the study we also needed to identify the ownership of the companies in the years between 2000 and 2006. Unfortunately, in Amadeus such information is easily retrievable only for the current ownership status but not going backwards in time.¹⁶

Since this information was not directly available, we had to create it using available information and some assumptions. The starting point of the process was the ownership status of companies as of March 2008.

The Amadeus database search option “foreign-owned companies” yielded a population of foreign-owned companies based on the latest available information regarding the “Global Ultimate Owner”.

The “Ultimate Owner” (UO) is the last company in an ownership chain concerning a specific target company. We used the following settings in the search: company B is the owner of company A if B owns 25% or more of A. The purpose of the exercise was to create a dataset which could be used both to assess the footprint of foreign-owned companies in the EU economy and examine to what extent the performance of such companies differs, if at all, from that of domestic companies. Therefore, we used a 25% threshold as, at that level, the foreign owner(s), even if not owning a majority of the company, may have a strong influence on the management and strategic direction of the company.

The companies with an UO outside the host country of the target company are defined as foreign-owned companies and those with a domestic UO are defined as domestically-owned companies. It is important to note at this stage that, in the case of all EU Member States, Amadeus did not provide any information about the ownership status of some companies. Such companies were allocated to a third ownership category “UO unknown”.

AMADEUS does not provide any information about the ownership status of any companies in Malta. Therefore, this country had to be excluded from the analysis.

¹⁶ The current ownership status can be used as a global search criterion in the Amadeus database. For information on the history of the ownership status, it is possible to search this information in Amadeus, but only one at a time for each company and year. In light of the large number of companies included in the sample, such a search strategy was not feasible and the alternative approach discussed above was adopted.

9.5 EU versus non-EU foreign ownership

The “Ultimate Owner” search also yielded the country of the “UO”. Thus, we were able to create an additional identifier in the data bases to distinguish between EU foreign-owned companies and non-EU foreign owned companies.

Joint ventures with the two types of foreign owners (EU and non-EU) were classified as being EU foreign-owned.

9.6 Ownership status over the 2000-2006 period

For the purpose of our analysis, we required information on the ownership status of the companies over the full period 2000-2006. As already noted, such information is not easily retrievable from Amadeus.

As an alternative, using the common company identifier used by Bureau Van Dijk in both the Amadeus databank and the Zephyr M&A databank, we were able to identify all the companies in our sample of companies downloaded from Amadeus which had been the subject of a completed cross-border M&A deal over the period 2006-2006.

This matching of information allowed us to identify all the companies which did not experience a change in the status of their ownership over the period 2000-2006. In other words, the combined use of the two databases allowed us to create samples of companies which were either always domestically-owned or foreign-owned (EU or non-EU) over the period of interest.

At the EU27 level, this yielded a sample of 6.925 million domestically-owned, 144,257 foreign EU-owned and 132,698 foreign non-EU owned companies, representing respectively 73.6%, 1.5% and 1.4% of all EU companies covered by the Amadeus database (see Table 11).

Table 11 also provides detailed information on the distribution of companies for each Member State. In that table, the first row for each Member State shows the size of the samples of companies whose foreign/domestic ownership status over the period 2000-2006 is the same as currently reported in the Amadeus database. The fourth category of companies is the group of companies whose ownership status is unknown.

The second row for each Member State provides for each group of companies the number of companies which were subject to a cross-border M&A operation (as reflected in the Zephyr database). Finally, the third row provides the total number of companies in each category.

Table 11: Number of companies by ownership as reflected in the March 2008 Amadeus databank						
Country		Domestic	Foreign (EU)	Foreign (non-EU)	Unknown	Total
AT	Not M&A target	155,511	6,551	2,894	253	165,209
	M&A target	166	97	53	10	326
	Total	155,677	6,648	2,947	263	165,535
BE	Not M&A target	361,241	3,376	1,523	633	366,773
	M&A target	596	230	120	67	1,013
	Total	361,837	3,606	1,643	700	367,786
BG	Not M&A target	35,786	2,850	2,561	159,362	200,559
	M&A target	0	0	0	2	2
	Total	35,786	2,850	2,561	159,364	200,561
CY	Not M&A target	647	2	5	0	654
	M&A target	17	2	3	0	22
	Total	664	4	8	0	676
CZ	Not M&A target	87,105	746	295	5,664	93,810
	M&A target	150	68	33	14	265
	Total	87,255	814	328	5,678	94,075
DE	Not M&A target	1,003,297	27,100	23,275	2,221	1,055,893
	M&A target	1,276	401	492	69	2,238
	Total	1,004,573	27,501	23,767	2,290	1,058,131
DK	Not M&A target	145,974	2,233	2,015	42,546	192,768
	M&A target	558	137	127	80	902
	Total	146,532	2,370	2,142	42,626	193,670
EE	Not M&A target	65,161	1,195	334	6,980	73,670
	M&A target	73	54	15	44	186
	Total	65,234	1,249	349	7,024	73,856
ES	Not M&A target	953,815	7,077	4,324	2,200	967,416
	M&A target	1,507	281	150	84	2,022
	Total	955,322	7,358	4,474	2,284	969,438
FI	Not M&A target	78,082	922	330	174	79,508
	M&A target	621	107	57	61	846
	Total	78,703	1,029	387	235	80,354
FR	Not M&A target	826,304	10,646	8,554	202,491	1,047,995
	M&A target	1,450	398	459	564	2,871
	Total	827,754	11,044	9,013	203,055	1,050,866
GR	Not M&A target	8,929	416	245	19,846	29,436
	M&A target	88	15	11	99	213
	Total	9,017	431	256	19,945	29,649
HU	Not M&A target	293,615	711	239	67	294,632
	M&A target	137	28	14	4	183
	Total	293,752	739	253	71	294,815
IE	Not M&A target	75,248	1,355	2,788	73,665	153,056
	M&A target	117	32	106	83	338
	Total	75,365	1,387	2,894	73,748	153,394
IT	Not M&A target	693,107	2,348	1,470	3,767	700,692
	M&A target	993	129	112	101	1,335

Table 11: Number of companies by ownership as reflected in the March 2008 Amadeus databank						
Country		Domestic	Foreign (EU)	Foreign (non-EU)	Unknown	Total
	Total	694,100	2,477	1,582	3,868	702,027
LT	Not M&A target	4,012	182	57	5,647	9,898
	M&A target	31	18	7	63	119
	Total	4,043	200	64	5,710	10,017
LU	Not M&A target	3,559	1,348	554	40	5,501
	M&A target	12	15	4	0	31
	Total	3,571	1,363	558	40	5,532
LV	Not M&A target	6,653	484	195	151	7,483
	M&A target	44	39	17	10	110
	Total	6,697	523	212	161	7,593
NL	Not M&A target	362,095	6,294	6,831	906	376,126
	M&A target	1,225	233	263	80	1,801
	Total	363,320	6,527	7,094	986	377,927
PL	Not M&A target	44,275	4,513	1,349	2,558	52,695
	M&A target	299	144	51	26	520
	Total	44,574	4,657	1,400	2,584	53,215
PT	Not M&A target	304,122	2,494	739	925	308,280
	M&A target	189	66	16	13	284
	Total	304,311	2,560	755	938	308,564
RO	Not M&A target	285,973	18,436	13,056	187,959	505,424
	M&A target	1	1	1	1	4
	Total	285,974	18,437	13,057	187,960	505,428
SE	Not M&A target	266,116	1,901	1,264	759	270,040
	M&A target	896	149	155	70	1,270
	Total	267,012	2,050	1,419	829	271,310
SI	Not M&A target	37,876	9	5	0	37,890
	M&A target	82	5	3	0	90
	Total	37,958	14	8	0	37,980
SK	Not M&A target	10,154	139	52	14	10,359
	M&A target	38	29	7	2	76
	Total	10,192	168	59	16	10,435
UK	Not M&A target	816,685	40,929	57,744	1,454,433	2,369,791
	M&A target	5,824	1,105	1,775	1,777	10,481
	Total	822,509	42,034	59,519	1,456,210	2,380,272
EU	Not M&A target	6,925,342	144,257	132,698	2,173,261	9,375,558
	M&A target	16,390	3,783	4,051	3,324	27,548
	Total	6,941,732	148,040	136,749	2,176,585	9,403,106

10 The direct contribution of foreign-owned firms to the EU economy – Amadeus data

10.1 General approach

We used various performance indicators to assess the direct contribution of foreign-owned firms to the EU economy, and to that of the individual Member States.

We used our sample of domestic and foreign-owned companies with unchanged ownership over 2000-2006, the latter sample being further divided into EU (firms with an owner from another Member State) and non-EU (firms with an owner from outside the EU) sub-samples. The regrouped into the category “other companies” firms with unknown or with changed ownership.

For each of these samples, the following set of indicators has been computed:

- total turnover,
- total employment,
- total profits (or losses),
- total fixed assets,
- total net investment,
- total value added,
- average labour productivity and
- average wage bill.

The first six indicators have been computed as the sum of the relevant indicator across all companies in a particular sample, while the productivity and average wage bill indicators have been computed as the sector specific indicator for each subpopulation (domestic, foreign EU, foreign non-EU, etc.). For example, the average labour productivity of a particular sample of companies was computed as the ratio of the sum of the turnover of all companies in that particular sample to the sum of the number of employees of the same companies.

Below, in the findings section, we present summary information for each indicator for the period 2001 to 2006. Detailed yearly data tables are provided

in the first stand-alone Annex. These tables also provide information on the number of observations used for each indicator.

However, before reviewing these findings, we provide in the table overleaf (Table 12) information on the percentage of companies for which information on a specific indicator is available from Amadeus for the year 2006. The stand-alone Annex 1 provides similar information for each indicator for each year of the period 2002 - 2006.

As the data show, the data coverage varies from country to country. It is never 100% because many small companies and private companies do not have to report publicly their financial and economic information. Therefore, the Amadeus databank does not contain any financial and economic information on such companies.

The number of Member States, for which there exists information on a certain indicator, varies also. This cross Member State variation in data availability explains why the number of countries for which the footprint of foreign companies is analysed in the following sections varies across indicators.

Table 12: Percentage of companies for which information is available in the Amadeus databank for the year 2006							
	Turnover	Employment	Operating Profit	Fixed Assets	Net investment	Value added	Labour Productivity
AT	21.8%	45.2%	0.0%	0.0%	0.0%	0.0%	0.0%
BE	22.0%	33.6%	84.9%	85.1%	78.7%	40.7%	40.7%
BG	12.8%	69.8%	13.4%	13.6%	12.5%	11.2%	11.2%
CY	16.3%	0.0%	21.4%	21.0%	21.0%	0.0%	0.0%
CZ	36.7%	29.5%	41.3%	41.3%	38.1%	31.7%	31.7%
DE	36.4%	47.7%	3.4%	10.1%	9.2%	3.0%	3.0%
DK	17.8%	34.0%	81.5%	83.0%	70.8%	39.0%	39.0%
EE	68.6%	43.4%	81.2%	81.2%	63.9%	44.9%	44.9%
ES	51.7%	43.3%	55.2%	56.1%	52.5%	47.4%	47.4%
FI	86.2%	66.5%	90.2%	90.4%	83.4%	76.7%	76.7%
FR	73.9%	56.3%	77.7%	77.7%	67.6%	66.9%	66.9%
GR	86.3%	64.8%	88.3%	88.3%	82.8%	0.0%	0.0%
HU	22.9%	2.4%	23.1%	23.6%	22.8%	22.1%	22.1%
IE	6.3%	10.9%	10.1%	60.1%	49.8%	0.0%	0.0%
IT	76.8%	29.9%	78.1%	78.1%	67.2%	58.5%	58.5%
LT	48.5%	48.9%	48.9%	49.0%	46.2%	0.0%	0.0%
LU	17.8%	0.0%	20.7%	37.7%	24.3%	14.6%	14.6%
LV	49.8%	49.7%	50.3%	50.3%	48.3%	1.6%	1.6%
NL	2.1%	32.5%	3.9%	46.3%	42.4%	2.6%	2.6%
PL	74.3%	47.5%	75.3%	75.6%	43.8%	59.5%	59.5%
PT	84.6%	75.9%	92.3%	94.0%	86.0%	77.5%	77.5%
RO	73.8%	63.2%	89.5%	89.5%	78.1%	63.2%	63.2%
SE	83.7%	68.6%	90.4%	92.3%	83.5%	66.2%	66.2%
SI	13.7%	12.8%	13.7%	13.8%	13.3%	12.8%	12.8%
SK	52.5%	49.7%	54.0%	54.0%	51.9%	50.4%	50.4%

UK	13.9%	3.7%	17.3%	69.1%	58.0%	4.9%	4.9%
EU	41.4%	34.9%	44.5%	61.2%	53.5%	31.4%	31.4%

Source: London Economics analysis of data from Amadeus

10.2 Findings

10.2.1 Total turnover

In 2006, domestic companies generated two-thirds of the total turnover at the EU27 level and foreign-owned firms 20%. The rest is accounted for by companies with changed ownership (6%), or companies with unknown ownership status (7%).

Foreign-owned companies with an owner from a different EU Member State accounted for 9% of the total turnover, slightly less than the companies owned from outside the EU (11%).

The shares of total EU27 turnover accounted for by the different groups of companies are very stable over the 2001-2006 period, with the aggregate contribution of foreign-owned firms being close to 20% every year (see Figure 28).

Thus, based on total turnover, domestic-owned firms account for almost 3.5 times more EU27 turnover than foreign-owned firms.

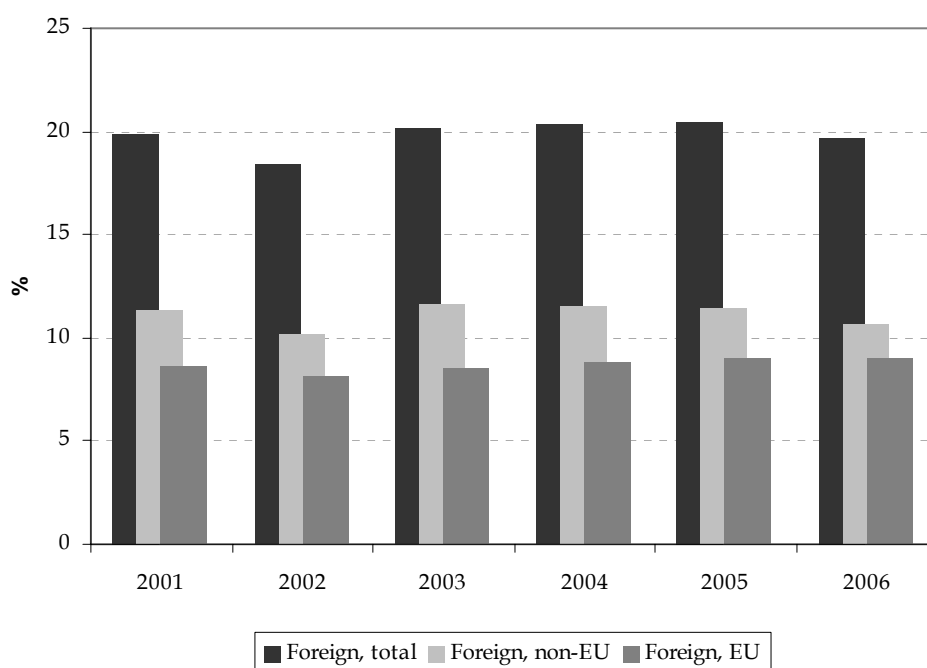
However, this relationship reverses when one focuses on average turnover per firm (see Table 13). In 2006, at the EU27 level, a foreign-owned company reports, on average, a 7.3 times higher turnover (in the case of an owner from another EU Member State) or 11.3 times higher turnover (in the case of an owner from outside the EU) than a company with domestic owner.

The total contribution of foreign-owned firms to national turnover ranges from 2% (SI) to 38% (RO) in 2006. This ratio is also broadly stable over the years.

The share of turnover accounted for by foreign-owned firms in Belgium, Bulgaria, Ireland, the Netherlands and Romania is higher than 30%. In contrast, the low share countries (below 10%) are typically Cyprus, Finland, Italy and Slovenia.

As a summary of all country-specific information, Figure 29 shows the turnover share of foreign-owned firms in total turnover for 2006, and the average share over 2001-2005.

Figure 28: Share of foreign-owned companies of total turnover, percentage 2001-2006



Source: London Economics

Table 13: Average turnover per firm in the EU, 2001-2006

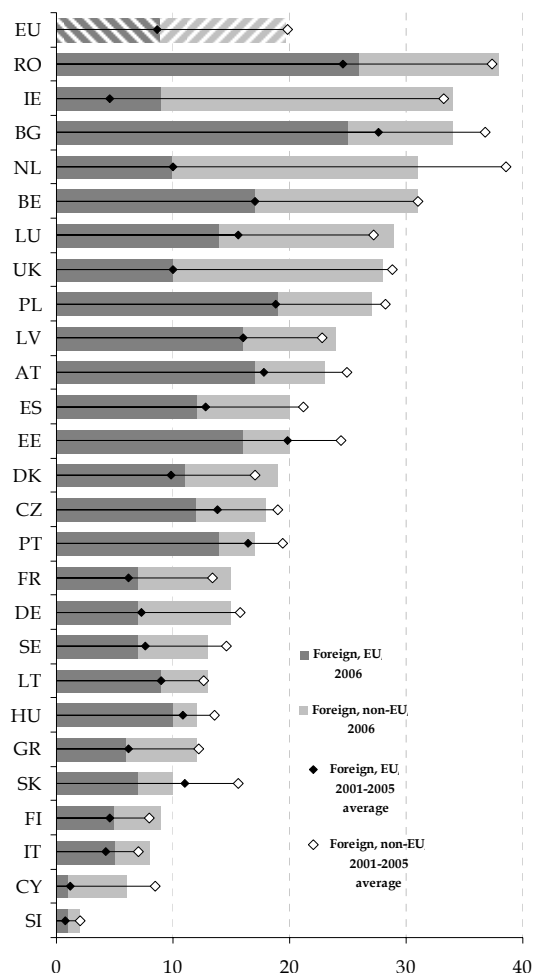
Level, thousand euro	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	6.9	37.8	57.9	47.1	8.45
2002	7.3	38.0	56.2	46.4	8.68
2003	6.3	35.1	58.4	45.6	7.66
2004	5.5	37.5	61.3	48.1	6.86
2005	5.3	39.5	63.6	50.1	6.65

Section 10 The direct contribution of foreign-owned firms to the EU economy - Amadeus data

2006	5.6	40.6	63.2	50.4	6.88
Ratio to domestic	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	1	5.5	8.4	6.8	1.2
2002	1	5.2	7.7	6.3	1.2
2003	1	5.6	9.3	7.3	1.2
2004	1	6.8	11.1	8.7	1.2
2005	1	7.4	11.9	9.4	1.2
2006	1	7.3	11.3	9.0	1.2

Source: London Economics

Figure 29: Share of foreign-owned companies of total turnover, percentage



Note: diamond markers represent a cumulative figure: Foreign, non-EU, 2001-2005 average as the difference between the two markers

Source: London Economics

10.2.2 Total employment

In 2006, according to data from Amadeus, 71% of the EU private workforce worked for domestic-owned companies, 14.3% for foreign-owned companies, and 15% at companies with unknown owner or at companies that changed ownership. This pattern is typical over the whole period, with a slight increase in the share of the domestic-owned firms and a slight decrease for the foreign-owned. The larger employment at foreign-owned firms reflects the larger size of foreign-owned companies documented in the previous subsection.

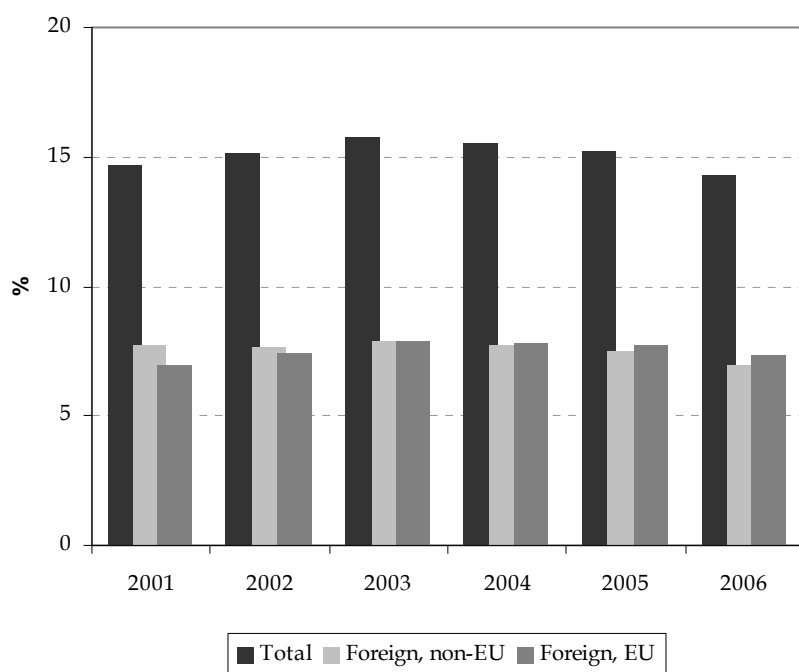
The number of employees of foreign-owned companies in the EU grew from 12.3 million in 2001 to 15.3 million in 2006. This represents 5% growth per year, while the EU27 workforce employed by domestic-owned companies grew at a rate of 6.5% per annum to more than 75 million in 2006.

The 14.3% of employees working for foreign-owned firms distributes quite evenly over the 2001-2006 period between firms with owners from another Member State or from outside the EU27. However, after 2003, the companies with an owner from another Member States represent a slightly higher share of the employment by foreign-owned firms (See Figure 30).

When considering the average number of employees per firm at the EU level, we observe that, on average, a foreign-owned company employs five times more personnel more a domestic-owned firm (see Table 14). A foreign-owned firm with an owner from outside the EU employs, on average, 5.9 times more staff than a domestic-owned firm while for a company with an owner from another Member State this ratio is only 4.7.

At the individual Member State level, the contribution of foreign-owned firms ranges from between 2% (SI) and 34% (DK) in 2006 (See Figure 31). Over the years, the relative contribution changes as shown by the difference between the average share over the period 2001-2005 and the share in 2006. A significant increase is observed in the case Denmark (due to a low level in 2001) and Hungary (starting after 2004), and a decrease is observed in the case of the Netherlands (having reached a peak in 2003) and Ireland (from a high level in 2001, although not stable).

Figure 30: Share of foreign-owned companies of total EU employment, percentage, 2001-2006



Source: London Economics

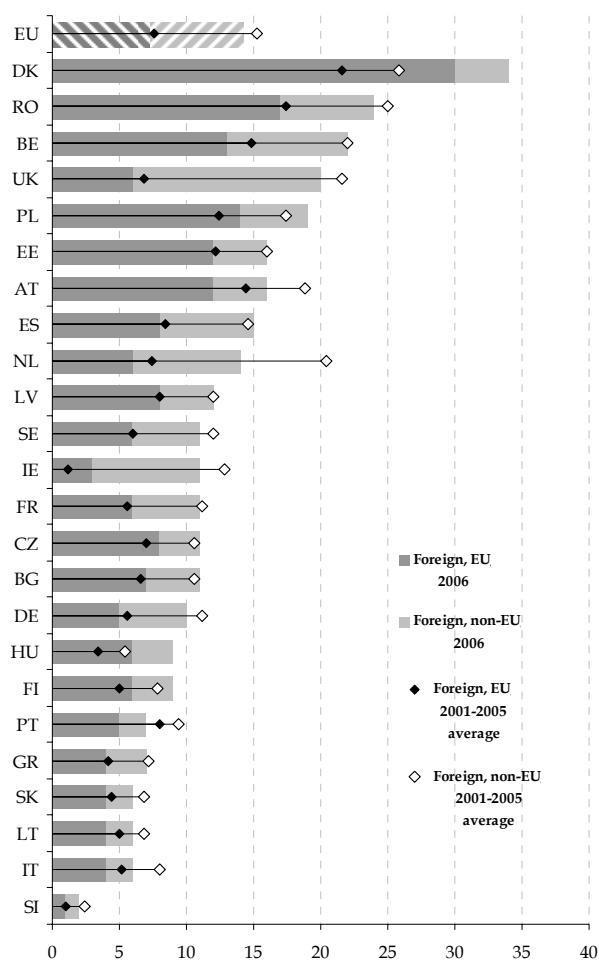
Table 14: Average number of employees per firm in the EU, 2001-2006

Level, person	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	41.5	153.9	213.0	180.3	49.8
2002	38.0	164.6	211.3	185.4	46.8
2003	37.9	163.6	203.1	181.2	45.4
2004	36.3	150.6	190.0	168.0	41.7
2005	34.7	148.6	183.7	164.0	39.7
2006	28.0	130.4	165.1	145.3	32.7
Ratio to domestic	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	1	3.7	5.1	4.3	1.2
2002	1	4.3	5.6	4.9	1.2

2003	1	4.3	5.4	4.8	1.2
2004	1	4.1	5.2	4.6	1.1
2005	1	4.3	5.3	4.7	1.1
2006	1	4.7	5.9	5.2	1.2

Source: London Economics

Figure 31: Share of foreign-owned companies of total employment, percentage



Note: LU and CY excluded because of missing data in 2006; diamond markers represent a cumulated bar: Foreign, non-EU, 2001-2005 average as the difference between the two markers.

Source: London Economics

10.2.3 Total of company profits (and losses)

According to the Amadeus data, the total operating profits generated by all the companies in the various samples at the EU27 level reached €1,256.9 bn in 2006. Of this total profit, 64.9% is attributable to domestic-owned companies, 18.4% to foreign-owned companies, and 16.7% to companies with unknown or changed ownership in this year.

Companies with an owner from another EU Member State accounted for 9.1% of the total operating profit, companies with an owner from outside the EU accounted for a slightly higher share, namely 9.3% (see Figure 32). Over the 2001-2006 period, the profit share of foreign-owned companies peaked in 2006 and the lowest share is observed in 2002 for each foreign-owned subcategory (total share less than 9%).

The total reported operating profits at the EU level doubled from 2001 to 2006 in nominal value. The profits of companies with a foreign owner rose at an even higher rate (by 144% on average, 90% for those with an EU owner, and 236% for those with an owner from outside the EU), although there is high degree of variability.

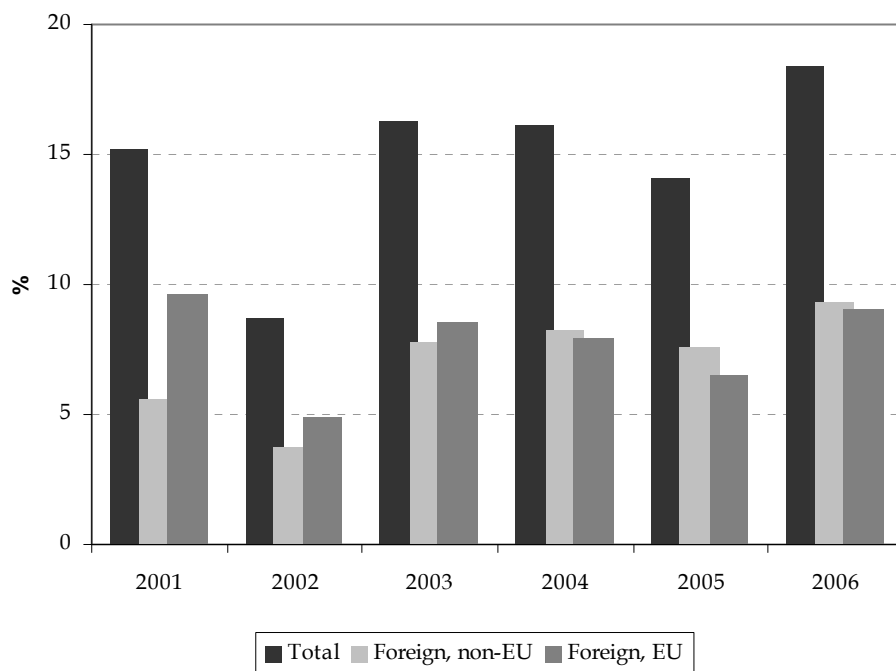
At the national level, foreign-owned firms show positive operating profits over the years, except for Luxembourg (in 2005 and 2006), and the UK (between 2001 and 2003). Domestic-owned companies show in most cases positive profits too. The exceptions are Cyprus (mostly negative profits) and the UK (in 2006).

There is high variability across Member States regarding the share of operating profits accounted for by foreign-owned companies (see Figure 33). The total foreign share (marked with diamonds) ranged from 4% (Slovenia) and 39% (Romania) in 2006.

In 2006, the average profit per firm at the EU27 level was €0.3 million, and €2.1 million for firms with a foreign owner (see Table 15). In 2005, the same indicators stand at €0.4 million for the total firm population and €2.0 million for the foreign-owned.

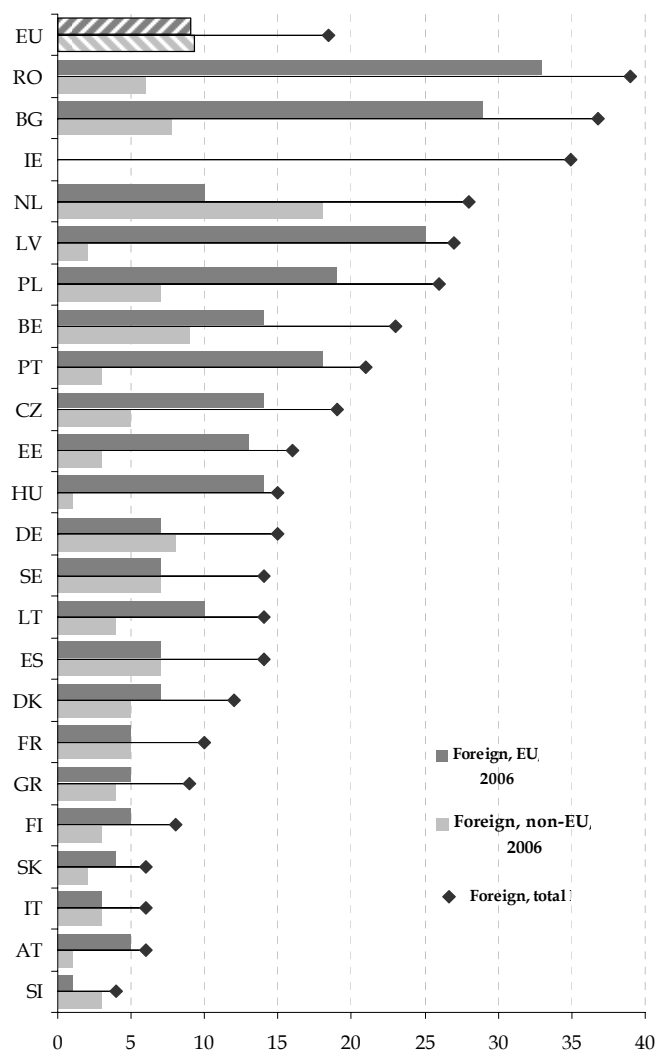
The ratio of the average operating profit of the domestic-owned to average operating profit of foreign-owned firms is 8.8 in 2006, higher than in 2005 (5.8). A company with an owner from another EU Member State has, on average, an operating profit which, on average, is 7.8 times higher than at a domestic-owned company, while companies with an owner from outside the EU show a profit which, on average, is 10.2 times higher.

Figure 32: Share of foreign-owned companies of total EU profits/losses, percentage



Source: London Economics

Figure 33: Share of foreign-owned companies of total profits, percentage



Note: CY, LU, UK non computable because negative profits, foreign-owned subcategories non computable for IE

Source: London Economics

Table 15: Average profit per firm in the EU, 2001-2006

Level, million euro	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	0.2	1.3	0.9	1.1	0.3
2002	0.5	1.3	1.2	1.3	0.5
2003	0.3	1.5	1.7	1.6	0.3

2004	0.3	1.6	2.1	1.8	0.3
2005	0.3	1.7	2.4	2.0	0.4
2006	0.2	1.9	2.4	2.1	0.3
Ratio to domestic	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	1	5.4	3.6	4.6	1.1
2002	1	2.5	2.3	2.4	1.0
2003	1	5.3	5.8	5.6	1.1
2004	1	5.7	7.4	6.4	1.2
2005	1	4.8	7.0	5.8	1.1
2006	1	7.8	10.2	8.8	1.3

Source: London Economics

10.2.4 Total fixed assets

In 2006, the total value of fixed assets of all companies in our sample at the EU27 level was €25,236 bn, of which €17,067 bn (68%) is accounted for by domestic-owned companies, and €5,021 bn (19.9%) is accounted for by foreign-owned companies. The overall value of fixed assets at the EU27 level grew at a 12% rate per annum between 2001 and 2006, while it showed a 13.6% rate annual growth for the foreign-owned companies.

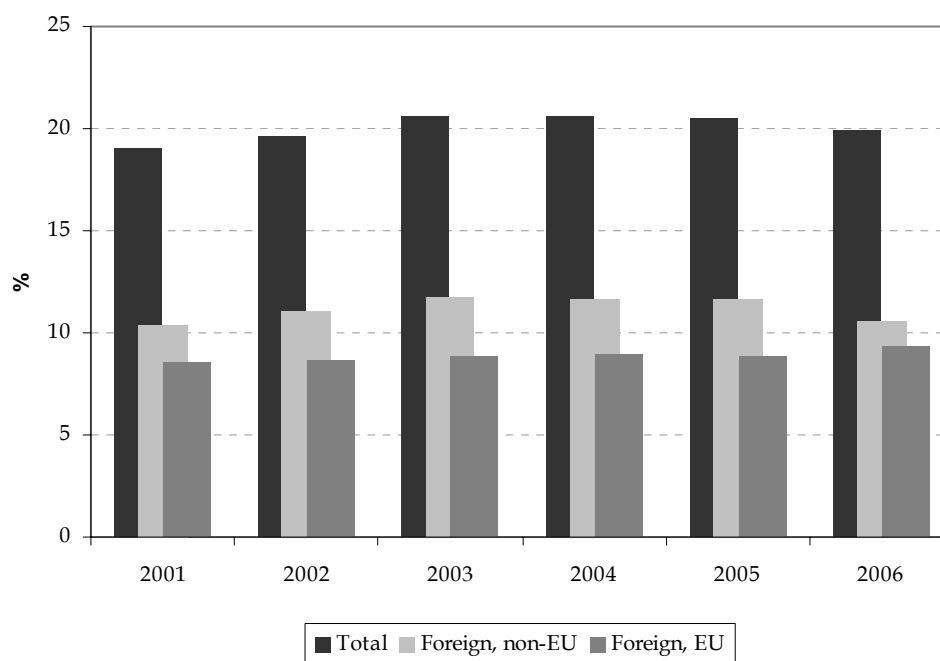
At the EU27 level, companies with an owner from another EU Member State account for 9.3% of the total fixed assets, while those with an owner from outside the EU account for 10.6%.

These numbers are very stable over time, the former varying between 8.6-9.3%, the latter between 10.4-11.8% (see Figure 34).

On average, a firm in the EU had €4.2 mn assets, while an average foreign-owned company had €31.1 mn in fixed assets on the balance sheet in 2006 (see Table 16). A foreign-owned firm had 7.4 times more assets (in value) than a domestic-owned firm. This ratio is lower for companies with an owner from another Member State (6.5), and higher for those with an owner from outside the EU (8.3).

At the national level, the share of fixed assets owned by foreign companies in 2006 ranges from 4% (IT, SI, SK) to 58% (LU), with only 8 countries showing an above EU average share.

Figure 34: Share of foreign-owned companies of total fixed assets in the EU, percentage



Source: London Economics

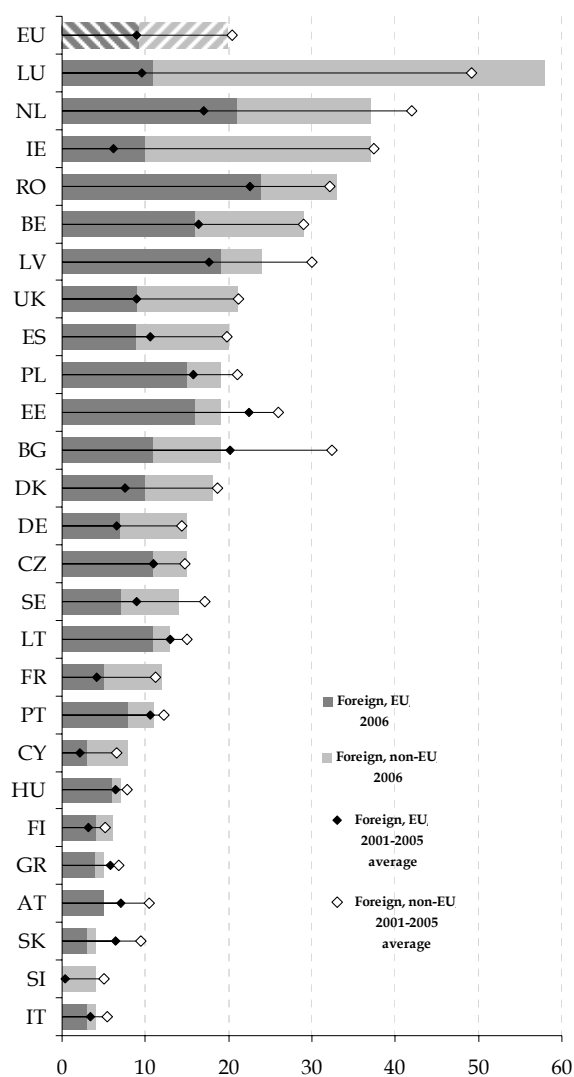
Table 16: Average value of assets per firm in the EU, 2001-2006

Level, million euro	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	4.6	22.1	27.7	24.9	5.0
2002	4.3	21.5	28.6	25.0	4.6
2003	4.0	20.9	29.3	25.0	4.2
2004	3.6	21.6	30.3	25.8	3.9
2005	3.8	23.4	34.3	28.6	4.0
2006	4.2	27.4	35.3	31.1	4.4
Ratio to domestic	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	1	4.8	6.0	5.4	1.1
2002	1	5.0	6.7	5.8	1.1
2003	1	5.3	7.4	6.3	1.1

2004	1	6.0	8.4	7.2	1.1
2005	1	6.2	9.1	7.6	1.1
2006	1	6.5	8.3	7.4	1.0

Source: London Economics

Figure 35: Share of foreign-owned companies of total fixed assets, percentage



Note: diamond markers represent a cumulated bar: Foreign, non-EU, 2001-2005 average as the difference between the two markers

Source: London Economics

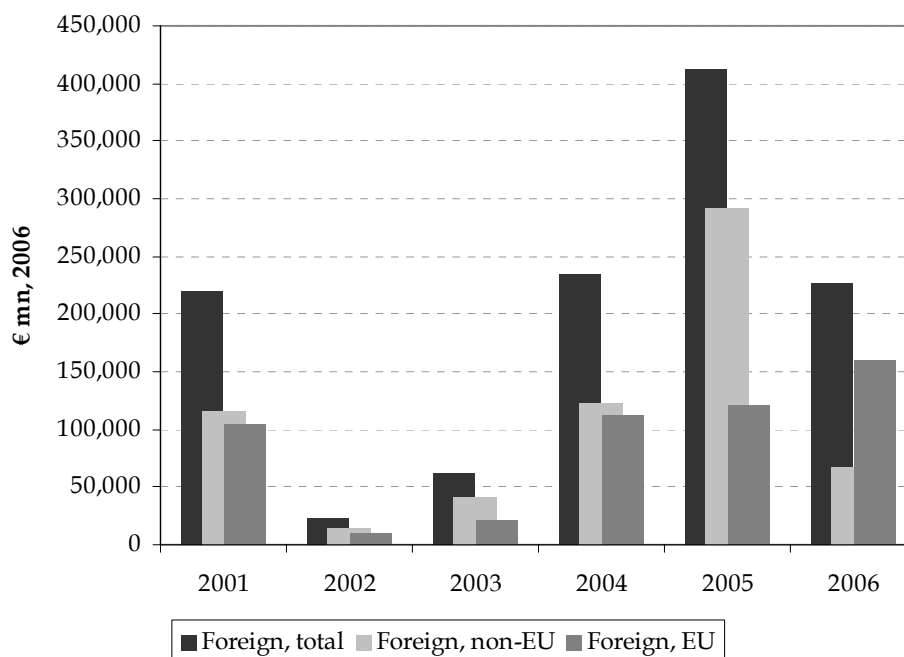
10.2.5 Total net investment

In 2006, total net investment in the EU stood at to €1,807 bn. Both domestic-owned and foreign-owned companies are net investors: domestic-owned companies accounted for 74.4% of the increase in the assets, while the share of foreign-owned companies is 12.6%. Companies with changed or unknown ownership accounted for 13% of the total net investments.

In 2006, the foreign-owned companies with an owner from another EU Member State invested more than those with owner from outside the EU as their share was 8.8% in comparison to 3.7%, although this relationship is the opposite before 2006 (see Figure 36).

Total net investment was negative only in Luxembourg where the total value of fixed assets decreased. In other countries, the value of total assets increased with the largest net investment observed in France, the Netherlands and the UK in the case of foreign firms with an owner from another EU Member State, and Ireland, the Netherlands and Spain in the case of foreign firms with an owner from outside the EU. At the national level, the largest net investors are the UK, Spain and France.

Figure 36: Value of net investment in the EU made by foreign-owned firms, million euros in 2006



Source: London Economics

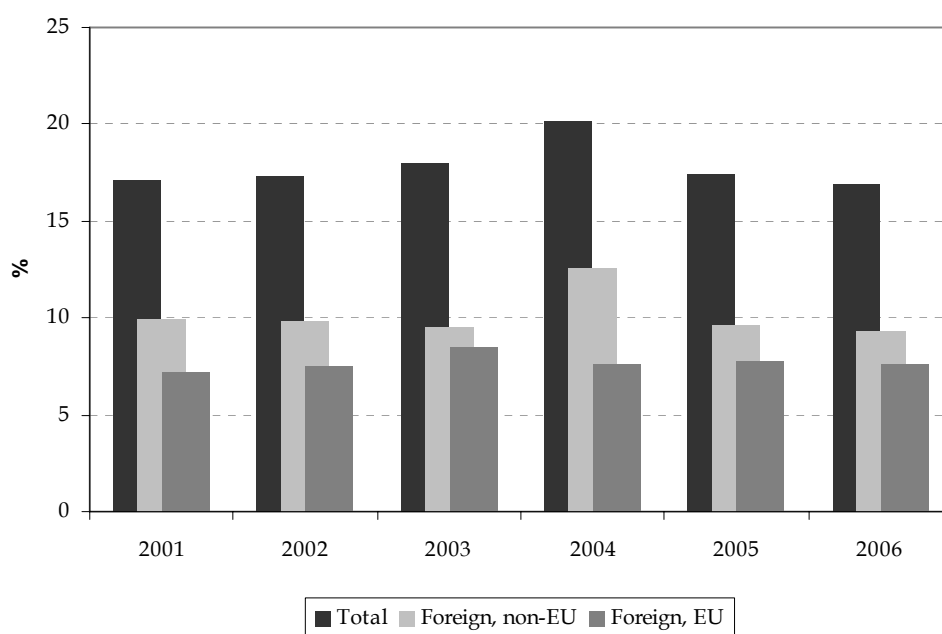
10.2.6 Total value added

Companies in the EU generated €4,772.9 bn in value added in 2006. Domestic-owned firms accounted for 69% of the total, 16.9% was accounted for by foreign-owned companies, and the remainder 14.3% was accounted for by companies with changed or unknown ownership. The companies with an owner from another Member State produced 7.6% of EU27 value added and firms owned from outside the EU contributed accounted for 9.3% of the total value added.

The share of foreign-owned companies in the total value added in the EU ranged from 17% to 20% over the 2001-2006 period, with a peak in 2004 (see Figure 37). At the national level, the share of foreign-owned firms in total value added ranged between 2% (IE) and 38% (RO) (see Figure 38).

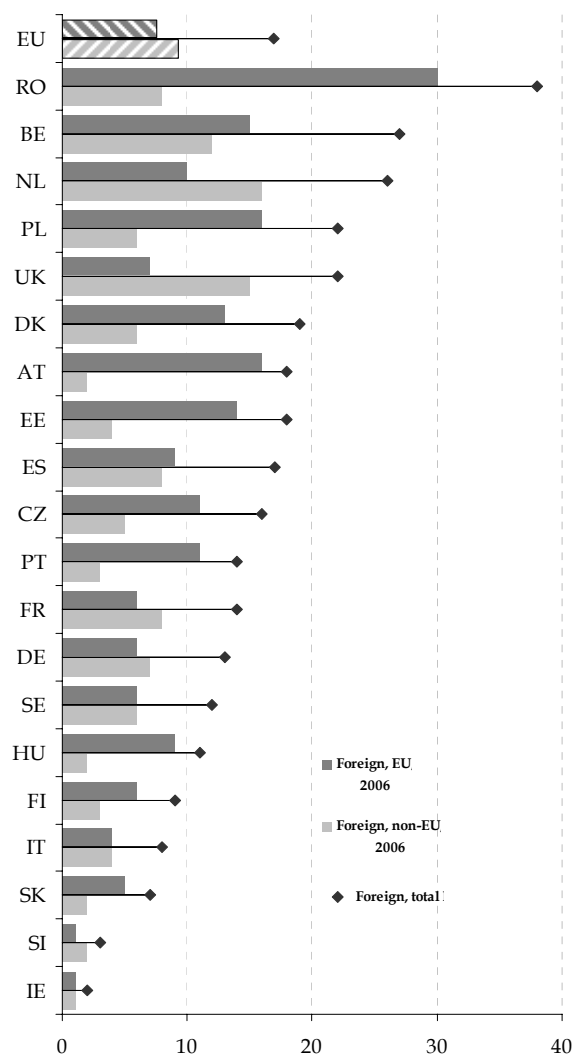
On average, a company generated €1.6 mn of value in 2006 (see Table 17). Domestic-owned firms generated less, €1.3 mn on average. In contrast, foreign-owned firms generated, on average, €10.7 mn in value added. Foreign-owned companies with an owner from outside the EU generated even more value added, with an average value added figure of €14 mn per firm (more than ten times more than domestic-owned firms), while companies with an owner from another Member State generated on average €8.3 mn in value added (6.3 times more than a domestic-owned firm).

Figure 37: Share of foreign-owned companies of total value added in the EU, percentage



Source: London Economics

Figure 38: Share of foreign-owned companies of total value added in the EU in 2006, percentage



Source: London Economics

Table 17: Average value added per firm in the EU, 2001-2006

Level, million euro	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	1.5	6.7	11.8	9.0	1.8
2002	1.4	7.1	11.8	9.2	1.8
2003	1.4	8.1	11.6	9.6	1.8

2004	1.2	7.4	16.1	11.2	1.6
2005	1.2	7.8	13.0	10.0	1.5
2006	1.3	8.3	14.0	10.7	1.6
Ratio to domestic	Domestic	Foreign, EU	Foreign, non-EU	Foreign, total	Total
2001	1	4.5	7.9	6.0	1.2
2002	1	5.0	8.3	6.4	1.3
2003	1	5.6	8.0	6.7	1.2
2004	1	6.0	12.9	9.0	1.3
2005	1	6.4	10.7	8.2	1.2
2006	1	6.3	10.6	8.1	1.2

Source: London Economics

10.2.7 Average labour productivity

In 2006, the data from Amadeus show that an employee in the EU generated, on average, €241,600 in turnover while workers of domestic firms generated, on average, €228,900 in turnover per capita. The turnover produced per worker was higher if the company was foreign owned. At €329,065 per capita, this is 44% higher than the labour productivity of domestic-owned firms.

There are also differences between the foreign-owned companies by origin of the owner. The turnover per employee is €288,300 (26% higher than at domestic-owned firms), when the owner is from another Member State, and even higher, €372,000 if the owner is from outside the EU (63% higher than at domestic firms, 29% higher than at foreign-owned firm with EU owner).

The productivity gap between the two categories of foreign-owned firms and between foreign-owned and domestic-owned firms is relatively stable at the EU27 level. Between 2004 and 2006, the margin was consistently in the 23% to 26% range for foreign-owned companies with an owner from another Member State, and in the 63-66% range for foreign-owned firms owned from outside the EU (see Figure 39).

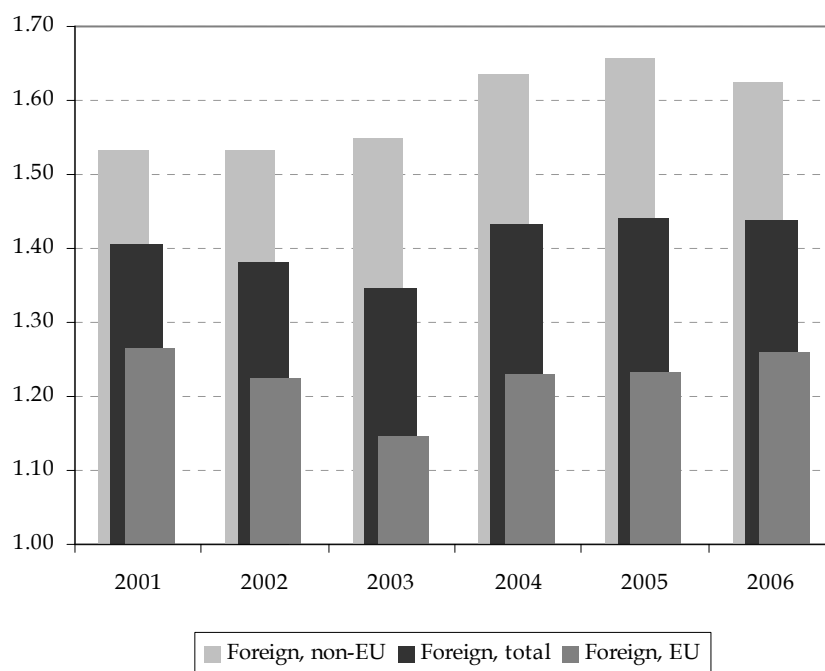
At a national level, the productivity of foreign-owned companies is usually higher than that of domestic companies (see Figure 40). However, higher average productivity of domestic-owned firms than that of foreign-owned firms is observable in Denmark, Finland and Slovenia (the domestic firms are more productive than foreign-owned firms with an owner from another EU

Member State) and Hungary (the domestic firms are more productive than foreign-owned firms with an owner from outside the EU).

The difference in productivity between the foreign-owned and domestic-owned companies in 2006 shows considerable variability across countries (see Figure 41). The five countries with the highest productivity level are Ireland, Belgium, the Netherlands, Denmark and Italy, while the new Member States are at the lower end of the scale.

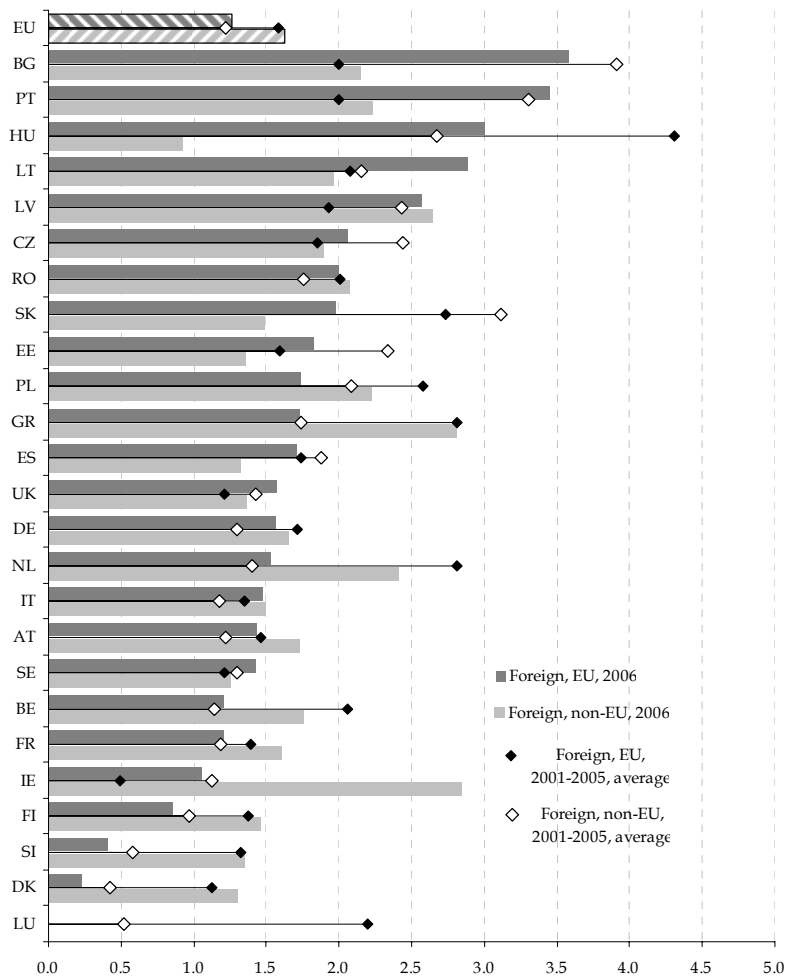
It is important to note that data above may not be very representative of actual patterns as the data coverage for this indicator is in the 15-25% range of the total number of companies in the dataset in the earlier years of the period of interest..

Figure 39: Productivity margin between domestic and foreign ownership at the EU level, as ratio of foreign category productivity to domestic productivity



Source: London Economics

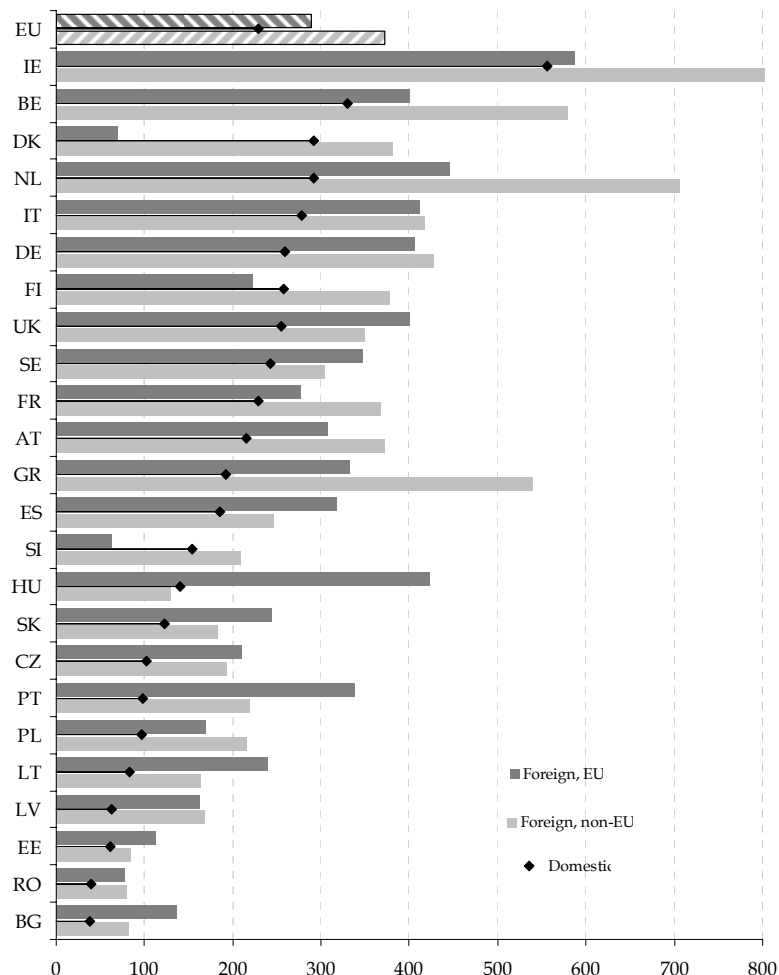
Figure 40: Ratio of productivity between foreign-owned and domestic-owned companies, ratio of productivity



Note: no data for Luxembourg in 2006

Source: London Economics

Figure 41: Productivity value of domestic-owned and foreign-owned firms, € thousand per employee, in 2006



Note: outlier for Ireland and Foreign, non-EU category

Source: London Economics

10.2.8 Average wage cost

In 2006, the average cost of an employee was €35,880 in the EU. Firms with unknown ownership spent less per employee on average (€30,900), and the firms with changed ownership ranked second with €35,880 in 2006.

While the average cost of employee for domestic-owned firms was €35,000, the similar cost at foreign-owned companies was 20% higher, €42,010. Firms with an owner from another EU Member State had lower average employment costs (€35,280) than those with an owner from outside the EU (€48,910).

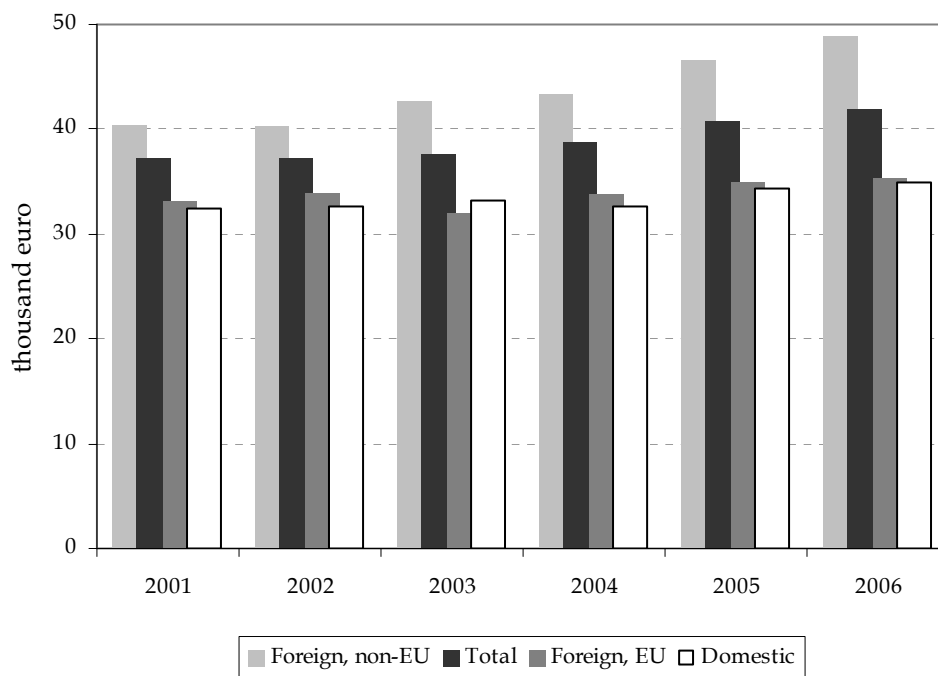
The difference between the companies under domestic or foreign ownership is very stable over time (see Figure 42). Foreign-owned firms with an owner from another EU Member State spend usually slightly per employee than domestic-owned firms, but this difference is broadly constant over time. The average cost of employees for companies controlled from outside the EU is, however, significantly higher (30-40% higher between 2003-2006, see Figure 43) and this figure is increasing between 2001 and 2006.

At the national level, the level of the average cost per employee varies between €3,000 and €51,000 in 2006. Bulgaria, Estonia, Romania and Slovakia are at the low end of the scale while Austria, Belgium, and Germany are the high end.

However, there are few countries where the average cost of an employee is lower for the foreign-owned firms. Those countries are Austria, Denmark, Lithuania and Slovenia in 2006 (see Figure 44).

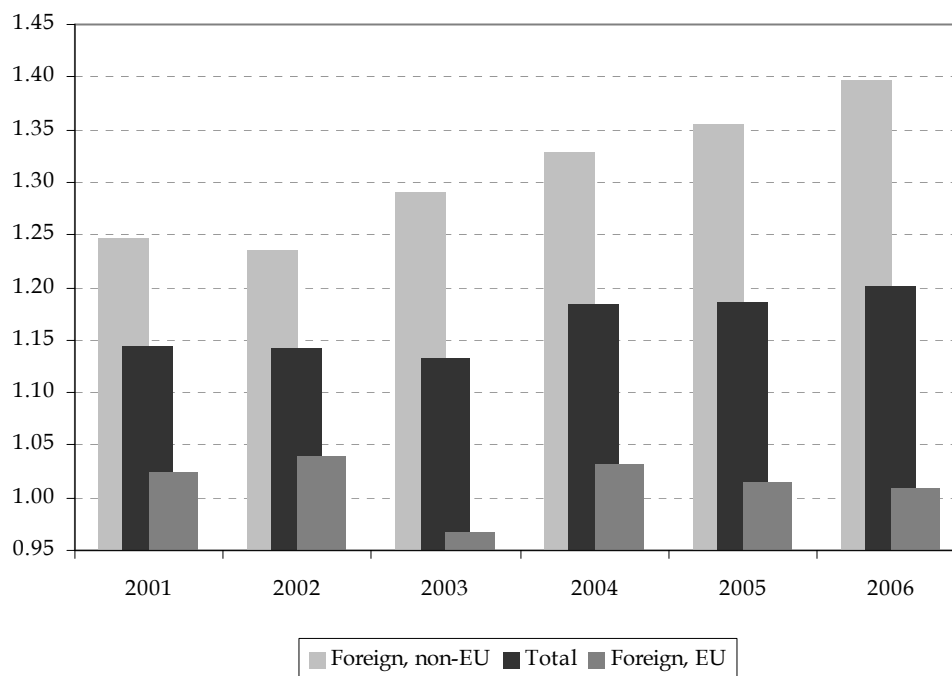
When reviewing the evolution of the average cost of employee at the national level, we observe that the usually higher average cost of employees in foreign-owned firms changes more markedly compared to that of domestic-owned companies over the years (see Figure 45).

Figure 42: Average cost of employees in the EU for foreign-owned and domestic owned firms, € thousand per employee



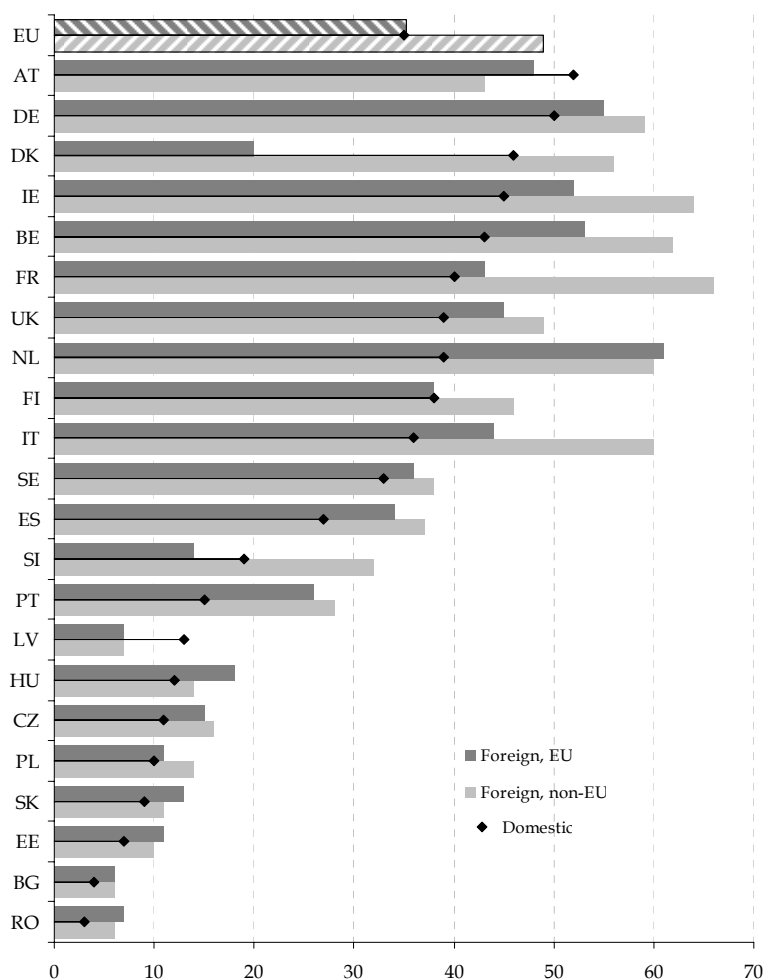
Source: London Economics

Figure 43: Average cost of employees in the EU for foreign-owned companies, as ratio to the cost level of domestic-owned companies



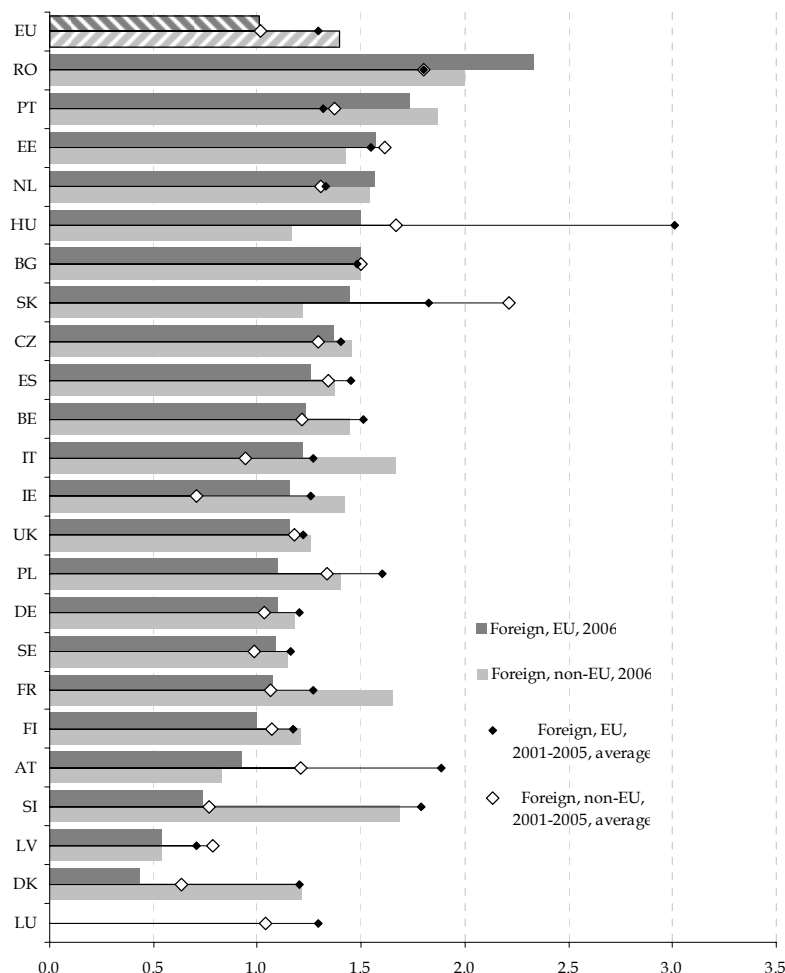
Source: London Economics

Figure 44: Average cost of employee levels in the EU, € thousand per employee



Source: London Economics

Figure 45: Ratio of average cost level of foreign-owned companies to domestic-owned companies



Source: London Economics

10.3 Conclusions

As the Amadeus data have a number of limitations, any conclusions drawn from the preceding analysis should be considered cautiously.

In general, in 2006, domestic-owned firms accounted for about 2/3 or more of the total value of the various indicators (in levels) discussed in the previous sub-sections (see Table 18), foreign-owned firms with an owner from outside the EU for about 9% to 11% and foreign-owned firms with an owner from another EU Member State for about 9%, the exception being net investment where this group's share is much lower.

Table 18: Summary overview of EU-wide shares accounted for by foreign-owned firms			
Indicator	Domestic owned firms	Foreign-owned firms with an owner from outside the EU	Foreign-owned firms with an owner from another EU Member State
Turnover 2006	66%	9%	11%
Employment 2006	71%		
Operating profit 2006	65%	9%	9%
Fixed assets 2006	68%	9%	11%
Net investment 2006	74%	4%	9%
Value added	69%	8%	9%

Source: London Economics

11 The direct contribution of foreign-owned firms to the EU economy – Eurostat data

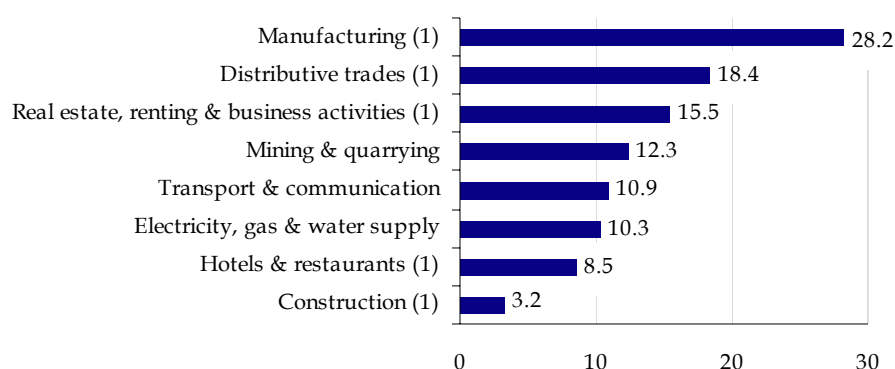
At the present time, Eurostat publishes some data on foreign controlled firms in the EU, but the data are limited in terms of geographical coverage as well as in terms of the time period covered. Information is available for only 17 Member States (Austria, Belgium, Cyprus, Czech Republic, Estonia, France, Hungary, Latvia, Lithuania, the Netherlands, Portugal, Romania, Slovenia, Slovakia, Spain and Sweden) for the period 2003-2005. Not all data are available over the full 3-year period for this group of countries.

Following the adoption of Regulation (EC) No 716/2007 of the European Parliament and of the Council of 20 June 2007 on Community statistics on the structure and activity of foreign affiliates (OJ L 171, vol. 50)) comprehensive Inward Foreign Affiliates Statistics (IFATS) will start to be collected with 2007 as first reference year.

Below, we present the available data and highlight a number of key findings

Across the Member States for which data are available, the share of value added accounted for by foreign-controlled enterprises ranges from 3.2% in the construction sector to 28.2% in the manufacturing sector.

Figure 46: Share of sectoral value added generated by foreign-controlled enterprises, average of all reporting countries (%)



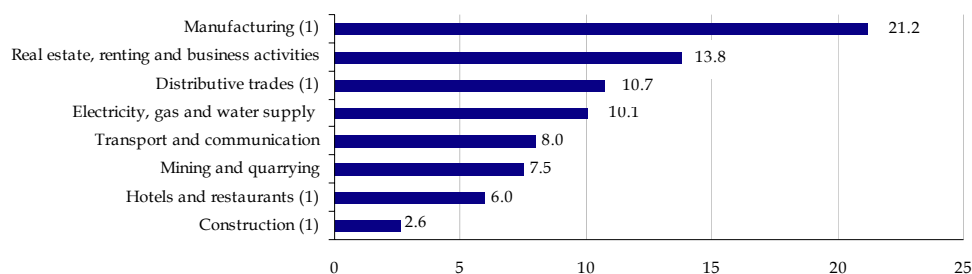
Note: (1) estimate

Source: Eurostat

The employment picture is very similar to that of value added, except that the share of employment accounted for foreign-controlled enterprises is lower, in some cases by a substantial margin, implying that average labour productivity is significantly higher in foreign-controlled enterprises than in nationally-controlled enterprises.

Overall, the share of employment accounted for by foreign-controlled enterprises ranges from 2.6% in the construction sector to 21.2% in the manufacturing sector.

Figure 47: Share of sectoral employment generated by foreign-controlled enterprises, average of all reporting countries (%)



Note: (1) estimate

Source: Eurostat

The share of foreign-controlled economic activity (value added and employment) is typically much larger in New Member States from Central Europe than in other EU27 Member States, reflecting the important role played by foreign capital in these economies during the transition to a market economy and the on-going restructuring and modernisation of productive capacity.

Table 19: Share of value added and employment generated by foreign-controlled enterprises, non-financial business economy (%) (1)

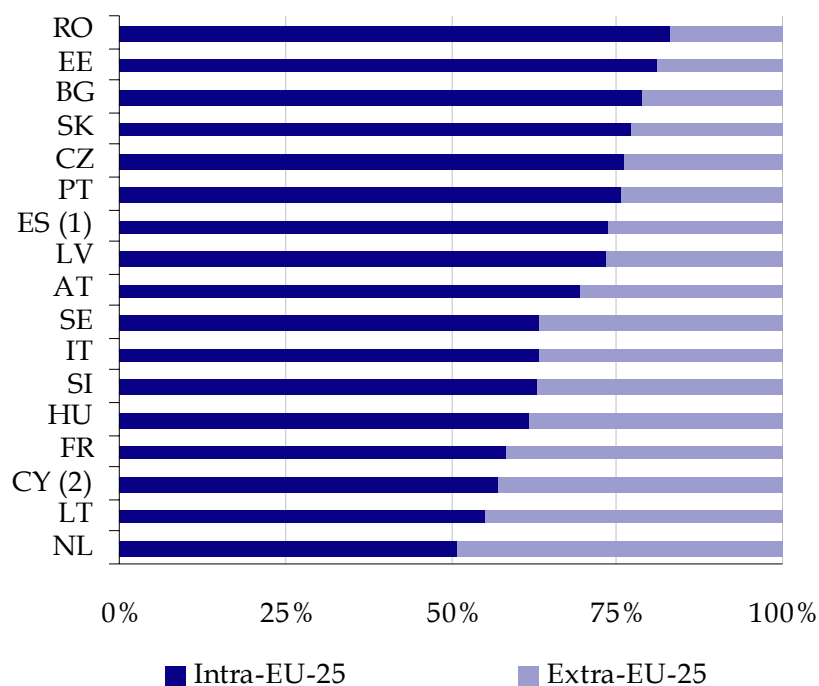
	Share of foreign-controlled enterprises in total value added (%)	Share of foreign-controlled enterprises in total employment (%)
SK	44.6	28.1
EE	41.2	31.6
HU	39.0	16.6
CZ	35.1	20.8
BG	31.1	13.5
SE	27.6	22.3
LV	26.1	13.8
LT	25.0	11.2
RO	22.0	14.0
NL	21.0	14.0
FR (1)	19.6	17.7
PT	16.8	7.9
SI	16.4	10.3
AT	16.4	11.8
ES (2)	14.2	9.0
IT	11.6	7.3
CY	5.6	3.3

Note: (1) Number of employees instead of number of persons employed, (2) Excludes construction
Source: Eurostat

In all Member States for which data exist, foreign-controlled enterprises from the EU25 account for the majority of value-added generated by foreign-controlled enterprises. That being said, the share of value added created by foreign-controlled enterprises from the EU25 varies considerably, ranging

from more than 80% in the case of Estonia and Romania to just slightly more than 50% in the Netherlands and about 55% in Lithuania.

Figure 48: Share of value added, foreign controlled enterprises, non-financial business economy (%)



Note: (1) Excluding construction, (2) 2004
Source: Eurostat

Although, foreign-controlled enterprises from the EU25 account for the majority of value added generated by foreign-controlled enterprises in Member States where data on the economic activity of foreign-controlled firms exist, foreign-controlled enterprises from the United States are often very significant contributors.

Indeed, in the case of France, Italy, Netherlands and Sweden, foreign-controlled enterprises from the United States account for the largest share of value added created by foreign-controlled enterprises when considering the nationality of such enterprises, the second largest share in Cyprus, Hungary, Slovakia and Spain, and the third largest share in Austria and the Czech Republic.

Table 20: Share of value added generated by foreign-controlled enterprises in the non-financial business economy: three main partners (%)			
	Main partner	Second partner	Third partner
Bulgaria	Austria (31.7)	Greece (11.3)	Germany (9.4)
Czech Republic	Germany (30.9)	Netherlands (15.5)	United States (13.6)
Estonia	Finland (28.2)	Sweden (27.5)	United Kingdom (7.1)
Spain	France (20.4)	United States (16.4)	Germany (15.4)
France	United States (26.5)	Germany (14.6)	United Kingdom (11.6)
Italy	United States (25.8)	United Kingdom (16.6)	France (14.7)
Cyprus	Greece (22.5)	United States (17.1)	Germany (11.6)
Latvia	Sweden (16.7)	Germany (12.6)	Finland (10.7)
Lithuania	Russian Federation (27.1)	Sweden (16.0)	Denmark (9.4)
Hungary	Germany (28.0)	United States (22.1)	France (8.5)
Netherlands	United States (32.0)	United Kingdom (16.8)	Germany (10.9)
Austria	Germany (44.5)	Switzerland (12.9)	United States (12.2)
Portugal	Spain (16.8)	Germany (15.7)	Netherlands (14.6)
Romania	Netherlands (23.5)	France (17.3)	Germany (12.3)
Slovenia	Switzerland (c)	Austria (18.7)	Germany (12.7)
Slovakia	Germany (26.6)	United States (15.8)	France (8.3)
Sweden	United States (21.8)	United Kingdom (15.2)	Finland (11.4)

Note: (1) c = confidential

Source: Eurostat

Interestingly, industry accounts for almost the same proportion of total economic activity by foreign-controlled enterprises as non-financial services while in the case of nationally-controlled enterprises, the share of non-financial services is much more important than that of industry.

Moreover, the share of economic activity accounted for by the construction sector is negligible in the case of foreign-controlled enterprises while it is much more substantial in the case of nationally-controlled enterprises.

Table 21: Relative importance of industry, construction and non-financial services, analysis of foreign-controlled and nationally controlled enterprises, average of all reporting countries (% of non-financial business economy) (1)

		Industry	Construction (2)	Non-financial services (2)
Turnover	Foreign	46.6	1.1	52.3
	National	32.3	7.1	60.6
Value added	Foreign	51.3	1.4	47.3
	National	32.2	8.7	59.1
Employment	Foreign	49.2	1.7	49.1
	National	28.5	10.2	61.3
Purchases of goods and services	Foreign	45.1	1.0	53.9
	National	32.0	6.8	61.2
Personnel costs	Foreign	48.0	1.6	50.4
	National	32.7	9.7	57.6
Investment	Foreign	47.1	0.8	52.1
	National	27.9	4.4	67.7

Note: (1) Spain: excludes construction; France: number of employees instead of number of persons employed, (2) estimates

Source: Eurostat

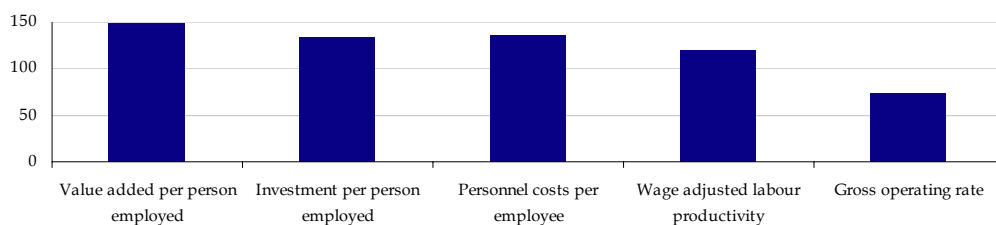
On average, across all Member States for which such information is available, foreign-controlled enterprises show:

- Value added per employee which is 48% higher than at nationally-controlled enterprises;
- Investment per employee which is 33% higher;

- Personnel costs which are 35% higher;
- Wage adjusted labour productivity which is 19% higher; and
- A gross operating rate which 27% lower.

As will be shown later below, the average across all Member States (for which data exist) shows considerable variability across Member States and should not be viewed as being representative of the situation in each Member State.

Figure 49: Economic indicators for foreign-controlled enterprises, non-financial business economy, average of all reporting countries (nationally-controlled enterprises=100)

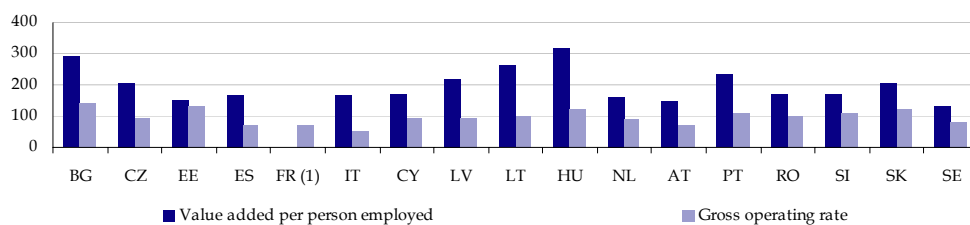


Note: Bulgaria, Czech Republic, Cyprus and Hungary: number of persons employed instead of number of employees; France: number of employees instead of number of persons employed personal cost per employee excludes Bulgaria, Czech Republic, Cyprus and Hungary; wage adjusted labour productivity excludes Bulgaria, Czech Republic, France, Cyprus and Hungary
Source: Eurostat

Value-added per employee in foreign-controlled enterprises is higher than in nationally-controlled enterprises in all Member States. In a number of Member States, mainly from Central Europe, the differences are very large, in excess of 100% (Bulgaria, Latvia, Lithuania, Hungary, Portugal, and Slovakia).

In contrast, the pattern exhibited by the gross operating rate is much more varied. While in a number of Member States (mainly from Central Europe: Bulgaria, Estonia, Lithuania, Hungary, Portugal, Poland, Slovenia and Slovakia), foreign-controlled enterprises post higher gross operating rates than nationally-controlled enterprises, the opposite is true in the case of Austria, the Czech Republic, Cyprus, Estonia, France, Italy, Latvia, Netherlands, and Sweden.

Figure 50: Value added per person employed and gross operating rate for foreign-controlled enterprises, non-financial business economy (nationally-controlled enterprises=100)



Note: (1) Value added per person employed not available
Source: Eurostat

12 Differences in economic performance between domestic and foreign-owned firms

12.1 Introduction to comparative analysis of economic performance

In this section, we use the Amadeus data described in Section 9 to assess the difference in economic performance between firms that are domestically owned and firms that are foreign-owned, distinguishing between foreign EU-owned and foreign non-EU owned firms.

First, we provide an overview of our general approach.

Next, we discuss in greater detail the data used in the empirical analysis.

We then discuss how to estimate empirically the effect of being a foreign-owned firm on economic performance.

Finally, we present the estimation results in summary form. The detailed results are presented in a stand-alone Annex 2.

12.2 Approach

The goal of this part of the study is to compare the performance of foreign firms relative to that of comparable domestic firms.

Therefore, we need to identify for each foreign firm in our sample comparator domestic firms which are identical or very similar in all their characteristics except the nationality of their owners, so that a like-for-like comparison can be undertaken.

While originally we planned to use a propensity scoring matching technique, we found a nearest-neighbour matching technique was more likely to yield the appropriate matches. This technique matches the population of interest (here the foreign firms) to comparable observations from the control population (here the domestic firms).

Since the matched individuals (here the firms) are supposed to be identical, they should have similar performances except if the nationality of ownership matters. In principle, therefore, any observed difference in economic

performance is consequently attributable to the fact that some firms are foreign-owned and that some are domestically-owned.

Therefore, each foreign firm was matched to comparable domestic firms, i.e. firms from the same sector and of similar size prior to the period over which the statistical analysis of difference in performance is undertaken. As the statistical analysis covers the period 2002-2006, we used the number of employees in 2001 as the matching criterion.

The economic performance was assessed along 11 different business performance dimensions.

Below, we provide more information on each of the steps involved in the construction of the required data set.

12.3 Data

Using the data described in the previous section, we created databases regrouping, by countries, all the information available for each firm: its company identifier, its sector (NACE), its ownership status (whether it is foreign or not, and if so whether it is European or not), and for each year between 2000 and 2006, turnover, operating profit/loss, costs of employees, number of employees, fixed assets (for which we also had the 1999 value), shareholders funds and long-term debt.

A wide range of performance indicators are used in the empirical analysis:

1. Level of turnover in 2006
2. Cumulative growth in turnover, 2001-2006
3. Level of employment in 2006
4. Cumulative growth in employment, 2001-2006
5. Labour productivity in 2006
6. Cumulative growth in labour productivity, 2001-2006
7. Average investment rate (investment per employee) over 2001-2006
8. Average investment rate (ratio of investment to turnover) over 2001-2006
9. Average investment rate (ratio of investment to operating profit) over 2001-2006

10. Average operating profitability (ratio of operating profit to turnover) over 2001-2006
11. Average operating profitability (ratio of operating profit to capital) over 2001-2006

For data availability reasons, we chose 2001 as the year of reference, instead of 2000.

The next step in the construction of the databank was to create the indicators which are not directly available from the Amadeus databank. The different average investment rate indicators were only computed for firms for which information was available throughout the whole period.

Firms with any missing observations were dropped from the dataset used for the comparative performance analysis.

12.4 The matching technique

We considered firms to be comparable if:

1. their sector was identical, and;
2. their size (in terms of number of employees) was comparable in 2001.

Regarding the size (proxied by the number of employees in 2001), the following criterion of +/- 10% or +/- 2 employees was chosen. First, mixing between relative and absolute criteria was necessary in order to avoid discriminating between either big or small firms. Second, in order to avoid losing too much information from the dataset of domestic-owned companies, we chose not to use a perfect match for size (i.e. which would have involved keeping only domestic firms whose size was exactly identical to that of the foreign firm for which a match was sought). We broadened the firm size criterion so as to get more matches, even though we loose in precision. However, this enables us to build better counterfactuals.

The matching was done manually as we found that the matching programmes available in STATA, the standard econometric software used at London Economics, were not accurate enough for our purpose.

For each foreign firm, we kept firms within the same sector whose size in 2001 was equal +/- 10% or +/- 2 employees. A domestic firm was considered to be a match if it corresponded to a foreign firm.

All the unmatched foreign firms were dropped from our sample. Not matched domestic firms were also dropped.

Then, for each foreign firm, we built its “counterfactual match”. Each foreign firm is indeed matched with a certain number of domestic firms. The counterfactual match corresponds to the average of all the domestic matches for one foreign firm. More precisely, for any foreign firm, we computed the mean size and the mean performance indicator of all the corresponding domestic matches.

12.5 Data availability

For Cyprus, Denmark, Ireland, Luxembourg, Malta and Slovenia, no data was available at all and these countries were dropped in the analysis.

In addition, a few countries had very little information (around 20/30 firms) for all the indicators: Hungary, Lithuania, Portugal and Slovakia and, due to the small sample size, these countries were dropped in the country-specific analysis but kept in the EU-wide analysis.

Apart from Latvia and the Czech Republic, with around 200 observations in average, all other countries (except in some very specific cases) have at least more than 500 firms in our sample.

The average investment rate data were not available for Austria.

The average number of matches per foreign firm was around 9 and 11.5 in the overall sample and ranged between 1 and 50 depending on the country.

The stand-alone Annex 2 provides detailed information on the characteristics of the domestic and foreign firms in the database used in the comparative analysis.

12.6 Measuring the average effect of being foreign

Country specific analysis

So as to measure the impact of being foreign on firm performance, we were interested in the average effect of being foreign, i.e. the average difference between the performance of foreign firms and their (synthetic) match. In technical terms, we were interested in the average treatment effect on the treated (ATT).

So as to control for the small differences in size, we estimated in cross-section mode the following model:

$$(1) \text{ Performance indicator} = a + \beta * \text{size} + \mu * \text{for} + \varepsilon$$

In other words, the size variable for used as an additional control variable in the model.

Sector fixed effects were included in the estimation and “for” is a dummy equal to one if the firm is foreign, and ε is a random error term.

The estimated parameter μ gives us the estimation of the impact of being foreign on the performance of the firms.

In a second step, we distinguished between the impact being foreign-owned in general and being foreign-owned from another EU Member State. Therefore, we expanded the previous model by adding a dummy equal to 1 if the firm is foreign-owned and the owner is from another EU Member State.

$$(2) \text{ Performance indicator} = a + \beta * \text{size} + \mu_1 * \text{for} + \mu_2 * \text{eu} + \varepsilon$$

The estimated parameter μ_2 is the additional impact of being foreign-owned from another EU Member State while the estimated parameter μ_1 yields the general impact of being foreign. Thus the total impact of being foreign-owned from another EU Member State is equal to the sum of the estimates of μ_1 and μ_2 .

EU-wide analysis

We also estimated the second model in cross-section mode, using all the available information, adding country fixed effects (see equation 3).

We also estimated a further version of this model allowing for interaction between the fact of being foreign or European foreign with the country dummies (see equation 4).

$$(3) \text{ Performance indicator} = a + \beta * \text{size} + \mu_1 * \text{for} + \mu_2 * \text{eu} + \varepsilon$$

and

$$(4) \text{ Performance indicator} = a + \beta * \text{size} + \mu_i * \text{for} * \text{country}_i + \mu_j * \text{eu} * \text{country}_j + \varepsilon$$

12.7 Data limitation and methodological limits

Our analysis could only take into account firms for which data was available. Due to uneven data availability among countries, the quality of results may vary across Member States.

Moreover, although the matching technique has been widely used, some authors have highlighted some potential problems arising from its use: estimators may be biased and not efficient (see Guido Imbens & Alberto Abadie).

However, we chose to use the matching technique for two reasons that limit the effects of those uncertainties. First, due to the data structure, we generally have a large number of controls (i.e. domestic firms) for each foreign firm. Second, our results are less sensitive to these problems, since the point of the study was primarily descriptive.

In order to correct for potential heteroskedasticity, we used the robust estimation technique which yields corrected standard errors.

12.8 Findings

EU-wide analysis

The following table presents in summary form the main estimation results of model 4. The table shows, for a variety of indicators, the impact of being foreign-owned in general and the impact of being foreign-owned from another EU Member State. Note that the absolute effect of being foreign-owned from another EU Member State is reported below and not the marginal effect.

Note also that all indicators in levels (such as the turnover in 2006) were used in logarithmic form in the estimation model. Therefore, the value of -0.06 reported in the table means that, in 2006, the turnover level of foreign firms was 0.06% lower than that of domestic firms.

In contrast, the indicators in growth rate form are expressed as percentages in the estimation. Thus, the reported value of 0.15 for the cumulative growth in turnover from 2001 to 2006 signifies that cumulative growth in turnover of foreign firms was 0.15 percentage point higher than at domestic-owned firms.

Overall, at the EU-wide level we observe that foreign firms show:

- A slightly larger cumulative increase in turnover;
- A larger increase in employment;

- Higher profitability relative to turnover;
- Slightly lower level of turnover, employment, investment ratios and profitability relative to capital;
- No differences with regards to the level of labour productivity in 2006, the growth in productivity, and average investment per employee.

Foreign-owned firms from other EU Member show very little difference in economic performance relative to foreign-owned firms in general. The only exceptions are a slightly lower employment level in 2006 and a slightly lower profitability ratio (as % of turnover)

Table 22: Summary estimation results of EU-wide model - impact of being foreign-owned on various economic performance indicators		
Indicator	All foreign firms	Only European firms
Level in turnover in 2006	-0.06	-0.06
Cumulative growth in turnover 2001-2006	0.15	0.15
Level in employment in 2006	-0.10	-0.18
Cumulative growth in employment 2001-2006	0.82	0.82
Level in productivity in 2006	0.00	0.00
Cumulative growth in productivity 2001-2006	0.00	0.00
Average ratio of investment per employee 2001-2006	0.00	0.00
Average ratio of investment to turnover 2001-2006	-0.37	-0.37
Average ratio of investment to operating profit 2001-2006	-0.30	-0.30
Average ratio of operating profit to turnover 2001-2006	0.26	0.22
Average ratio of operating profit to capital 2001-2006	-0.06	-0.06

Source: London Economics

Overall, the differences in performance between foreign firms, European foreign firms and their domestic counterparts are very small to nil.

However, the results reported above are mean estimates across all the EU Member States for which data are available, and may hide important differences across Member States. Therefore, the estimation results of the country-specific models are reported in the next sub-sections of the present section.

Level of turnover in 2006

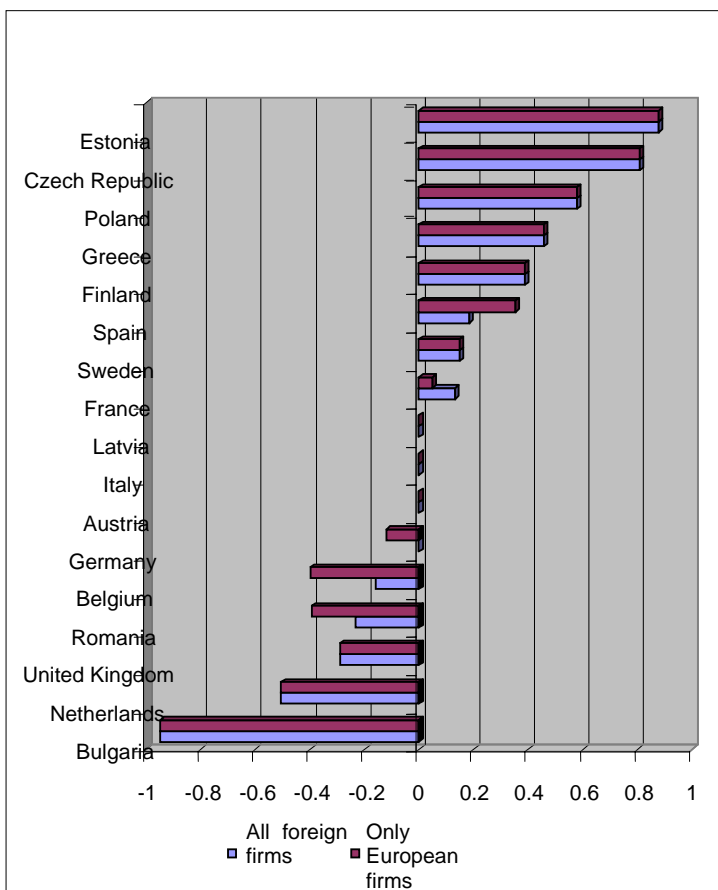
Overall, the level of turnover in 2006 of foreign firms varies within a +/- 1% range, compared to similar domestic firms in 2001.

The largest differences are observed in Central Europe, either at the top or at the bottom. The top 3 positions are held by Estonia, Czech Republic and Poland, three countries which entered the European Union in 2005.

The estimated impact of being foreign-owned from another EU Member State is generally similar, and if not, very close to those of foreign-owned companies in general.

However, the results must be considered with care, insofar as similar firms in 2001 had different levels in turnover. Hence, the importance of assessing differences in the growth in turnover over the period.

**Figure 51: Level of turnover in 2006:
Estimated coefficients of foreign and European dummy variables
(in %)**



Reading: in Estonia, the turnover of foreign firms in 2006 is, in average, 0.88% larger compared to similar domestic firms.

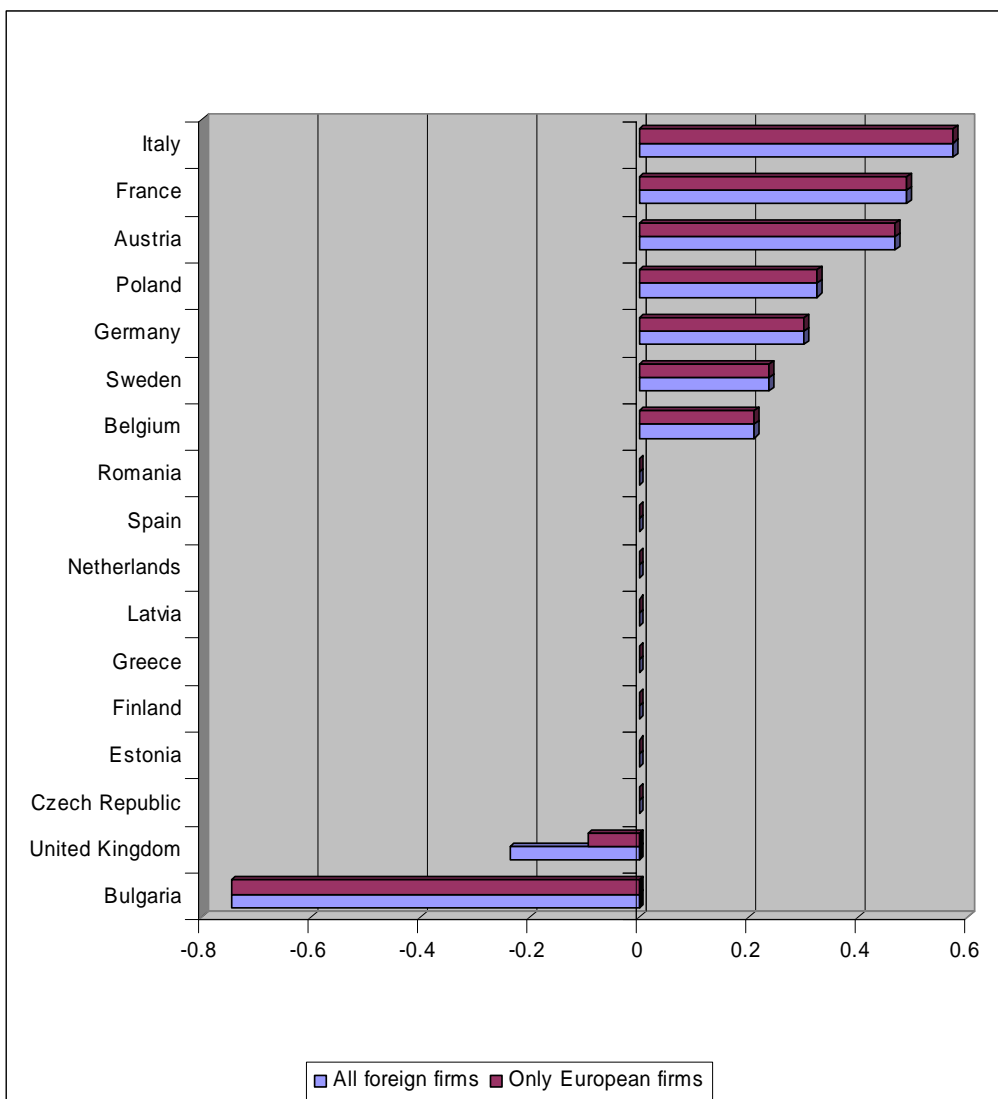
Source: London Economics

Cumulative growth in turnover, 2001-2006

Overall, the cumulative growth in the level of turnover between 2001 and 2006 for foreign firms differs by between +0.5%/-1% relative to the cumulative growth in turnover at similar domestic firms in 2001. These differences are very small (i.e., a difference of +0.5% relative to an overall increase of 50%).

Of note is the fact that there are nearly no difference between foreign firms and European foreign firms (except for the UK).

**Figure 52: Cumulative growth in turnover from 2001 to 2006:
Estimated coefficients of foreign and European dummy variables
(in %)**



Reading: In France, on average, the cumulative growth between 2001 and 2006 for foreign firms was superior by 0.5% to that of similar domestic firms in 2001.

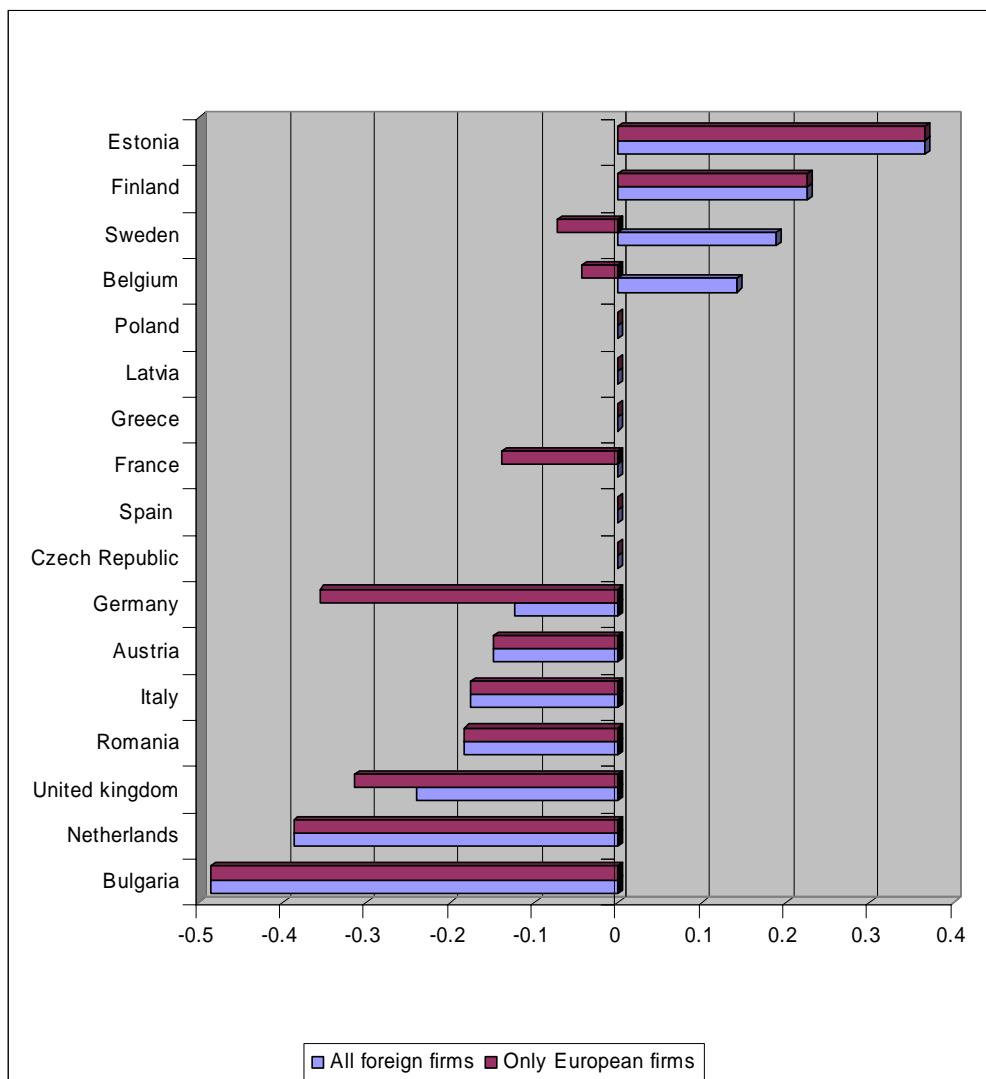
Source: London Economics

Level of employment in 2006

Overall, the level of employment in 2006 at foreign firms varies within a +/- 0.5% range compared to employment at similar domestic firms in 2001. In general, the estimated coefficients tend to be nil or negative. Moreover, one should also note that the coefficient specific to European foreign firms is always smaller than the coefficient for all foreign firms.

Regarding the level in employment in 2006, the interpretation is more straightforward than in case of the turnover level as the similar firms, by construction, were of a very close size in 2001. However, small differences do exist and must be taken into account (for instance, foreign firms in Finland were by construction 1.5% larger than the comparator domestic firms).

**Figure 53: Level of employment in 2006:
Estimated coefficients of foreign and European dummy variables
(in %)**



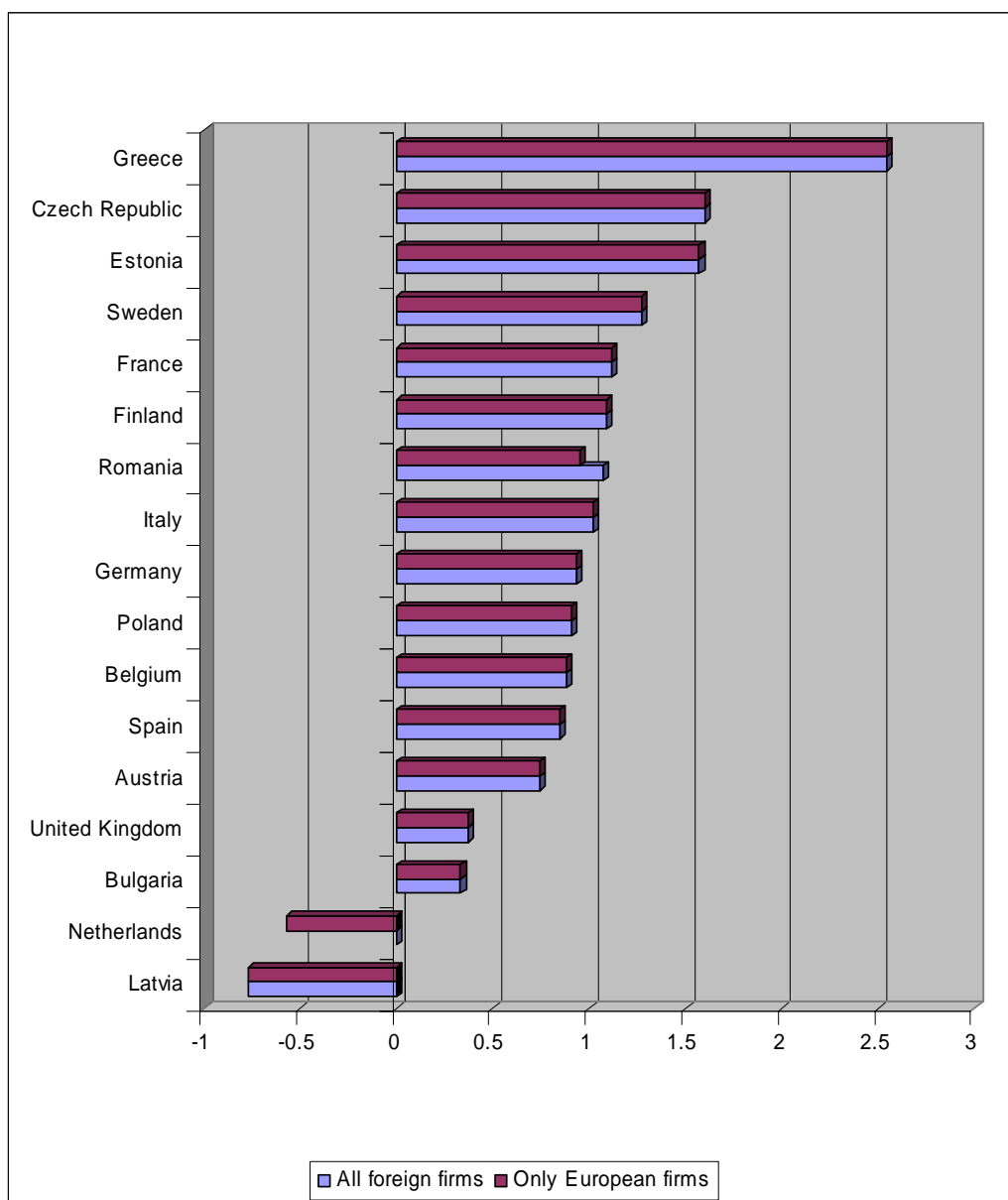
Reading: In Sweden, foreign firms were on average 0.2% larger in 2006 than similar domestic firms in 2001. However, European foreign firms were on average smaller by 0.1%

Source: London Economics

Cumulative growth in employment, 2001-2006

Overall, the growth in the level of employment between 2001 and 2006 at foreign firms is within a +2.5%/-1% range of cumulative growth in employment at comparator domestic firms. These differences are small in comparison to the overall employment growth over this period.

**Figure 54: Cumulative growth in employment between 2001 and 2006
Estimated coefficients of foreign and European dummy variables
(in %)**



Reading: In Greece, the growth in the level of employment between 2001 and 2006 at foreign firm was 2% higher than at similar domestic firm.

Source: London Economics

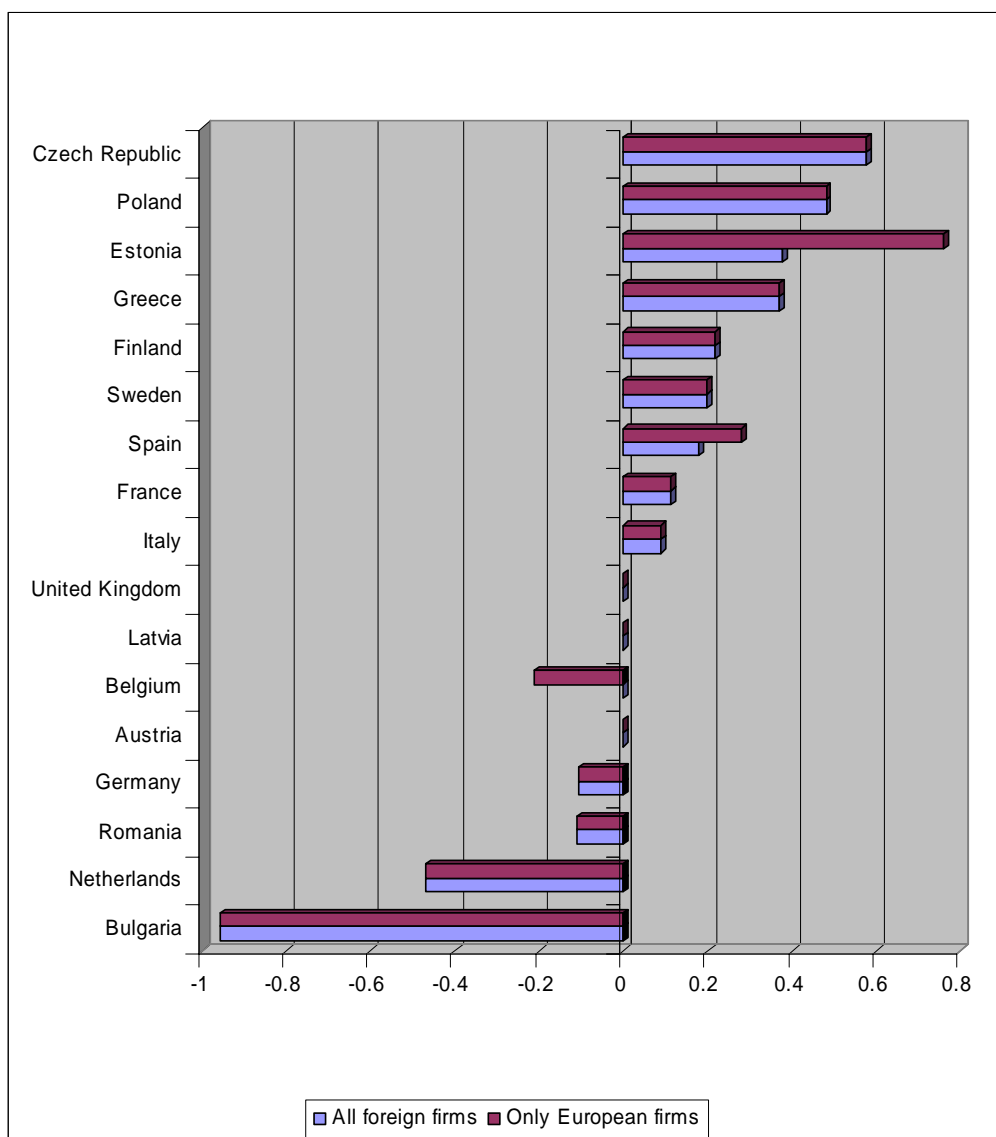
Labour productivity in 2006

The level of productivity in 2006 at foreign firms varies within a range of +.5%/-1% range relative to the level of labour productivity at comparator domestic firms.

It is worth noting that the ranking is very similar to the ranking obtained for the level in turnover, with the exception of the UK.

Once again, few differences between foreign-owned firms in general and foreign-owned firms from another EU Member State appear to exist.

Figure 55: Labour productivity in 2006
Estimated coefficients of foreign and European dummy variables
(in %)



Reading: In 2006 in Estonia, foreign firms were more 0.4% more productive than similar domestic firms while European foreign firms were more productive by 0.8%.

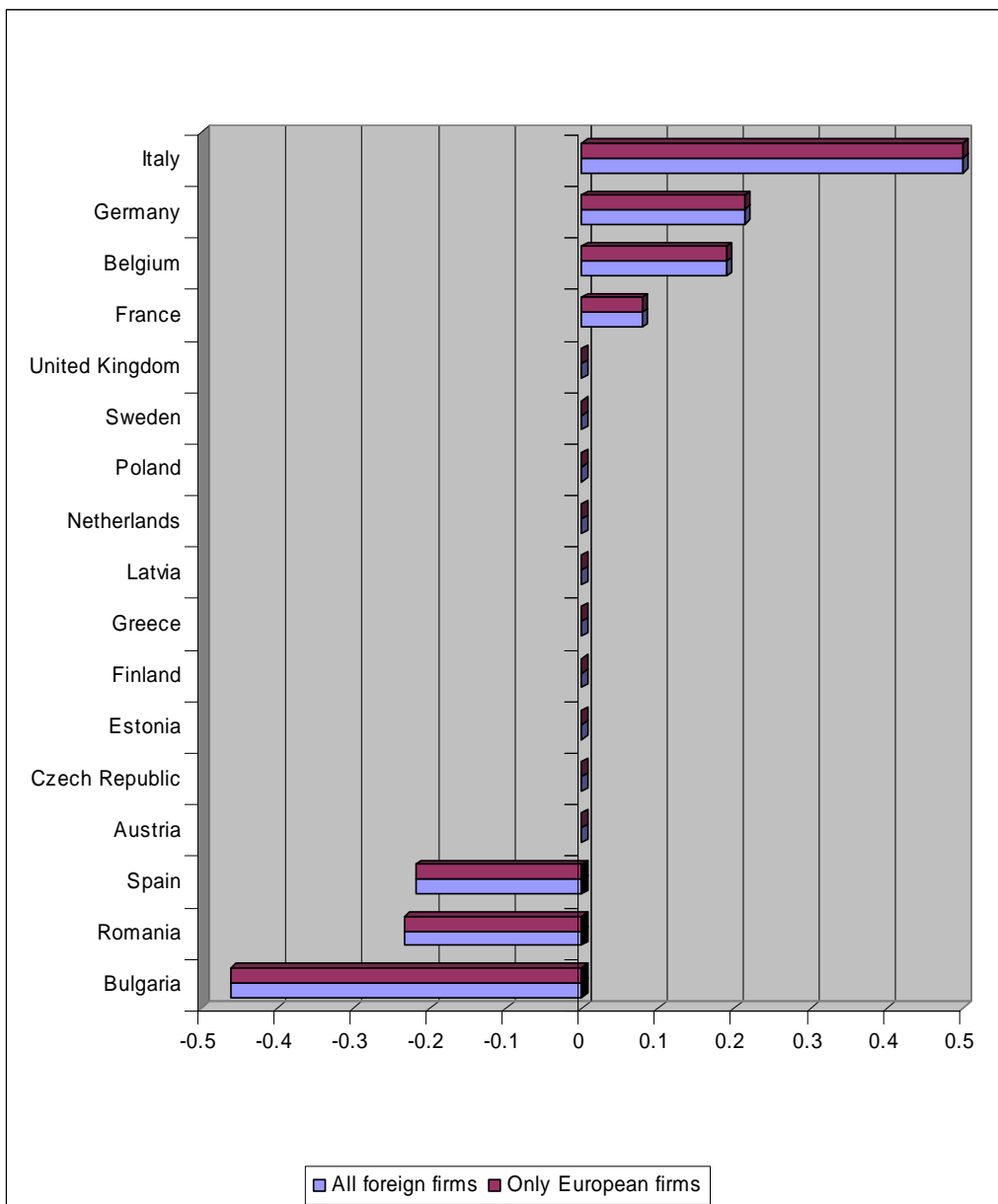
Source: London Economics

Cumulative growth in labour productivity, 2001-2006

The growth in the level of productivity between 2001 and 2006 at foreign firms varies between a very small range of +/-0.5%, compared to an increase in productivity at comparator domestic firms, but most differences are mostly nil or close to nil.

No effect specific to foreign-owned firms from another EU Member State is observable.

Figure 56: Cumulative growth in labour productivity between 2001 and 2006
Estimated coefficients of foreign and European dummy variables
(in %)



Reading: Between 2001 and 2006, the growth in productivity at foreign firms in Italy was superior by 0.5% compared to that of comparator domestic firms.

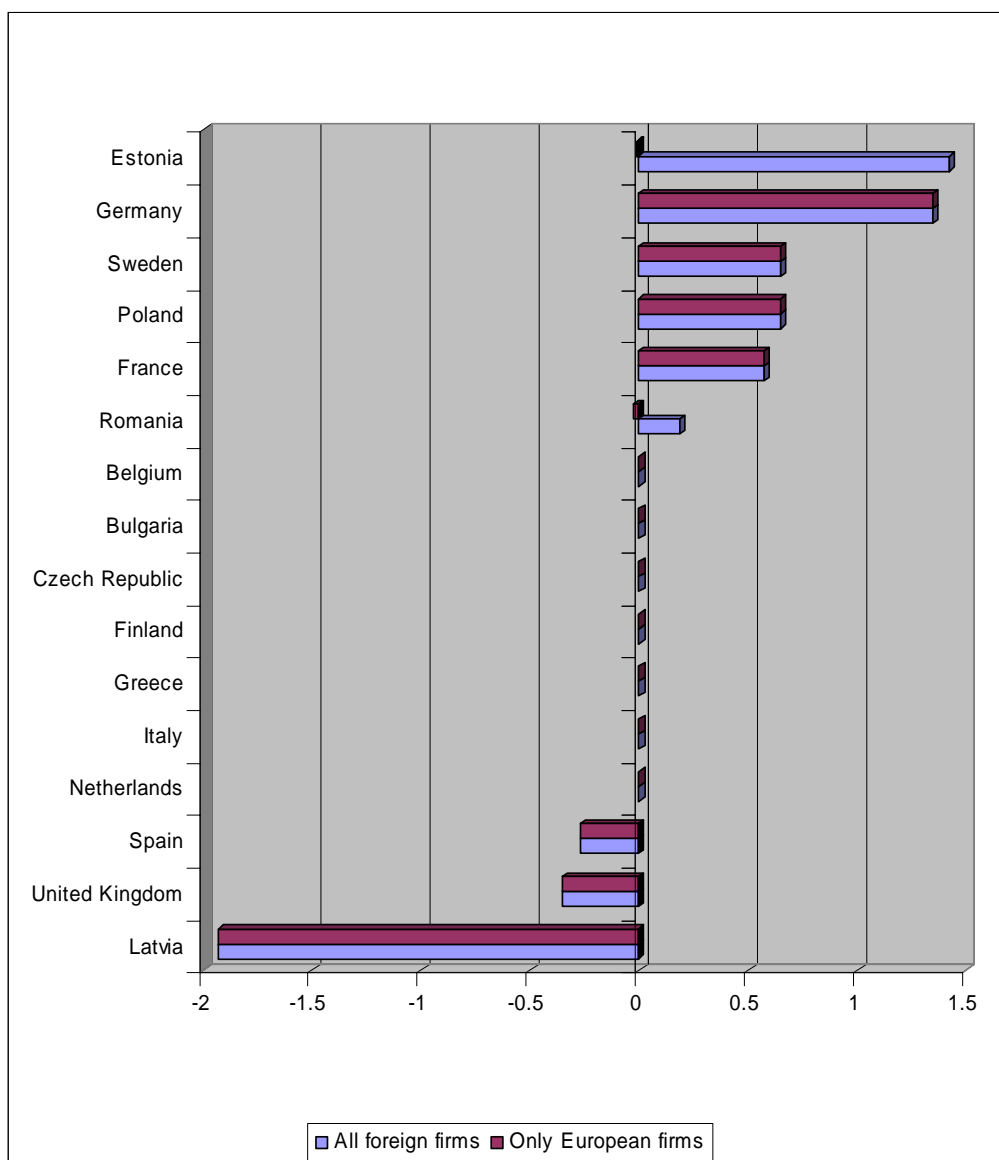
Source: London Economics

Average investment rate (investment per employee) over 2001-2006

The difference in the average ratio of investment per employee between foreign firms and similar domestic firms ranges from 1.5% to -2% although these differences fall within the small range of +/-0.5%. Three countries stand out: Estonia, Germany (where the investment ratio of foreign firms is, on average, 1% higher than at comparator domestic firms) and Latvia (where the investment ratio at firms is on average 2% lower than at comparator domestic firms).

Except in the case of Estonia and Romania, where the average investment ratio is similar for EU foreign firms and domestic comparator firms, no differences between foreign and EU foreign firms are noticeable.

**Figure 57: Average investment per employee over 2001-2006
Estimated coefficients of foreign and European dummy variables
(in %)**



Reading: Between 2001 and 2006, the average ratio of investment per employee at foreign firms in Estonia was 1.5% bigger than at similar domestic firms. However the difference between European foreign firms and domestic firms was nil.

Source: London Economics

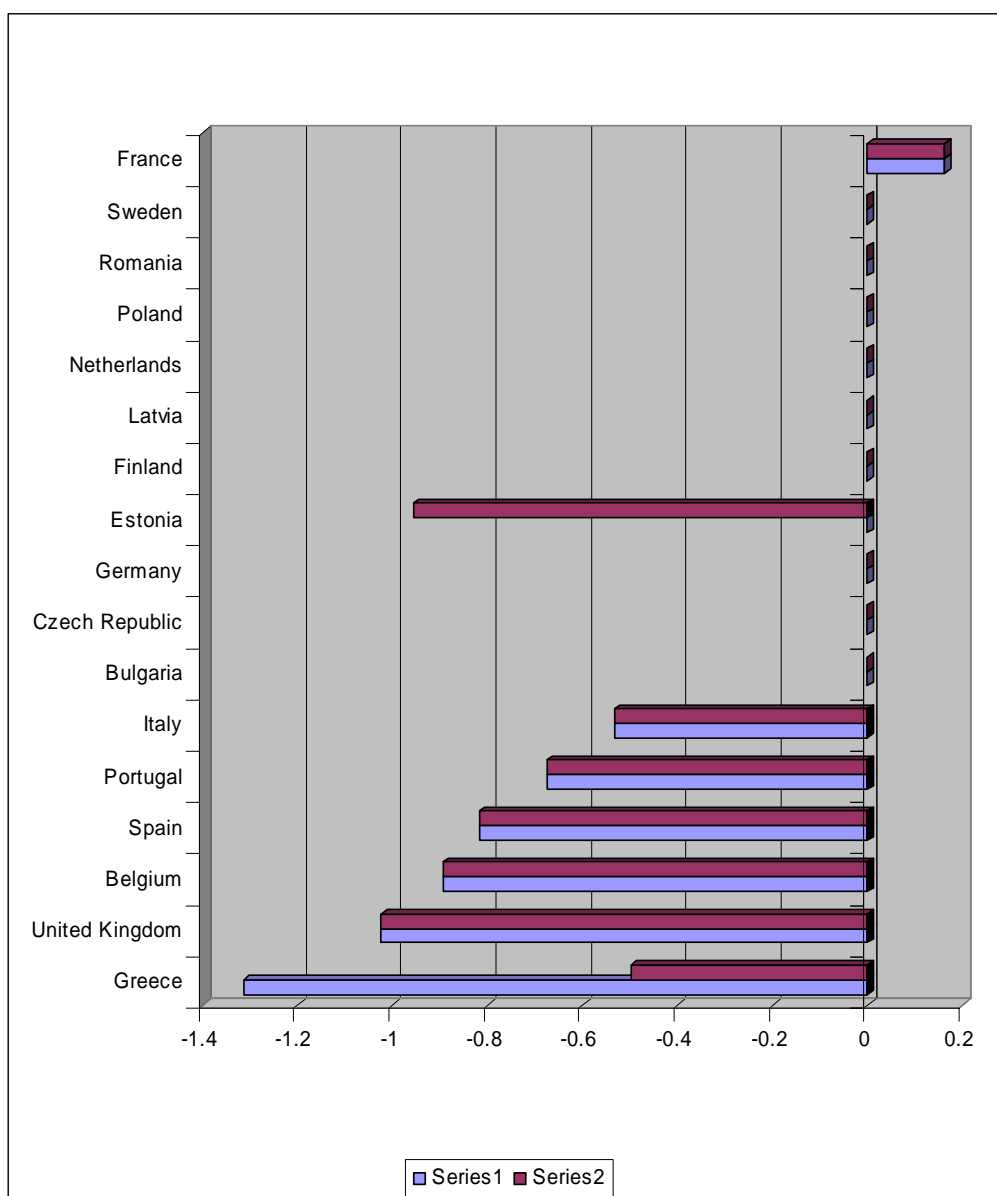
Average investment rate (ratio of investment to turnover) over 2001-2006

Except for France, the average ratio of investment to turnover at the foreign firms in all European countries is equal to or smaller than that at similar domestic firms.

It is noticeable that the great majority of countries for which the difference is negative are located in Southern Europe (Italy, Portugal, Spain and Greece).

Except in the cases of the UK and Estonia, no particular effect for foreign EU firms relative to foreign firms in general is observable.

**Figure 58: Average investment to turnover over 2001-2006
Estimated coefficients of foreign and European dummy variables
(in %)**



Reading: Between 2001 and 2006, the average ratio of investment to turnover at foreign firms in Greece was smaller by 1.3% compared to similar domestic firms. The gap reduces to -0.5% for European foreign firms.

Source: London Economics

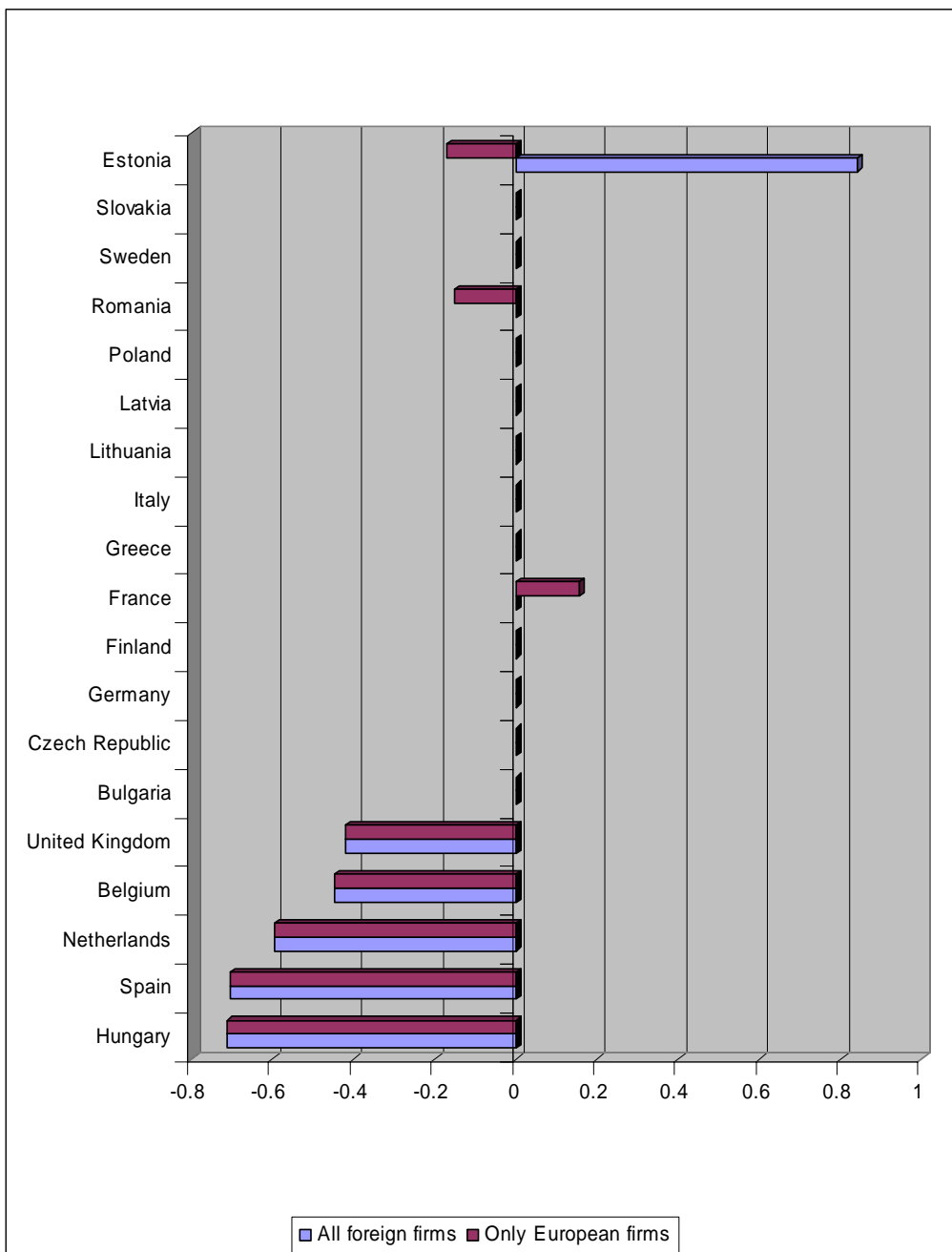
Average investment ratio (ratio of investment to operating profit over 2001- 2006)

With the exception of Estonia, the average ratio of investment to operating profit is either similar or smaller at foreign firms than at domestic firms.

The three indicators of the investment rate yield somewhat different results but some similarities can be observed:

- In France and Estonia, foreign firms seem to invest more than similar domestic firms.
- In contrast, foreign firms in Spain, Belgium and in the UK seem to invest less on average than comparator domestic firms.

Figure 59: Average investment to operating profit over 2001-2006
Estimated coefficients of foreign and European dummy variables
(in %)



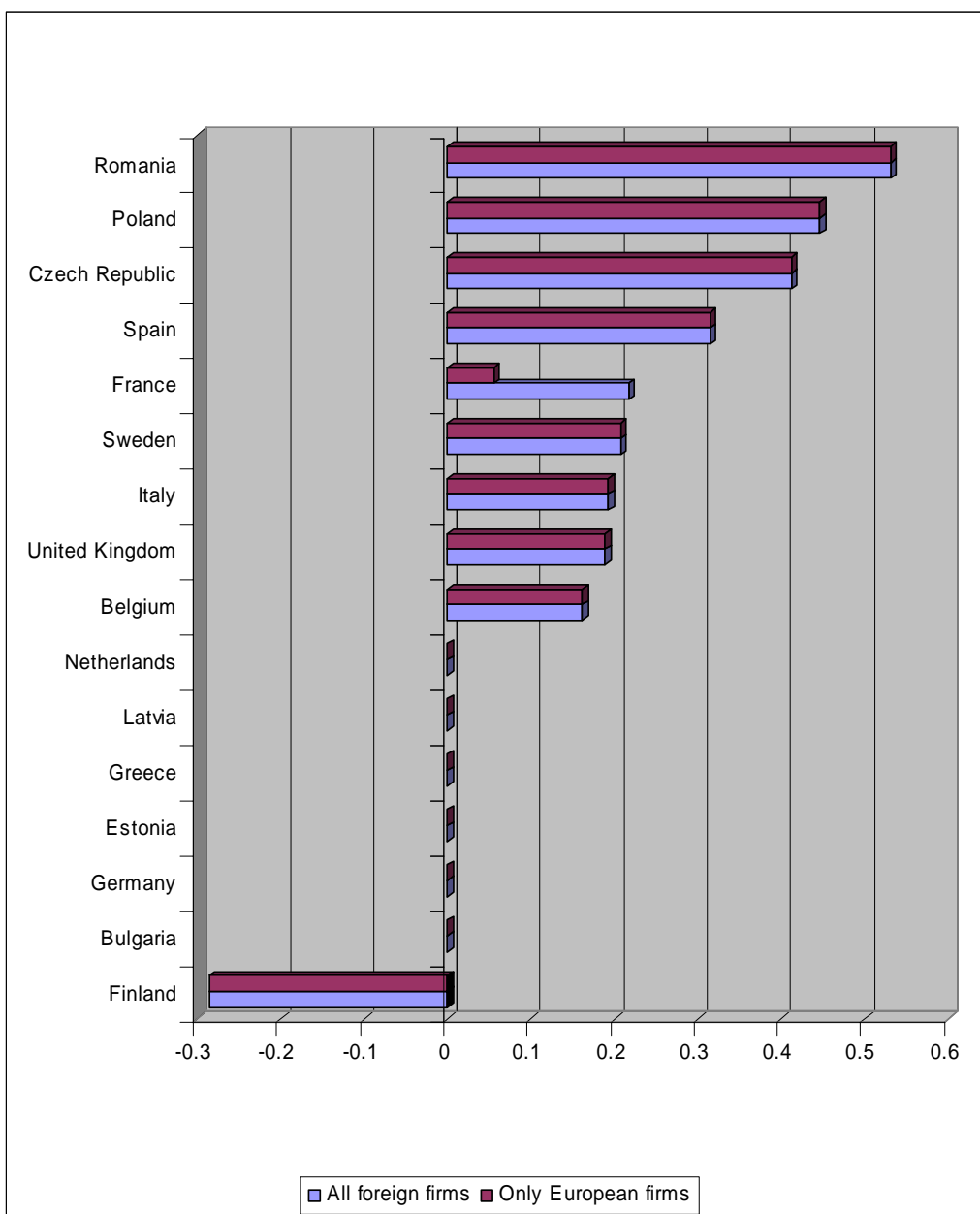
Reading : Over the 2001-2006 period, the average ratio of investment to operating profit at foreign firms in Estonia was 0.8% bigger than that at similar domestic firms. However, it was 0.2% smaller for European foreign firms.

Average operating profitability (ratio of operating profit to turnover) over 2001-2006

Except in the case of Finland, the average ratio of operating profit to turnover between 2001 and 2006 is either similar or greater at foreign firms than at comparator domestic firms.

With the exception of France, there are no differences between foreign firms in general and foreign firms from another EU Member State.

**Figure 60: Average ratio of operating profit to turnover over 2001-2006
Estimated coefficients of foreign and European dummy variables
(in %)**



Reading: In Romania, between 2001 and 2006, the average ratio of operating profit to turnover of foreign and European foreign firms was 0.5% bigger compared to similar domestic firms.

Source: London Economics

Average operating profitability (ratio of operating profit to capital) over 2001-2006

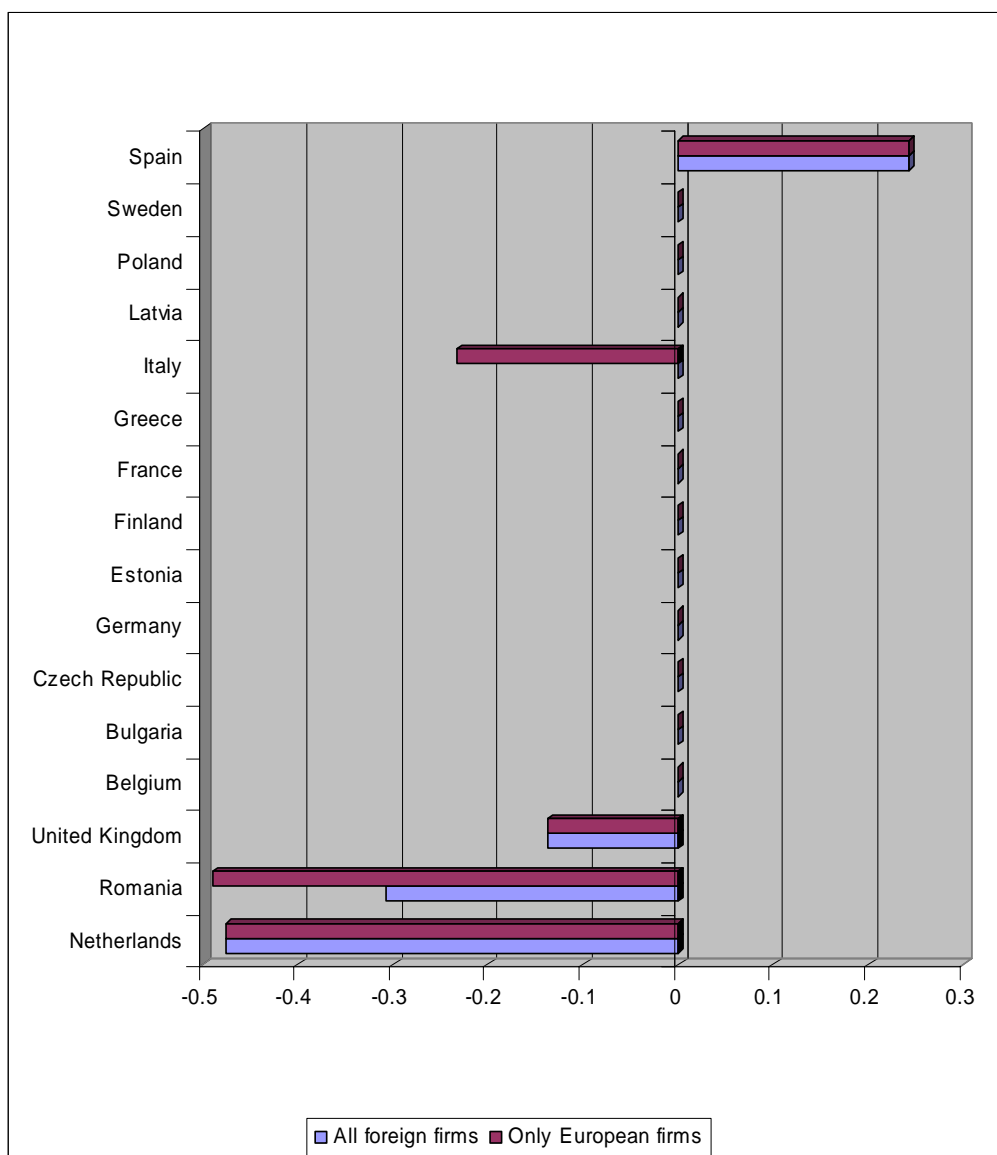
Except for a few countries, the average ratio of operating profit to capital between 2001 and 2006 is similar for foreign, European foreign and similar domestic firms.

The exceptions are:

- Spain, where the operating profit ratio is higher at foreign firms than at domestic comparator firms;
- Italy, Netherlands, Romania and United Kingdom where the operating profit ratio is lower at foreign firms than at domestic firms.

There are no differences between foreign-owned firms in general and foreign-owned firms from another EU Member State except in the case of Italy where only foreign-owned firms in general show a lower profit ratio and Romania where foreign-owned firms in general show a much lower ratio than foreign-owned firms from another EU Member State (both groups of firms post a lower profit rate than domestic firms in the case of Romania).

Figure 61: Average ratio of operating profit to capital over 2001-2006
Estimated coefficients of foreign and European dummy variables
(in %)



Reading: In Romania, between 2001 and 2006, the average ratio of operating profit to capital of foreign firms was 0.5% smaller compared to similar domestic firms, while it was 0.3% smaller for European foreign firms.

Source: London Economics

12.9 Conclusions

To provide an overview of the various empirical results presented in the previous sub-sections, Table 23 summarises the main findings.

For both the EU-wide model and for the country specific models, the table lists first the sign of the impact of being a foreign-owned company which was found empirically (a “+” is a positive impact, a “-” is a negative impact and a “0” is a nil impact). In the case of the country-specific estimation, the table also lists the countries for which a particular impact in terms of direction was observed.

Next, after providing the direction of the impact of being foreign-owned, the table also indicates whether there are any differences between foreign-owned companies in general and foreign-owned companies from the EU. A “ND” legend means that there are no differences. If there are any exceptions to this general observation, these are listed explicitly in the summary table after the “ND” legend.

A few key facts stand out from the empirical analysis of the effect of foreign ownership (in general or from another EU Member State) on firm economic performance.

First, in the vast majority of cases, differences in the impact of being foreign-owned in general and being foreign-owned by an owner in another EU Member State are nil;

Second, observed differences in economic performance across indicators and Member States vary markedly. Only in the case of employment growth is there an almost unanimous pattern of foreign firms showing stronger employment growth, although the impact is small in absolute terms.

There is a great deal of heterogeneity across Member States in terms of the relative economic performance of foreign-owned firms which is hidden when one focuses only on the EU-wide results.

A number of indicators show little if not no impact of the fact being foreign-owned in the majority of EU Member States. This is the case, for example, of labour productivity.

Regarding the investment indicators, only in very few cases is the impact of being foreign-owned estimated to be positive. In the majority of cases, the impact is either nil or negative (meaning that the foreign-owned firms invest less than their domestic comparators).

The picture regarding profitability is more mixed. While in a majority of cases, the impact of being foreign owned is positive when profitability is assessed on the basis of the profit margin (ratio of operating profit to turnover), it is mostly negative or nil when profitability is measured as a rate of return (operating profit/capital (the latter is defined as shareholders' funds + long-term debt)).

Table 23: Summary estimation results of EU-wide model – impact of being foreign-owned on various economic performance indicators

Indicator	EU-wide analysis	Country specific analysis
Level in turnover in 2006	- /ND	+ (EE, CZ, PL, EL, ES, SW, FR),, - (AT, DE, BE, RO, UK, NL, BG),, 0 (FR, LV, IT) / ND except (SW, AT, DE, BE)
Cumulative growth in turnover 2001-2006	+ / ND	+ (IT, FR, AT, PL, DE, SW, BE),, - (UK, BG), 0 (RO, ES, NL, LU, EL, FI, ES, CR) / ND (except UK where EU foreign owned is lower)
Level in employment in 2006	- /slightly more -	+ (EE, FI),, -(SW, BE, FR, DE, AT, IT, RO, UK, NL, BG), 0 (PL, LV, EL, ES, CR) / ND except (SW positive effect, FR nil effect and UK smaller negative effect)
Cumulative growth in employment 2001-2006	+ /ND	+ (GR, CR, EE, SW, FR, FI, RO, IT, DE, PL, BE, ES, AT, UK, BG), - (NL, LV) / ND except RO larger positive effect and NL nil effect
Level in productivity in 2006	0/ND	+ (CR, PL, EE, EL, FI, SW, ES, FR, IT),, - (BE, DE, RO, NL, BG), 0 (UK, LV, AT) / ND except EE lower positive impact and BE nil impact
Cumulative growth in productivity 2001-2006	0/ND	+ (IT, DE, BE, FR) - (ES, RO, BG), 0 (UK, SW, PL, NL, LV, GR, FI, EE, CR, AT) / ND
Average ratio of investment per employee 2001-2006	0/ND	+ (DE, SW, PL, FR) , - (ES, UK, LV) , 0 (EE, RO, BE, BG, CR, FI, EL, IT, NL) / ND except EE very positive and RO positive
Average ratio of investment to turnover 2001-2006	- /ND	+ (FR),, - (EE, IT, PO, ES, BE, UK, EL), 0 (SW, RO, PL, NL, LV, FI, DE, CR, BG) / ND except EE nil and EL much more negative effect
Average ratio of investment to operating profit 2001-2006	-- /ND	+ (FR),, - (EE, RO, UK, BE, NL, SP, HU),, 0 (SV, SW, PL, LV, IT, EL, FI, DE, CR, BG) /ND except EE large positive effect, Ro nil, FR nil
Average ratio of operating profit to turnover 2001-2006	+ /slightly weaker	+ (RO, PL, CR, ES, FR, SW, IT, UK, BE),, -(FI), 0 (NL, LV, EL, EE, DE, BG) / ND except FR much more positive effect
Average ratio of operating profit to capital 2001-2006	- /ND	+ (ES),, - (IT, UK, RO, NL),, 0 (SE, PL, LV, EL, FR, FI, ES, DE, CR, BG, BE) / ND except IT nil and RO smaller negative impact

Note: see text of Section 14.9 for an explanation of how to read this table.

Source: *London Economics*

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Annex 1 Comparison of Amadeus and Eurostat data

To assess to what extent, the company samples created from the Amadeus databank match the actual company population relatively well, we undertook two different comparisons.

1. First, we compared the total Amadeus number of companies at the Member State level with the number reported by Eurostat in the Structural Business Statistics;
2. Second, we compared the number of foreign-owned companies identified through the process described above with the number of foreign-owned companies reported by Eurostat in the sub-file "Foreign control of enterprises" of the Structural Business Statistics.

Total number of companies

As can be seen from Table 24, Amadeus tends to yield a number of companies which underestimates the actual number of companies reported by Eurostat.

The underestimation is particularly pronounced in the case of Cyprus, Greece, Italy, Latvia, Luxembourg, Lithuania, Poland and Slovakia.

Such underestimation may be caused by two main factors:

1. Company reporting requirements are lighter in these countries, at least for a range of companies such as private companies and SMEs and, as result, Amadeus does not incorporate the economic and financial information required for the analysis;
2. The Amadeus data collection exercise is incomplete and imperfect in these countries;

Country	Eurostat	Amadeus	Ratio of Amadeus number to Eurostat number
AT	273,659	165,535	0.60
BE	396,193	367,786	0.93
BG	240,315	200,561	0.83
CY	39,285	676	0.02
CZ	n.a.	94,075	n.a.

DE	1,665,326	1,058,131	0.64
DK	202,248	193,670	0.96
EE	38,186	73,856	1.93
ES	2,545,049	969,438	0.38
FI	189,922	80,354	0.42
FR	2,279,307	1,050,866	0.46
GR	820,723	29,649	0.04
HU	557,219	294,815	0.53
IE	85,573	153,394	1.79
IT	3,821,688	702,027	0.18
LT	107,012	10,017	0.09
LU	22,597	5,532	0.24
LV	62,154	7,593	0.12
NL	493,645	377,927	0.77
PL	1,407,349	53,215	0.04
PT	850,295	308,564	0.36
RO	412,304	505,428	1.23
SE	523,848	271,310	0.52
SI	88,618	37,980	0.43
SK	42,223	10,435	0.25
UK	1,588,804	2,380,272	1.50
EU27	19,646,907	9,403,106	0.48

Note: Number of enterprises for Eurostat

Source: London Economics calculations based on Eurostat and Amadeus data

Number of foreign-owned companies

In Table 25 below, we compare the number of foreign-controlled companies reported by Eurostat for selected years and countries to the number of foreign-owned companies in Amadeus which were identified through the process described above.

As can be seen from the data reported in the table, the two sources yield very different number of foreign-owned companies in the case of many countries.

In a number of cases (Austria, Estonia, Netherlands, Spain), Amadeus yields a much higher number of foreign-owned firms while in other cases (Cyprus, Italy, Hungary, Latvia, Lithuania, Slovakia, Slovenia and Sweden) the opposite is true.

In the absence of being able to compare at the enterprise level the two data sets, it is impossible to determine exactly why the results differ so much. That being said, the following factors are likely to have an effect:

1. Incomplete coverage by Amadeus databank. We have shown above that Amadeus's coverage of the enterprise population is poor in the case of Cyprus, Greece, Italy, Latvia, Luxembourg, Lithuania, Poland and Slovakia. This poor overall coverage is likely to explain the significant undercounting of foreign-owned companies identified in Amadeus in the case Cyprus, Italy, Latvia, Lithuania, Slovakia, and Slovenia, and, to some extent, in the case of Hungary and Sweden);
2. The Eurostat data themselves may be imperfect. For example, some countries (e.g., Netherlands, Portugal, Spain and, to a lesser extent, France) show large year-to-year jumps in the number of foreign-controlled enterprises;
3. The definition of foreign-ownership is different. In the Eurostat data, a 50% foreign-ownership criterion is used whereas in the data extracted from Amadeus a 25% ownership criterion is used on the basis that, at such ownership level, the influence of the foreign owner is already likely to be felt at the company level.

Table 25: Number of EU foreign-owned companies – Eurostat and Amadeus 2003-2005

Country	Eurostat			Amadeus	Ratio of Amadeus to Eurostat		
	2003	2004	2005		2003	2004	2005
BG	2,852	3,293	3,125	2,850	1.00	0.87	0.91
CZ	9,578	11,659	12,866	746	0.08	0.06	0.06
EE	502	526	n.a.	1,195	2.38	2.27	n.a.
ES	2,874	2,980	4,055	7,077	2.46	2.37	1.75
FR	12,235	12,293	13,031	10,646	0.87	0.87	0.82
IT	8,843	8,708	n.a.	2,348	0.27	0.27	n.a.
CY	n.a.	164	n.a.	2	n.a.	0.01	n.a.
LV	1,558	1,601	n.a.	484	0.31	0.30	n.a.
LT	1,250	1,336	1,584	182	0.15	0.14	0.11

HU	1,009	1,306	1,251	711	0.70	0.54	0.57
NL	1,837	1,797	3,100	6,294	3.43	3.50	2.03
AT	1,965	n.a.	n.a.	6,551	3.33	n.a.	n.a.
PT	1,144	1,317	2,530	2,494	2.18	1.89	0.99
RO	1,852	2,663	2,584	18,436	9.95	6.92	7.13
SI	1,044	1,125	n.a.	9	0.01	0.01	n.a.
SK	711	1,741	2,021	139	0.20	0.08	0.07
SE	5,265	5,482	5,974	1,901	0.36	0.35	0.32

Note: Number of enterprises for Eurostat

Source: London Economics calculations based on Eurostat and Amadeus data

Comparison of turnover data

Table 26 shows the ratio of our data to those of Eurostat. The two databases does differ, but as far as the 17 countries in the Eurostat database are concerned, the ratio of the two measure does not show a huge change over the 2003-2005 period, except for Bulgaria in 2003 and Romania in 2004.

Table 27 shows the same for the companies owned from outside the EU. The magnitude of the ratio is stable over time, although not too close to 1. It seems that our data on turnover is lower that those of Eurostat.

Table 26: Total turnover of foreign-owned companies, with owner from other EU Member State, € million

Country	2003			2004			2005		
	Eurostat	Amadeus	Ratio of Amadeus to Eurostat	Eurostat	Amadeus	Ratio of Amadeus to Eurostat	Eurostat	Amadeus	Ratio of Amadeus to Eurostat
BG	6,672	8,074	1.21	10,926	10,166	0.93	15,213	11,798	0.78
CZ	54,965	21,601	0.39	69,559	25,643	0.37	86,649	27,895	0.32
EE	4,388	4,556	1.04	5,205	5,486	1.05	n.a.	6,374	n.a.
ES	190,026	217,903	1.15	211,461	242,773	1.15	211,708	265,499	1.25
FR	402,279	248,054	0.62	395,651	277,171	0.70	438,053	286,906	0.65

IT	207,042	88,435	0.43	239,284	119,809	0.50	n.a.	116,676	n.a.
CY	n.a.	60	n.a.	390	77	0.20	n.a.	87	n.a.
LV	3,773	2,305	0.61	4,755	2,929	0.62	n.a.	3,467	n.a.
LT	3,905	1,638	0.42	4,539	1,903	0.42	5,544	2,400	0.43
HU	43,157	13,478	0.31	50,601	16,397	0.32	56,102	18,715	0.33
NL	100,676	144,132	1.43	107,400	165,405	1.54	118,305	219,148	1.85
AT	60,102	67,298	1.12	n.a.	107,797	n.a.	n.a.	54,835	n.a.
PT	35,290	40,539	1.15	38,902	47,663	1.23	44,957	60,115	1.34
RO	14,185	16,926	1.19	28,109	24,968	0.89	27,492	33,211	1.21
SI	6,462	247	0.04	7,545	268	0.04	n.a.	239	n.a.
SK	20,276	7,774	0.38	24,309	8,484	0.35	28,212	6,366	0.23
SE	97,832	65,829	0.67	99,876	72,321	0.72	113,834	76,603	0.67

Source: London Economics calculations based on Amadeus and Eurostat data

Table 27: Total turnover of foreign-owned companies, with owner from outside the EU, million euro

Country	2003			2004			2005		
	Eurostat	Amadeus	Ratio of Amadeus to Eurostat	Eurostat	Amadeus	Ratio of Amadeus to Eurostat	Eurostat	Amadeus	Ratio of Amadeus to Eurostat
BG	3,063	2,664	0.87	4,095	3,030	0.74	3,955	3,391	0.86
CZ	17,996	8,056	0.45	23,119	9,470	0.41	26,871	11,545	0.43
EE	915	1,070	1.17	1,267	1,322	1.04	n.a.	1,564	n.a.
ES	66,927	142,552	2.13	69,293	170,188	2.46	75,481	191,991	2.54
FR	239,439	287,127	1.20	266,629	318,576	1.19	288,104	341,723	1.19
IT	134,007	60,877	0.45	141,889	83,860	0.59	n.a.	95,009	n.a.
CY	n.a.	252	n.a.	405	288	0.71	n.a.	321	n.a.
LV	1,360	961	0.71	2,206	1,174	0.53	n.a.	1,511	n.a.

LT	3,398	827	0.24	4,622	952	0.21	5,882	1,100	0.19
HU	21,548	2,641	0.12	27,981	4,411	0.16	30,218	4,156	0.14
NL	138,786	499,296	3.60	156,635	597,436	3.81	154,185	398,734	2.59
AT	23,657	34,251	1.45	n.a.	36,552	n.a.	n.a.	20,966	n.a.
PT	14,876	8,483	0.57	10,201	9,874	0.97	12,868	12,935	1.01
RO	4,025	8,766	2.18	7,014	13,167	1.88	5,830	16,333	2.80
SI	2,155	482	0.22	2,907	484	0.17	n.a.	503	n.a.
SK	1,597	1,883	1.18	6,448	2,597	0.40	8,011	2,887	0.36
SE	60,645	59,397	0.98	65,284	67,049	1.03	n.a.	63,807	n.a.

Source: London Economics calculations based on Amadeus and Eurostat data

Comparison of employment data

We also compared our findings with the Eurostat data on foreign-controlled enterprises. Table 28 shows the ratio of our employment data to that of Eurostat for companies owned from another Member State and Table 29 shows the same for the companies owned from outside the EU. The magnitude of the ratio seems to be stable over time, although far from 1. It also seems that our data on employment is much lower than that of Eurostat, especially for companies owned from other Member States.

Table 28: Total employment of foreign-owned companies, with owner from inside the EU, thousands

Country	2003			2004			2005		
	Eurostat	Amadeus	Ratio of Amadeus to Eurostat	Eurostat	Amadeus	Ratio of Amadeus to Eurostat	Eurostat	Amadeus	Ratio of Amadeus to Eurostat
BG	135.0	121.0	0.90	180.4	73.0	0.40	187.7	71.0	0.38
CZ	504.5	126.0	0.25	565.7	73.0	0.13	625.9	82.0	0.13
EE	59.4	38.0	0.64	62.3	14.0	0.22	n.a.	16.0	n.a.
ES	752.0	709.0	0.94	792.2	618.0	0.78	725.0	663.0	0.91
FR	n.a.	878.0	n.a.	n.a.	877.0	n.a.	n.a.	789.0	n.a.

IT	593.1	454.0	0.77	630.3	194.0	0.31	n.a.	215.0	n.a.
CY	n.a.	0.0	n.a.	3.6	0.0	0.00	n.a.	n.a.	n.a.
LV	49.5	25.0	0.51	57.9	14.0	0.24	n.a.	13.0	n.a.
LT	55.5	16.0	0.29	59.8	9.0	0.15	68.7	7.0	0.10
HU	247.0	2.0	0.01	289.2	9.0	0.03	280.3	22.0	0.08
NL	359.8	424.0	1.18	399.0	780.0	1.96	390.7	647.0	1.66
AT	198.5	179.0	0.90	n.a.	76.0	n.a.	n.a.	53.0	n.a.
PT	154.7	45.0	0.29	167.3	10.0	0.06	199.3	12.0	0.06
RO	392.7	494.0	1.26	555.5	252.0	0.45	435.5	253.0	0.58
SI	43.8	4.0	0.09	42.2	3.0	0.07	n.a.	3.0	n.a.
SK	172.0	27.0	0.16	178.5	9.0	0.05	198.3	22.0	0.11
SE	335.0	232.0	0.69	378.2	257.0	0.68	357.9	220.0	0.61

Note: Number of person employed for Eurostat, Number of employees for Amadeus.

Source: London Economics calculations based on Amadeus and Eurostat data

Table 29: Total employment of foreign-owned companies, with owner from outside the EU, thousands									
	2003			2004			2005		
Country	Eurostat	Amadeus	Ratio of Amadeus to Eurostat	Eurostat	Amadeus	Ratio of Amadeus to Eurostat	Eurostat	Amadeus	Ratio of Amadeus to Eurostat
BG	50.9	75.0	1.47	58.2	73.0	1.25	56.7	71.0	1.25
CZ	142.0	61.0	0.43	178.3	73.0	0.41	177.8	82.0	0.46
EE	13.5	12.0	0.89	16.7	14.0	0.84	n.a.	16.0	n.a.
ES	212.6	479.0	2.25	259.6	618.0	2.38	238.8	663.0	2.78
FR	n.a.	842.0	n.a.	n.a.	877.0	n.a.	n.a.	789.0	n.a.
IT	431.1	165.0	0.38	437.1	194.0	0.44	n.a.	215.0	n.a.

CY	n.a.	0.0	n.a.	2.1	0.0	n.a.	n.a.	n.a.	n.a.
LV	20.1	13.0	0.65	24.0	14.0	0.58	n.a.	13.0	n.a.
LT	23.5	9.0	0.38	27.8	9.0	0.32	29.7	7.0	0.24
HU	120.0	1.0	0.01	136.6	9.0	0.07	139.1	22.0	0.16
NL	224.3	763.0	3.40	244.2	780.0	3.19	225.0	647.0	2.88
AT	75.2	57.0	0.76	n.a.	76.0	n.a.	n.a.	53.0	n.a.
PT	71.9	7.0	0.10	54.9	10.0	0.18	59.3	12.0	0.20
RO	120.8	227.0	1.88	149.9	252.0	1.68	130.4	253.0	1.94
SI	12.5	3.0	0.24	16.3	3.0	0.18	n.a.	3.0	n.a.
SK	22.3	9.0	0.40	59.7	9.0	0.15	62.9	22.0	0.35
SE	206.8	239.0	1.16	221.2	257.0	1.16	n.a.	220.0	n.a.

Note: Number of person employed for Eurostat, Number of employees for Amadeus

Source: London Economics calculations based on Amadeus and Eurostat data

Overall, the comparison of the Eurostat data with the data extracted from Amadeus reveals a number of discrepancies reflecting a series of factors such as incomplete coverage of enterprise population by Amadeus, potential errors in both data sets and differences in definition of foreign ownership.

At the present time, in the absence of robust and up-to-date data from Eurostat on the number and size of the foreign-owned companies, it is impossible to assess with a high degree of confidence the magnitude and statistical and economic implications of the over/under reporting by the Amadeus databank.



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