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22nd CEIES seminar

'Statistics and economic globalisation'

Copenhagen, 2 and 3 June 2003

1

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1st day
2 June 2003

09:00 REGISTRATION

09:30 OPENING SESSION

Welcome to the participants
Mr J. Lamel, Vice-chairman of CEIES
Mr J. Plovsing, Director General, Statistics Denmark

11:00-11:30 Coffee break

CHAIR OF THE MORNING SESSIONS:
MR U. HEILEMANN, RHEINISCH-WESTFÄLISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG, GERMANY

11:30 GLOBALISATION: THE ISSUES
Mr J. Markusen, University of Colorado at Boulder/Centre for Economic and Business Research, Copenhagen

12:00 GLOBALISATION : NEW NEEDS
Mr T. Clayton, Office for National Statistics, United Kingdom

Discussants
Mr E. Bourcieu, European Commission, Directorate General Trade
Mr M. Groemling, Institut der Deutschen Wirtschaft, Köln

13:00 - 14:30 - Lunch

CHAIR OF THE AFTERNOON SESSIONS:
MR L. JENSEN, EUROPEAN COMMISSION, EUROSTAT

14:30 A HARMONISED METHODOLOGICAL FRAMEWORK
Mr T. Hatzichronoglou, OECD

15:00 REPORT ON EXPERIENCES IN MEASURING GLOBALISATION

THE AMERICAN EXPERIENCE:
Mr O. Whichard, Bureau of Economic Analysis, U.S. Department of Commerce

THE SWEDISH EXPERIENCE:
Ms A.C. Strandell, Swedish Institute for Growth Policy Studies

Discussants
Mr M. Van Nieuwkerk, Central Bank of Netherlands
Mr W. Meissner, Goethe University, Germany

16:10- 16:40 Coffee break

16:40 DISCUSSION

17:30 END OF 1ST DAY

18:00 SOCIAL PROGRAMME

Thanks is given to the Lord Mayor of the city of Copenhagen for the social programme

2nd day
3 June 2003

CHAIR OF THE MORNING SESSIONS:
MR K. STETKAER, STATISTICS DENMARK

09:00 **IMPACT OF GLOBALISATION ON THE RELEVANCE OF CURRENT STATISTICS**
Mr J. Thomasen, Statistics Denmark

Discussant
Mr J. Richter, Austrian Economic Chamber

10:00 - 10:30 Coffee/Tea break

10:30 **HOW TO MEET THE NEW NEEDS? (NEW CONCEPTS NEEDED, NEW INDICATORS, NEW MODES OF COOPERATION)**
Mr H. Fest, Ministry of Economics and Labour, Germany

Discussant
Ms F. Ruane, Trinity College, Dublin, CEIES Member

11:30 **DISCUSSION**

12:30-14:00 Lunch break

14:00 **GENERAL DISCUSSION**
Chair: *Ms K. Siune, Director, the Danish institute for studes in research and research policy/chairperson of the CEIES subcommittee on Innovation*

15:00 **REACTION FROM EUROSTAT**
Mr L. Jensen, Director
Mr B. Meganck, Director

15:30 **SUMMING UP**
Mr U. Heilemann, chairperson of the CEIES subcommittee on Economic and Monetary Statistics

16:00 **CLOSING REMARKS**
Mr J. Lamel, Vice-Chairman of CEIES

16:10 - 16:40 Coffee/Tea

END OF THE SEMINAR

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Background

Globalisation indicators seek to measure the extent and the impact of Globalisation. National economies are still being described according to concepts established before the rapid expansion of Globalisation, and those concepts are mainly based on "country location" principles. There is a case for examining how the current statistics are more or less biased and how these present concepts can really describe the globalised economy. The main issues that should be considered in the seminar are:

a) Should certain current statistical outputs be "modified" to account for the bias generated by globalisation?

b) Are new concepts, incorporating "country ownership" principles, needed to describe strongly globalised economies in the data collection from enterprises?

The seminar will bring together users from the academic, institutional and private fields, data producers and economists in order to analyse the need for new concepts, the impact of globalisation on statistics, the indicators currently being developed to shed light on this phenomenon, and how the statistical system should be organised to meet the new challenges. In particular, the seminar will have the following aims:

- To identify the needs of different users: the scientific community, the socio-economic world, EU and international institutions.
- To consider the theoretical framework currently being prepared by Eurostat and the OECD.
- To study the impact of globalisation on the validity of existing statistics.
- To comment on the way existing globalisation statistics are currently used by different organisations (WTO, UNCTAD, IMF, NSIs, etc.).

What is CEIES?

CEIES stands for Comité consultatif européen de l'information statistique dans les domaines économique et social; in English: 'The European Advisory Committee on Statistical Information in the Economic and Social Spheres'. Its task is to assist the Council and the Commission in the co-ordination of the objectives of the Community's statistical information policy, taking into account user requirements and the costs borne by the information producers.

The committee was set up by Council Decision 91/116/EEC of 25 February 1991. The original decision was amended by Council Decision 97/255/EC of 19 April 1997 taking into account the accession of Austria, Finland and Sweden.

CEIES is chaired by the Commissioner responsible for statistics, currently Pedro Solbes Mira. The vice-chairman is Mr Lamel, from Austria and the Secretary is Mr Franchet, Director-General of Eurostat. CEIES is composed of two private members per Member State, three members from the European Commission, the Chairman of the Committee on Monetary, Financial and Balance of Payments Statistics (CMFB) and the Presidents or Directors-General of the National Statistical Institutes of the Member States.

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The CEIES Secretariat: *Ms A. Näslund-Fogelberg, Ms N. Lauwerijs, Ms D. Evans*

CONTENTS

The proceedings are a collection of papers prepared by the speakers in advance of the seminar. They do not include the open discussions nor the discussions in the round table/panel session.

The papers presented and published herein only represent the views of their authors and do not necessarily reflect an official position of their institutions or organisations.

Day 1

Day 2

MEASURE OF GLOBALISATION IN THE EU: POLITICAL CHALLENGES AND STATE OF THE ART

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Introduction

The term globalisation is normally used to describe different kinds of structural changes in the world, the common feature of these changes being that they cross borders and national territories. It is a shorthand for a bundle of phenomena ranging from opening of markets, intensification of international relations, to climate changes or Internet "explosion".

Being an economist, and the topic of this conference being "Statistics and Economic Globalisation", I will limit myself to the economic dimension of globalisation and more precisely to economic linkages.

The Commission has presented last year a major study on the issue of Globalisation, and I think that this gives a very good picture of the stylised facts on globalisation as we know them today.

In this presentation I will first look at current globalisation trends, that I will describe with the current set of official statistics available. . Next, I would like to look at what drives globalisation and discuss its benefits and costs or maybe what we should call challenges of the current process of globalisation. Finally, I will try to identify what are the measurement issues for the statistician and give an overview of what is currently available and what is planned at the European level.

It is clear that, nearly by definition, globalisation is a phenomenon of major concern for international bodies and that the European Commission, and more particularly Eurostat and the ESS, are ideally placed to launch or co-ordinate initiatives in the area. I am sure that this seminar will give us valuable inputs for these actions.

Globalisation trends

But first of all: where do we stand? Globalisation can be characterised as a trend towards greater integration and interdependence between countries and regions. It is a process that has been ongoing, albeit not in a linear fashion, over a long period. As I mentioned already, post-war globalisation has many facets, but in the economic and financial sphere, it has been characterised by a strong expansion of trade in goods and services and, more recently, by a strong expansion in capital flows.

Trade flows

The first thing an economist looks at when he wants to measure globalisation trends, are trade flows. Figure 1 shows the post-war evolution of world trade volumes in goods compared to world real GDP. And there you see that a six-fold increase in global output has been accompanied by a 20-fold expansion of global merchandise trade flows. You also see that merchandise trade growth was particularly strong during the 1990s. Also world trade in services grew at a fast rate through the 1990s: more than doubling from 530 billion euro to almost 1200

billion euro between 1992 and 2000. And while some services are inherently difficult to trade (I'm sure you remember the classic example mentioned by Paul Samuelson being a haircut), more and more services are becoming tradable, which is mainly the result of increased FDI. What is important to mention in this globalisation story is also that multinational companies play an important role in it, as they are found to be able to slice their production chain internationally. The result is that an estimated 30 per cent of world trade in manufactures is in intermediate rather than final goods. Another important fact is that developing countries play an increasingly significant role in manufactures trade. According to recent World Bank findings, the share of manufactures in developing country exports rose from 25% in 1980 to more than 80% at the turn of the century.

International Flows of Capital

The extent of the current globalisation process is even more spectacular when one looks at the development of international capital flows over the past decade or so. In particular, flows of short-term capital are huge by historical standards. Maybe just one, rather striking example: the average daily foreign exchange market turnover stood at more than 1210 billion USD in 2001. This is roughly double the figure for 1989. The rise in financial flows among industrial countries has enabled the US to become both the world's largest creditor and its largest debtor, while financial flows to developing countries have remained steady at about 4 percent of developing country GDP. In other words, industrial countries have greatly increased asset swapping among themselves (reflecting hedging and risk sharing) rather than accumulated large one-way positions vis-à-vis developing countries.

The contrast between the rise in diversification flows and the steadiness of development flows is consistent with the more rapid capital account liberalization and the greater reduction in investment risk—reflecting the relative stability of the policy and institutional environments—in industrial countries.

Evidence coming from FDI statistics points in a similar direction for the case of long-term international investment. World FDI flows nearly tripled between 1997 and 2000, driven by major investments made by EU companies into the US. The rise of EU FDI into developing countries, though important, was less sharp.

As far as the role of multinational groups is concerned, the statistics reveal that whilst less than 1.0% of enterprises in the business economy are foreign-controlled, the economic weight of foreign affiliates is substantial, accounting for over 10% of the total value added in many Member States.

For intertemporal comparisons, there is unfortunately - apart from FDI data - very little comparable data. FDI data show the big upturn, already mentioned before, during the second half of the 90's and in 2000. 2001 was instead characterised by a decrease of about 40% in FDI flows (see figure 2). Available FATS data show an increased contribution of foreign affiliates in the business economy. Let me also mention that a substantial share of the mother companies of the foreign affiliates operating in EU are from other EU countries and that the United States is by far the most important foreign owner among non-EU countries. (They account for around one quarter to one third of the value added generated by foreign-controlled enterprises.)

The IMF makes an interesting comparison between the current phenomenon of globalisation, and that in earlier periods when globalisation advanced strongly. It appears that late 19th century international capital flows, for example, were heavily focused upon infrastructure construction projects, such as the construction of the Suez and the Panama canal.

International Flows of Labour

Another major difference with the previous episode of globalisation is that long-term, international economic migration is not occurring on a huge scale by historical standards, in spite of the significant migration pressures that exist currently in a global economy in which wages for workers with similar skills vary hugely between countries at different stages of development. Figure 3 clearly shows that immigration into the US was much higher at the beginning of the 20th century than more recently. Large-scale legal immigration into Western Europe was at its height in the high-growth decades that followed the Second World War, but this so-called "primary" immigration fell considerably after 1973.

Factors behind globalisation

Let me now turn to the forces behind globalisation. An important insight from the historical comparison made by the IMF is that globalisation over the recent past has been driven primarily by the liberalisation of trade policies and capital controls, whereas in the previous episode of globalisation, the late 19th century, technological advances were the main driving forces. Nevertheless, also today technological progress plays an important role.

That has boosted the efficiency with which goods, services, capital, ideas and people move around the globe. Figure 4 shows some of the technologies that have spurred this globalisation and the steep price falls that occurred through the 20th century. Very speaking of course is the price falls that have occurred for information technology: between 1960 and 2000, the price of "computers and IT equipment" relative to the GDP deflator fell by a factor of over 1800.

In addition to technological progress, public policy continues to play a crucial role in determining the extent to which countries participate in globalisation. As the inter-war period demonstrates, policy measures have at least the potential to reduce greatly the extent to which nations interact with one another, and so, at least temporarily, to reverse the course of globalisation. Since the Second World War, industrialised countries progressively opened their economies, and the policy changes that signaled the end of the cold war meant that a substantial number of countries became open to international flows of goods, services, people and ideas.

More generally, there appears to be a link between increased globalisation and the growth of the role of states in economic activity over the course of the last century (see figure 4). In addition, we saw the creation of several international institutions that provide governance at a level beyond national borders. Regional governance initiatives have also flourished in the 20th century, with the EU by far the most advanced regional example of supra-national governance. This follows mainly from the need for coherent international rules, as well as from the *ex post* recognition of the limitations and failures of the institutional arrangements existing before the Second World War. If the process of globalisation continues in the future as it has during the past 50 years, it would seem likely that yet more traditionally domestic issues will become "international", implying that the trend towards increased supra-national decision-making will continue.

The Benefits of Globalisation

How has globalisation affected human welfare? The second half of the 20th century, a period of increasing global economic integration, saw a six-fold increase in world GDP while the global population increased about two and a half times over the same period. These numbers translate into major improvements in the welfare and quality of life of many of the world's citizens, and not just in the richest countries. The past fifty years have seen major improvements in human life expectancies, basic hygiene, vaccinations against many communicable diseases, and lower rates of infant mortality. The period also witnessed improvements in domestic governance in many countries and a more robust set of international institutions and fora to deal with global policy challenges than existed during previous waves of globalisation.

I don't need to tell statisticians that it is much easier to observe a certain correlation than it is to demonstrate causation, and it is not straightforward to prove that the many benefits outlined above are the direct result of globalisation. Nevertheless, research indicates that countries that are able to pursue policies of external openness to foreign trade and capital, thus permitting the adoption of new technology and know-how, combined with respect for property rights and the rule of law domestically, have the best chance of rapid economic development. One of the most powerful observations in this debate is that there is not one example of a country that has achieved sustained economic growth by pursuing a policy of high trade protection. A reasonable degree of external openness would seem to be a necessary condition for sustained economic growth and continued poverty reduction.

Recent analysis from the World Bank identifies a group of developing countries - including China, India, Bangladesh, Vietnam and Uganda - which have opened up their economies to trade and investment in the last twenty years. Figure 7 compares the growth performance of these "post-1980 globalisers" with that of the rich countries and those developing countries that have not pursued international economic integration, the "non-globalisers". The figure clearly shows the superior growth performance of the "post-1980 globalisers" since they changed their policies.

Challenges Facing the System

The major benefits that globalisation has brought to many have not come without costs and major policy challenges remain to be tackled. These include:

1) the leverage that national governments have in a world where competition may lead to a race to the bottom on social, environmental and other policies;

2) the related issue of the provision of global public goods, which requires close cooperation among governments ;

3) the challenges to the international monetary system, which concern the global income distribution, the increased volatility that may be associated with increased exposure to international trade and capital flows, and abuses of an essentially open international system.

National Governments in a Globalised World

There are concerns that globalisation has increasingly reduced the power of national governments to set rules and standards according to their domestic preferences and needs. While regulatory competition between countries can help to discipline governments and enhance the efficiency of public institutions, the other side of the coin could be that it could also lead to giving up many of the achievements of the social welfare state, so that the quality of labour and social standards, consumer and environmental protection are seen at risk.

Global Public Goods

The concept of global public goods expresses the need for international multilateral collaboration in a globalised economy. An efficient supply of these goods would require the development and implementation of internationally accepted rules and standards as well as adequate financing.

Trends in Global Income Distribution

Let me then turn to the challenges to the international monetary system, and start by looking at trends in Global Income Distribution. Global income inequality can occur due to a mixture of income inequality between countries and within countries. It can occur because all are growing, but the rich are growing faster (absolute improvement, but relative worsening) or because the poor are getting poorer in absolute terms. In assessing whether or not globalisation has caused more or less income inequality, it is important to try to distinguish the effects of increased openness from other domestic policy changes that may also have affected income distribution. This is an area where there are considerable measurement and data problems, but it appears that between 1900 and 2000 the world Gini coefficient rose from 0.40 to 0.48*,* implying an increase in global income inequality over the period. This was almost entirely due to increased inequality between countries, since inequality within countries has shown no marked trend.

The conclusion here is that the effects of globalisation are probably too subtle to be categorised as simply good or bad for income inequality. Globalisation is likely to be beneficial overall, but it does create adjustment costs for some particular segments of the population, such as low-skilled workers in industrialised countries.

Increased Exposure to Volatility

As a result of globalisation countries face an increased exposure to international economic events and thus economic shocks. Perhaps the most obvious manifestation of these shocks comes in the form of financial crises. In times of crisis there is a tendency in financial markets for a "flight to quality" of international capital, which can leave emerging market economies and developing countries without access to new short-term international capital. More generally, prices for internationally traded commodities and exchange rates may diverge sharply from "fundamentals" due to swings in market sentiment.

Recent years have seen the emergence of numerous proposals on how best to adapt the international monetary and financial system to these challenges. I think that it would lead me too far if I would discuss these in detail; let me just say that the reform proposals can be grouped into three categories: crisis prevention and management, regional and global co-operation, and the reform of the institutional framework.

Abuses of the International Financial System

Finally, there is increasing concern about the international financial system's vulnerability to abuses. A side-effect of globalisation in financial markets is that it has become more difficult to protect the system against abuses such as money laundering, the financing of criminal and terrorist activities, tax evasion and the circumvention of rules and standards.

In response to these challenges international collaboration has been intensified through existing fora and organisations, such as the G7 Finance Ministers, and the Financial Action Task Force on money laundering and on the financing of terrorism. The events of 11 September have significantly changed the position of some policy makers, in particular the US administration, with regard to international oversight on financial flows, and specific actions have been taken against terrorist financing.

Measurement issues

A global framework is needed

Globalisation can be seen as an opportunity or as a threat, but anyway it should and it does matter for everybody and particularly for governments and economic actors. More and more policy makers require indicators and statistics to design their actions, to monitor the implementation of their programmes and to evaluate the results they have achieved. As far as globalisation is concerned, I have tried to describe the amplitude of the phenomenon ("How big it is", as written by Lynch and Clayton), to identify its drivers and to assess its impacts. To do so, I have used available statistics. But those statistics are coming from different fields and in fact have been mainly developed nearly independently. They highlight only part of the reality. A more "global" framework seems to be needed if we want to measure in a more consistent and comprehensiveway:

a) the extent and intensity of globalisation;

b) the impact of globalisation on economic performance;

c) globalisation tie-ins with policies and structural reforms.

I should add that statisticians feel also concerned by globalisation for another reason : it affects the quality of their existing statistics, like foreign trade statistics or business statistics. I will not elaborate on this theme but it will be covered in the conference by other speakers.

Intensity of globalisation

As illustrated by my presentation, this first area seems to be fairly well covered by existing indicators, and projects are ongoing to improve them. They aim at measuring capital flows, exchange of goods and services, activity of international firms, but so far, mainly through "national" windows. In that respect, the information available in the US seems more complete and could be a source of inspiration for improvement at the EU level where information on activities outside each country is still missing. The Commission intends to propose new legal instruments to reinforce and complete the existing system of statistics (in the area of Balance of Payment Statistics, Foreign Direct Investment and Foreign Affiliate Trade Statistics). These new actions are co-ordinated with the OECD which is currently developing an harmonised methodological framework. Thomas Hatzichronoglou will tell us more about that project in the afternoon session.

But even with these new initiatives, the picture given by statistics will be incomplete. The focus is put on one mode of linkage between enterprises. There exist other modalities of associations like licensing, joint-ventures, sub contracting, which will not be taken into account. Furthermore, even if one concentrates, as far as business statistics is concerned, on groups of enterprises, the description of what is going on inside the group (like sharing of intellectual property, distribution of ownership of assets, relations between the fragmented production activities, intra firm trade, …) and the way this affects the productivity of the group, we are not be tackle in the E.U. proposed framework.

Measure of impact of globalisation

If the political authorities want to assess the impact of globalisation, not through a set of anecdotes as this is sometimes the case, but through a more comprehensive set of statistics, major improvements are also needed.

What is the impact on income distribution, for instance, on welfare in countries, on social conditions, on competitiveness? Given the complexity of the relations involved, models and data are needed. Much has still to be done in those areas and this seminar should contribute to shed some light on areas where progress is already possible and desirable.

Tie-ins with policies

Finally, the measure of the impact of policies on the integration of economies will remain a key preoccupation of the local, national, European an international authorities. How does the environment (domestic rules, culture, geographical location, …) affect the behaviour of groups, the establishment of links, the exchanges?

The Commission, by its role in the European integration, is highly interested in assessing the links between domestic factors, European actions for the creation of a Single Market, the liberalisation of trade, or, as I have mentioned, for the provision of global public goods. Instruments to evaluate those links are being developed on an ad-hoc basis, sometimes out of the scope of official statistics. Here again there is a challenge for statisticians.

Conclusion

You will have noticed that the time I spent on discussing the challenges of globalisation and the shortcomings of the current statistical system was much longer than the time spent on the benefits of globalisation. This should not be interpreted as leading to the conclusion that the costs outweigh the benefits and that nothing exists to measure the phenomenon but rather that, in order to fully reap the benefits of globalisation and to better assess it, appropriate policy actions are required, both on the side of governments and on the side of international institutions.

In complement, new statistical tools will have to be developed to assess the existing situation and the quantitative impact of a particular course of action.

Given the core nature of globalisation, better statistics will necessitate more co-ordination between countries. As I have already said, the EU will play an important role in that co-ordination. This will call maybe for more centralised data collection at group levels, for new classification and concepts to be shared, for new forms of data sharing. A kind of globalisation of statistics…

GLOBALISATION - NEW NEEDS FOR STATISTICAL MEASUREMENT

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Introduction

1. Globalisation - a set of related effects

The term 'globalisation' is used to describe a range of changes in the way the international economy works. There is no single phenomenon. Instead a range of structural changes in markets and societies are under way which affect, and reflect:

- the behaviour and performance of firms which operate across several countries
- relationships between firms across national boundaries
- the increasing ability of consumers to access international suppliers
- the international exploitation of intangible assets within firms, also accessible to consumers
- the decreasing importance of geography in the choices firms make about where to carry out specific parts of their operations, how much their operations they choose to do themselves, and how they finance them.

All these effects have as a common cause the growing tendency by economic actors to ignore barriers once imposed by national, or supranational, boundaries. More of them now behave as if the world (or at least large parts of it) consists of a single market for goods and services, for ideas and for capital. Firms are able to do this because the world trade system is increasingly designed to facilitate it. Lower barriers to trade - abolition of tariffs, common frameworks for regulation, diminishing transport costs, simpler distribution systems, convergent customer requirements and powerful scale economies (among the key factors) - are the fundamental drivers of the changes in firm behaviour. Their effect on firm behaviour and strategy is well documented (Yip 1992).

Economic studies of foreign direct investment (FDI) over the last ten years have distinguished:

- 'horizontal' investment by firms, reproducing their home business model in foreign markets to overcome tariff or transport costs, from
- 'vertical' investment, creating parts of a production chain run as linked elements in an integrated international system.

Hanson, Mataloni and Slaughter (2001) working on data from US firms find strong evidence that the pattern of investment by multinational enterprises has moved in the direction of 'vertical' chains during the 1990s, and also that the pattern of behaviour is more complex than simple economic models represent.

As economic incentives change, companies are driven to adopt international approaches to procurement, operations, marketing and innovation. The development of international operations has been under way by multinationals for over a century. Once it was relatively straightforward process, with firms cloning operations and

marketing from one national market to another, but retaining administration and development in their 'home' country. Now perhaps the majority of large international firms are 'truly international' in that they have operations located where they make the most effective contribution to the whole enterprise, with relationships between units driven from a global - or global region - HQ. Such firms may not have a 'home country' except in a legal sense.

Measures to describe these changes in firm behaviour are already in use by individual countries or are compiled internationally, and include:

- the role of foreign affiliates in employment, value added, exports, investment by country (included in the OECD compilation of data 'Measuring Globalisation' MNE review 2001)
- investment overseas by national firms, and turnover of overseas subsidiaries, which put the overseas operations in the context of the overall enterprise (measured by US and a few other countries, and also shown in the OECD review)

While OECD data shows that in some developed economies the proportion of output and employment accounted for by multinational owned activities peaked during the early 1990s, later data for the UK indicates that it is continuing to rise, albeit unsteadily

% Manufacturing Value Added	1996	1997	1998	1999	2000
UK Domestic	50	52	50	47	47
Foreign multinational	29	27	27	28	30
UK multinational	21	21	23	25	23
% Manufacturing Employment					
UK Domestic	61	62	62	59	57
Foreign multinational	20	19	20	20	23
UK multinational	18	18	18	21	20

Source: Criscuolo and Martin, weighted calculations based on ONS ARD.

But globalisation means much more than the activity of multinationals. In the first flowering of a global economy, in the late 19th century, a huge increase in the flow of goods, capital and ideas between regions of the world enabled a period of rapid economic growth and cultural interchange. It was characterised by very large increases in international trade, and levels of migration which were unprecedented. (Legrain, 2002).

But the benefits of investment and technology flow which underpinned the first global trade revolution then were due less to multinationals than to the activities of large numbers of independent firms. These traded under conditions supported by newly developed communications and financial infrastructure, to build global supply chains in which each specialised in their areas of comparative advantage.

Firms like this are also present in the globalised markets of the second half of the 20th century, for example in the contract manufacturers of the far East which produce goods for Western brands. The rapid growth of outsourcing, its impact on industry structures, and on wages and income distribution have been explored by economists (Feenstra 1998)

The added twist for the 21st century that it is much easier now for individual consumers to access international market information, and to buy internationally. Once convergence of consumer demands was something which could be influenced by major firms through one-way media communication. Now the ability of consumers to access international suppliers electronically, with instant price comparisons for goods and services, increases the scope for international trade.

Indicators which reflect the impact of 'globalisation' by describing increasingly international, borderless, markets, but which are independent of the role of multinationals can be found among the measures used by the EU to track the increasing integration of the single market

- trade integration, reflecting the increasing level of cross-border transactions
- price and interest rate convergence between markets, measuring the effect of lower inter-country barriers in creating competitive arenas which are genuinely international

Through such increasing integration of markets, the effects of globalisation can be spread without the need for direct ownership through multinational affiliates. Competition itself can do some of the job. At least that is the theory. In practice, the activity of multinationals, as shown by the OECD review of multinational statistics, grew in almost every year during the 1990s, reaching almost 25% of manufacturing output in the EU and 20% in the US(OECD 2001)

1.1. Why do we need to measure globalisation?

Economic and social analysis of the effects of globalisation generates demands for more than simple measures of 'how big it is'. As trade : GDP ratios, and the proportion of output accounted for by multinationals continue to grow, policy makers raise questions both at international and national levels.

At the international level, key concerns are related to:

- identifying the competition impact of multinational activity, with implications for welfare understanding the changed behaviour of markets, due to closer international linkages
- the recognition that large firms no longer think in terms of national boundaries

The switch from 'horizontal' to 'vertical' structures for globalisation by multinationals also has welfare implications which policymakers need to understand. If investment is primarily 'vertical' then firms are likely, by shopping around for specific process investment locations, to affect relative wage levels, and other input costs, between countries. With 'horizontal' investment this is much less likely.

At national level, where most statistics are generated, major concerns for government raised by globalising firms and markets are related to the impacts they have on the effectiveness of local (i.e. national) policy. Attention has focused strongly over the last two decades on inward investment by multinationals and the encouragement of inward foreign direct investment. As we shall see later, this may be too limited a focus, but it is ever more important for national policymakers to understand competitiveness in a global context.

1.2. Does globalisation change what we need to measure, and the way we measure it?

The range of structural economic changes under the heading 'globalisation' require Statistical Offices to re-examine their approach to enterprise measurement, not just to tackle the policy issues above, but to ensure that their measures of economic activity capture the changing pattern of inputs and outputs.

This paper covers four measurement areas, and gives a brief UK perspective on statistical needs and how they could be met. They are:

- the effects of vertical disintegration in value chains, the increasing specialisation by firms in specific processes and some examples of what it means for measurement
- measurement issues associated with national units in multinationals.
- the role of intangibles, especially those which can be transferred within and between firms, or sold to consumers electronically without requiring any physical transfer
- financial flows of capital, or payments for goods and services by multinationals

The second and fourth of these issues are specific to multinationals, the first two apply more generally as measurement needs of the globalised economy. However, as we shall see they raise related measurement needs and problems

2. The 'vertical disintegration' of value chains.

2.1. Evidence that change is underway

The substantial body of case and statistical evidence assembled for the EU single market review in the mid 1990s showed the extent to which larger firms were achieving scale economies by focusing investment in areas of activity where they could command competitive advantage within an EU wide market. The increasing use of outsourcing by firms, often within national boundaries to obtain 'non core' local services, accompanied by offshore purchasing for important intermediate inputs, has changed some of the structural ratios of business - not just in the EU but internationally.

For example, analysis of private sector data for the single market review showed that value added /sales ratios for international firms, defined by their own management accounts, had fallen by around 6% between the early 1980s and the early 1990s, from around 56% on average to close to 50%. Analysis of the strategies and behaviour of the most successful among them showed that they benefit from scale within their target markets, and that they are most likely to exploit it in areas where 'dynamic scale economies' apply, such as R&D and marketing communication (Clayton 1999)

The picture suggests a process in which, for successful globalising businesses, value chains become 'wider', as they acquire strong competitive positions in specific processes across international markets, but 'shorter' as they carry out fewer processes themselves. The ultimate examples of this type of transformation are the design and marketing companies, for example in consumer markets such as fashion and footwear, which outsource all production and logistics, and undertake only development, international brand advertising and selling.

More recent evidence comes from work on multinational firms in the UK, compared against firms operating only within the national market. Based on UK Annual Business Inquiry data for the manufacturing sector, this finds that UK operations of MNEs have a consistently lower value added / sales ratio than purely domestic firms, although there is some variation depending on firm origin. This may be taken to support the conclusions above, that as firms become more global in their scope, they tend to focus locally on parts of the value chain which are more essential to their competitive advantage, and outsource other activities.

Firm type in UK	UK Domestic	UK multinational	US multinational	Other multinational
Value added / Sales	43 %	40 %	38 %	33 %
(standard deviation)	(17)	(15)	(15)	(15)

Source: Criscuolo and Martin 2003, UK ARD data for manufacturing 1996-2000

2.2. Implications for measurement

Significant shifts towards greater outsourcing will change the value added structure of sectors of the economy whether organised across international boundaries or not. However, the measurement effects are more difficult to tackle if changes take place across international boundaries. For example construction of input / output statistics is much more difficult if there are changes in sector value added ratios change due to switches in sourcing by multinationals. At present, UK national input - output statistics are built on the assumption that sector value added ratios are relatively stable. If sustained changes are under way affecting globalising sectors, the methodology of measurement may need to change.

Measurement problems are compounded if multinationals outsource to operations offshore which they own or control. The scope for transfer pricing in such arrangements, or the use of management service fees, to distribute profits in the most tax efficient ways will distort not only business output data but also values for imports and exports. Since multinational activity, measured by sales or output of affiliates under foreign control now accounts for over 25% of major country EU manufacturing output, the scope for distortion of official statistics is clear.

A specific, and growing, measurement problem is the treatment of 'toll processing' in a number of industries. There has been increasing use of outsourced manufacturing processes by firms in commercial arrangements where one firm contracts another to perform a specific operation, but retains ownership of the material through the process. This type of operation is not new (it was traditional in a number of multi-process craft industries long ago) but is now found in large scale chemicals, engineering and other industries where products move not just between plants but across national boundaries for processing - and back - without changing ownership. Depending on how output of such transactions are recorded, in output reports and in customs returns, the statistical record can be biased. Recording at less than full value means that the effective trade integration of markets is understated.

ONS has identified a significant number of firms where discontinuities in reported data on manufacturing have followed changes in ownership, or in commercial relationships with non-UK affiliates towards a toll processing approach. These arise in:

- value of gross output, which in the firm's turnover now excludes value of materials
- purchases, which also excludes materials owned by the manufacturing client
- value of stocks, which may not be recorded because the firm does not take ownership (and may not even know the value)
- profits, which are determined by tolling fees and may reflect most beneficial tax regimes
- trade with other countries.

Motives for the move towards toll processing in genuine arms length relationships are based on cost reduction due to specialisation, There is a clear economic logic for this, as specialists in particular processes, like coating, rolling, simple assembly, may be able to offer more efficient operations, better quality and use of capacity, than units within integrated firms. However, where toll processing takes place between related enterprises, there are also tax implications. Rules on transfer of goods from one part of a group to another require transactions to be valued and treated as arms length sales. Enforcing such requirements for services is much more problematic, so toll processing may well be used by some firms to move profits to low tax rate jurisdictions.

However, most official guidance is that toll processing should be classified as manufacturing (ISIC and NACE), and that transfers across borders of goods for processing should be treated as transfers of ownership (Balance of Payment Manual and ESA 95). Tax guidance is less clear cut. If companies structure their transactions, and information flows, to make the most effective use of tax rules it is more than likely that some find it difficult to deliver the information required for accurate output and import / export statistics.

Work is underway in ONS to improve compliance with the official guidance. However, it may be worth considering how much might be gained by a US style approach to measuring foreign affiliates, with details on relationships, outsourcing or marketing type operations, scale, as well as country coverage and assets. Such an overall picture, firm by firm would help statisticians and economists understand:

- the types of FDI / overseas operations owned by UK firms, including vertical / horizontal relationships, and hence economic effect
- relationships between UK elements of foreign owned firms and their parents
- the types of trading arrangement between units within multinationals, and the degree to which they are becoming more integrated

If policymakers are also concerned to gauge the penetration of globalisation across the whole economy, they may also be interested in the number of exporters / importers in key sectors. This would tell them more than data on the total flow of goods / services - as measure of real interdependence of economies. At present, structures for assembling National Accounts do not require information on imports or exports of goods at firm level, depending instead on import / export information from customs. However, data is collected in the UK structural business survey on imports and exports of services; perhaps it would be worth completing the picture.

3. National units in multinational enterprises

3.1. Looking at the elephant

The basic building block for national accounts is the 'unit of homogeneous production' (UHP) which is realised in the business statistics 'kind of activity unit' (KAU). The KAU is essentially the organisational unit within the enterprise with a relative degree of homogeneity. In the UK, and other countries, the KAU corresponds to the enterprise in all but the most complex instances. The enterprise is the smallest grouping of legal units within a national enterprise group that has a relative degree of autonomy. The use of the organisational unit allows some flexibility in the way that the KAU are created, with the main criterion being data availability. The resulting unit, called the 'reporting unit' in the UK, is used as the unit for sampling, collection of data, and for analysis. The structural data is then used for:

- benchmarking output by sector and region, as an essential input to National Accounts
- providing key data for sector input / output relationships
- micro-data for detailed policy analysis.

While this framework delivers its primary objective - the capture by sector of data on gross and net output, employment and other inputs within a national economy, there are problems in interpreting results at both macro and micro level. Especially for firms which organise activities on an international basis - the national reporting approach means that a series of countries' statistical systems will see different 'parts of the elephant' which do not necessarily make sense in isolation. For the statistical returns from a multinational to add to understanding of issues such as productivity the parts need to be viewed in relation to each other in order to present a picture of how business inputs relate to outputs.

For example, Shell undertakes its R&D as a corporate entity, co-ordinating activity based in at least two EU member states. In making R&D returns it is required to indicate what is done in each country, but not to relate them to each other. Nor is it possible under existing statistical systems to relate inputs in one country to outputs in another. Instead detailed analysis for policy tends to assume that inputs to a reporting unit within a country are related to outputs from the same unit. In vertically organised, or integrated, multinationals this is unlikely to be the case; in real life outputs in one country unit are critically dependent on inputs from another.

The treatment of local entities in countries as individual enterprises can hide the real relationships which exist between units in multinationals. Within countries there is concern to identify the 'real' dimensions of enterprises, for competition regulation, to check on intra-firm transactions and transfer pricing and to understand structural market effects. This has driven the statistical definition of enterprise groups, as 'associations of enterprises' bound together by legal and / or financial links which imply control. As the latest draft of the Eurostat manual makes clear, while most national business registers identify membership of foreign controlled enterprise groups, and country of control, few capture economic data on activities outside the country in which the enterprise is registered (Business Register recommendations manual, March 2003). The US model for data collection, which permits a view of the whole enterprise, has a number of attractions to meet policy needs in this area.

3.2. Understanding the parts of the elephant

R&D is just one example of similar effects related to the shared use of intellectual capital across multinationals. An even more difficult problem is posed by the use of shared software across global firms. For example Sun Microsystems writes much of its own system software, so a significant part of software professional time expensed in its accounts will really be attributable to investment in software capital. But attempts to assign software investment activity to reporting units by country will be defeated by the facts that:

- the software developed in Sun UK is used worldwide within the company
- much of the internal systems software used in Sun UK is written in North America and Asia

In effect the firm behaves as if it has a stock of intellectual capital - in software and other aspects of management systems - which is freely shared across its enterprise activities. Is there any evidence that this type of intellectual capital affects firm performance?

Analysis of productivity performance across US firms by CES some years ago, comparing productivity for purely domestic firms with productivity for multinationals shows that there is 'multinational effect'. Similar work for the UK shows a consistent, positive, relationship between multinational activity and productivity, even after taking account of a large number of other related factors.

Firm type in UK	UK Domestic	UK multinational	US multinational	Other multinational
Value added / employee (£000)	17.96	36.87	46.57	43.10
(standard deviation)	(183.47)	(39.30)	(80.79)	(51.43)

Source: Criscuolo and Martin 2003, UK ARD productivity data for manufacturing 1996-2000.

Regression analysis, allowing for all inputs including the relatively lower level of capital per employee in UK multinational firms, shows the 'multinational effect' on productivity to be consistent across multinationals firms irrespective of their origins. There is a modest additional advantage for US owned multinationals. In any event, there is a clear productivity advantage which almost certainly reflects the availability of intellectual capital to these multinationals. Inputs of such intellectual capital are not captured in the data gathering systems for National Accounts, or other statistical sources.

This type of analysis is one of the few ways available to measure the value of intellectual capital shared across international businesses, and which cannot be tied to geography. It shows, however imperfectly, the additional value added which firms having access to shared technical, organisational, human and market capital are able to generate. These results also suggest that the effects are scale dependent. The 'US advantage' they show may reflect the fact that US based global firms tend to be more global than those from other countries, and that the productivity advantage conferred by intellectual capital is greater the wider the range of markets over which it is spread. This interpretation would certainly be consistent with the European single market studies quoted earlier.

The implications for measurement of capital services of this effect are significant, and pose severe problems for statisticians. The intellectual capital in multinationals does not reside in a country, but in the enterprise systems which make the firm function, and give it competitive advantage. This extends beyond the software example quoted earlier. Any attempt to measure software capital formation accurately in a firm like this - except at the level of the whole enterprise group on an international basis - is likely to fail.

4. Electronic trade in intangibles in a borderless world

International trade statistics are affected by growing cross-border electronic commerce (international e-commerce). There are changes in the way goods and services are delivered to customers, and here we consider the implications for international trade statistics, both in terms of how such transactions might be presented in the statistics, but also how the data might be collected. This section is based on an article by David Ruffles of the UK ONS, which in turn draws on a paper by the United Nations Conference on Trade and Development (UNCTAD) and a draft discussion paper by the Interagency Task Force on Statistics of Trade in Services. Both of the latter were presented at the Organisation for Economic Co-operation and Development (OECD) Trade Statistics Meetings in December 2000.

4.1. Classification issues

The issue of classification; namely whether electronic transmissions or products shipped electronically (instead of physically) should be classified as goods, services, intellectual property or something else (perhaps intangible goods); is more than a statistical issue and has been the subject of discussion amongst taxation and trade policy experts. For example, if they are regarded as goods, they would be subject to General Agreement on Tariffs and Trade (GATT) rules, which would make electronically shipped products dutiable. If, on the other hand, they were classified as services they would be subject to General Agreement on Trade in Services (GATS) rules

and probably not dutiable. Thus the issue of classification has implications for government revenues from Customs tariffs.

Other important differences between GATT and GATS are as follows. _While GATT's general obligations include most-favoured nation treatment (MFN) and national treatment, GATS includes the national treatment principle only in negotiated specific commitments and specific services. For example World Trade Organisation (WTO) member countries have defined within their schedules whether, for a certain service trade, foreign suppliers will be given national treatment (i.e. they are subject to same rules as domestic suppliers of the same service). Thus, if electronic transmissions fall under GATS rules and if no national treatment is specified, imports could be subject to higher taxes than domestically supplied services.

GATT in general prohibits the use of quantitative restrictions or quotas while they are allowed under GATS. Therefore, theoretically, a country could put (in principle) a limit on, for example, the number of books transmitted electronically via the internet. There are also domestic taxation issues in that most imported goods are subjected to domestic taxation while in the case of services the level of domestic taxation is usually lower or non-existent. For certain electronic transactions agreement on how they should be classified is fairly straightforward. For example, goods that have been ordered, paid for or marketed electronically but shipped physically are clearly defined as goods in the traditional sense. Similarly the supply of traditional services such as financial services accountancy, tourism, computer-related and other office services, educational and telecommunications services via electronic means are clearly defined as services.

The most controversial classification issue concerns electronic transmission of products, which have physical counterparts (e.g. books, music, film and video material and software). In the past these products were shipped physically across borders via a carrier media such as CDs, diskettes and tapes. Hence they were classified as goods. Increasingly these products are being sent via data files through virtual networks, thereby crossing borders. The data are then downloaded onto a carrier medium, printed or stored in a computer. They could be sent to individuals for direct consumption or to retailers for distribution.

Put simply the debate is:

- Whether, because they are equivalent to a hard copy of a book, CD or videotape for example, they should be classified as a good or;
- whether the transmission of the data itself is a service and thus the 'data' should fall under services or
- whether there should be a specific category for electronic transmissions containing a mixture of goods and services.

Discussions are under way on the treatment of intangible assets generally in the national accounts, being carried forward under the aegis of the Canberra City Group. The UK has proposed that payment for off-the shelf software be split into two components. The first is a one-off payment for purchase of the access device (the physical compact disc, manuals and packaging). The second is an up-front payment for rentals to access and use the original intangible asset. It is not the original software that is sold, but the user simply obtains access to the original under strict licence agreements. If this treatment were to be adopted as part of the System of National Accounts, it would allow consistency of treatment between international trade in hard copies of software, and the transfer over the internet. In both cases the payments would be treated as a payment for a service, but with a small payment for the good - the access device - where the hard copy is actually shipped.

4.2. Current international position

Although there is, as yet, no international agreement on how electronic supply of products across international borders should be classified, it seems more likely that such trade will be regarded as trade in services rather than goods. In fact a number of countries such as US, Canada and the Irish Republic at present include such transactions in trade in services because Customs systems cannot detect them. The OECD taxation experts have agreed that for the purpose of consumption taxes, such electronically delivered digitized products should not be treated as goods. In trade policy it is still an unresolved issue globally.

The next section illustrates how international e-commerce and related services might be classified within trade in services and identifies unresolved issues.

4.3. Coverage issues

Aside from the classification issue, and because the internet creates opportunities for small firms and individuals to trade internationally, there is a question of whether e-commerce is creating significant international trade that will not be picked up and identified by existing data collection systems.

For example:

- The value of the transaction may be below the threshold values set by a country's Customs Authority and therefore not identified as trade in goods. _Under the European-wide INTRASTAT system for recording movements of goods between EU Member States, data on purchases by private individuals of goods from an EU member state will not be collected.
- With many new and small companies involved in international e-commerce there may be problems identifying them on business registers.
- The location of a web site will often be different from that of the supplier so the purchaser will not necessarily know the residency of the supplier
- Traditional business surveys for collecting data on trade in services will not pick up purchases of services from overseas by private individuals.

The latest ONS e-commerce inquiry asked UK businesses for the percentage of their sales and purchases carried out using e-commerce. It also asked them for the percentage of e-commerce sales to overseas but not purchases from overseas. Overall the inquiry showed greater levels of e-commerce purchases than sales, implying net purchases from overseas.

4.4. Implications for UK data collections

In most cases, the existing International Trade in Services (ITIS) surveys run by ONS will already pick up these types of transactions. However, the notes accompanying the questionnaires will be reviewed to make specific mention of electronic transmission if necessary.

ONS is currently improving the coverage of its ITIS inquiries in order to capture sectors of industry and sizes of business, which might not historically have traded in services internationally. These improvements should ensure that new electronic trade is picked up in future from smaller businesses and sectors traditionally associated with goods – such as the manufacturing, retailing and wholesaling sectors.

ONS household surveys now pick up consumers' electronic purchases but do not currently distinguish purchases from overseas. There are no plans to ask them to do so on the grounds that they are unlikely to know the true origin of their purchases. Nevertheless it may be possible to use data from these surveys, in conjunction with data from the other surveys mentioned above, to make estimates of goods and services transmitted direct from overseas to consumers in the UK. This would require e-commerce surveys of business sales and purchases to be compared with household e-purchase data on a consistent basis.

5. Balance of payments and international investment issues

International movement of capital to support investment is an essential part of the globalizing economy. An accurate account of the role of multinational firms in directing investment to markets which they wish to establish or expand in is therefore important. Distinguishing investment from other payment streams in a helpful step

5.1. International work

The UK is a member of a European Steering Group on multinationals, commissioned by the European Central Bank and Eurostat to carry out a feasibility study on the reporting of balance of payments and the international investment position of multinational companies. The Balance of Payments (BoP) records statistics on transactions of an economy with the rest of the world and is part of the framework of national accounts. The International Investment Position (IIP) is a statistical statement on the level of an economy's financial assets and liabilities with regard to the rest of the world. Thus IIP is information on stock levels, whereas the BoP statement presents measures of flows.

The Steering Group will be producing an official report in the second half of 2003. This part of the paper simply notes some tentative emerging findings, and is not a precursor of the report, or even necessarily in line with the final findings of the group. This account largely reflects the progress report of the group given to the 25th Meeting of the Committee on Monetary, Financial and Balance of Payments Statistics held in Luxembourg in January, 2003.

The aim of the project was to carry out a test exercise for harmonised BoP/IIP reporting rules for European multinationals. The project would test how practical it was to ask multinational companies to provide a coherent story of their balance of payments and international investment so that national and European statistics could be drawn up in an integrated and coherent manner. At the moment, Europe is marked by a diversity of national BoP/IIP reporting formats. For enterprises with affiliates in other European countries, this is not optimal from an enterprise point of view, as each separate unit requires a different data processing and response for each EU member state. Standardisation of BoP/IIP reporting rules would improve the quality of the information as a result of the streamlining of the reporting process at the enterprise.

The harmonised BoP/IIP reporting model for multinationals focuses on a close link-up with any enterprises' accounting system. The proposed system which makes due allowance for reporting requirements of international institutions such as the ECB, the European Commission and the IMF is based on monthly reporting of information directly to the BoP/IIP compiler. The model covers the collection of data on foreign financial assets and liabilities, including related investment income. For the reporting of these foreign financial assets and liabilities of multinational enterprises, a fully reconciled model for reporting both stocks and flows has been designed. Furthermore, the common reporting system also provides for the collection of data on international trade in services. In general, the underlying accounting standards would be either the US generally accepted accounting principles (GAAP) already in use in some EU-based multinationals or the International Accounting Standards as laid out in the EU legislation that would be in force from 2005.

On the basis of the results to hand at the time of the CMFB meeting, the following comments could be made:

1. Not all the information required by the proposed uniform reporting model is directly available - some investment in appropriate software for the accounting systems used by the firms is necessary.
2. Nearly all the multinationals used the proprietary brand SAP accounting software as either a sole platform, or as an important tool for company administration. Pilot studies are underway in the Netherlands, to consider how SAP software can be adapted and extended to allow automatic reporting of BoP and IIP statistics. If concrete results with SAP can be obtained for the Netherlands, then this suggests that a platform can be created for application in other European multinationals. This may in turn stimulate other accounting software providers to also develop these facilities as an important marketing strategy.
3. ERP (Enterprise Resource Planning) embedded solutions were acknowledged to be an important feature of any solution, as they facilitate BoP/IIP reporting in a structured manner.
4. The multinationals initiated this exercise in order to reduce the amount of ad hoc work in regard of statistical reporting. But a major barrier was the initial investment in software to allow the returns to be generated as a by-product of existing accounting software.
5. For reporting on services, the degree of detail asked under the EBOPS (Extended Balance3 of Payments Services) classification was reported as unduly burdensome and not consistent with the level of detail held by the companies.
6. For some of the non-financial companies, early responses suggest that portfolio investment is of little significance and so this part of the feasibility study remains untested at the time of writing.
7. The proposed treatment of foreign direct investment consistent with national accounts and balance of payments concepts, appears to tie in well with company recording practice - this is a positive finding for an important BoP component. A similar positive message is emerging for foreign assets and liabilities.

5.2. Some provisional comments

The key to making this work seems to lie in the creation of appropriate extensions of accounting software. The fact that for European companies the reporting will be administered under regulation gives an added incentive for the multinationals and therefore the software accounting firms to tackle this issue and allocate resources to it.

This preliminary feasibility study suggests that there are benefits for the companies as well as the national statistical institutes in developing software which is an extension of commonly used accounting systems, but the key question remains - will the companies see the need to provide this data under regulation a sufficient incentive to fund software development. And given that SAP is applied to meet companies' individual requirements, can the software development be sponsored and carried out to common standards which can be implemented easily in each company implementation of SAP? Although there is enthusiasm for tackling this issue at the top of the multinationals, there is understandably more reluctance to devote scarce resources within the firms to tackle the issues. This is exemplified by twelve of thirteen multinationals approached giving qualitative replies to the feasibility questionnaire. However, draft report forms including a full response of real data have been supplied by only two multinationals as reported in January 2003 to the CMFB.

6. Concluding Remarks

The range of statistical needs relating to globalisation extends beyond the topics examined in this paper. However, the key issues of:

- understanding the 'disintegration' of business operations, including splitting of value chains across borders
- limitations in data derived from single country snapshots of larger, multinational, operations
- international movement of intangibles, and of investment by households and firms all illustrate the need for statistical collection - for part of the economy at least - at an international level. First steps in this process are under way, but most National Statistics Offices still have a long way to go.

It is important in the development of the process that the objectives of NSOs - the accurate accounting of activity within national borders - are met alongside the objectives for overview of multinational firms.

References

Total Global Strategy; George S Yip, Prentice Hall, 1992.

Expansion Strategies of US Multinational Firms; Gordon H Hanson, Raymond J Mataloni, Matthew J Slaughter, NBER 2001

Open World; Phillipe Legrain, Abacus 2002

Integration of Trade and Disintegration of Production in the Global Economy; Robert C Feenstra, Journal of Economic Perspectives 1998

Measuring Globalisation; the role of multinationals in OECD economies. OECD 2001

The Performance of Europe-wide Businesses; Tony Clayton, LBS Strategy Review 1999

Multinational Enterprises and Productivity: Chiara Criscuolo, Ralf Martin, Ceriba/ONS 2003

Business Register recommendations manual, Chapter 21 Enterprise Groups, Eurostat March 2003

Tariffs, Taxes and Electronic Commerce: Revenue Implications for Developing Countries, S.Teltscher , UNCTAD Study Series on Policy Issues in International Trade and Commodities, No. 5. UNCTAD/ITCD/TAB/5. Geneva (2000).

Draft Annex to the Manual on E-commerce and international trade in services (which can be found at http://www.oecd.org/std/tradhome.htm)

Electronic Commerce: Taxation Framework Conditions - A Report by the OECD Committee on Fiscal Affairs 1998.

E-Commerce Inquiry to Business 2000, M. Williams. Economic Trends, No. 572, July 2001. London: Available at http://www.statistics.gov.uk

Cross-border electronic commerce and international trade statistics. David Ruffles, Economic Trends, No 576, November 2001. London.

Comment on Tony Clayton: Globalisation – New Needs for Statistical Measurement

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It is a pleasure to comment on Tony Clayton`s lecture. This is a wide-ranging contribution that draws a comprehensive picture of an important subject – the measurement of globalization. Tony Clayton points out that globalisation is not a single phenomenon but a range of structural changes that covers the changing behaviour of firms as well as the altering relationship between firms across national boundaries. He also stresses the fact that globalisation is more than various activities of multinational firms. Above all, the rapid growth of international outsourcing, which does not take place in firms with multinational locations exclusively, is part of the globalisation story. Nowadays consumers can buy directly on international markets, too.

Tony Clayton and his co-author Robin Lynch indicate that the statistical challenges set off by globalisation have to focus on the measurement of entrepreneurial activities. The range of structural chances within firms and finally the permanent changes of input and output structures in the production process of the whole economy are the relevant subject. They distinguish four starting points for the development of economic statistics:

1. The effects of the vertical fragmentation of the production processes across national borders: measurement problems emerge because of international outsourcing.
2. The treatment of local entities in multinational firms: measurement problems arise in vertical organised multinationals if the output in a certain country depends on inputs in other countries. A good example is intellectual capital, which can be used within multinational firms in every location simultanously.
3. The role and statistical recording of intangibles in international trade (international e-commerce).
4. The financial relationships as well as the goods and service transactions within multinational businesses and their statistical treatment.

As part of a solution in order to tackle the vast data issues in measuring globalisation Clayton and Lynch recommend to develop an accounting software, which is supposed to guarantee a homogeneous data processing. But they have to admit that the data acquision depends on the co-operation of firms to provide the necessary information.

I will not comment on this proposal. Instead I will add some basic remarks to the subject of this seminar. Therefore I would like to ask three questions:

1. Why do we need statistics, in particular those dealing with globalisation?
2. While working on the further development of statistics, should globalisation be placed in the foreground?
3. What are the main working areas for improvements in our economic statistics?

* I would like to thank Ulrich Scheinost for helpful comments. The usual disclaimer applies.

Why do we need statistics?

The question, whether globalisation demands new needs for the statistical measurement of economic activities, leads to the question, for what reasons do we need statistics at all. Statistics are not for its own sake, e.g. to keep statisticians busy or to give economists the right to exist in a number-oriented world. Reliable economic data are needed for the following reasons:

a) Testing of micro- and macroeconomic theories – e.g. questions on the theoretical and on the actually observed distributional effects of globalisation.

b) Justifying and controlling of economic policies – e.g. questions on the effects of tax reforms on international capital flows.

c) Regional and international benchmarking – e.g. questions on macroeconomic conditions and on the competitiveness of regions or countries.

d) Business cycle analysis – e.g. questions on the international synchronization of national business cycles as a result of globalisation.

e) Analysis of economic structures – what does an economy actually produce and how do the people earn their income and wealth.

f) Basis of entrepreneurial decisions and controlling – e.g. indicators of aggregated demand or productivity.

This list of possible uses of statistics is certainly not complete. However, it suggests that economic statistics are expected to show what was produced and how it was produced in a certain country – or an area of economic interest. Many other economic effects result from these facts. Priority task of statistics is to answer these two questions on the output and input structure in the very best way.

If globalisation causes that open economies produce

(a) other goods and services,

(b) old and new goods and services in new ways,

(c) not only within national boundaries, than we have to ask, whether the present available statistics cover these changes adequately.

Should globalisation be placed in the foreground?

Structural change applies not only to the altering output structures of an economy, that means the declining ratio of manufacturing to service output, but also to the changing input structures. Certain factors of production lose significance, other factors gain significance. An economy produces permanently new goods. And it does it permanently in a new manner. Product and process innovations are synonymous for this developement. Therefore, structural change is substantially the result of technical progress. Wealth driven demand shifts are a further reason for a changing product range, of course. But economists to a large extent agree that supply-side developments are the driving forces behind structural changes.

Moreover, economists agree that the effects of globalisation – e.g. those on the income distribution – are inferior to those of technical progress and organisational developments. Economists tend to interpret globalisation less as an autonomous explanation, but more as a determinant of technical progress and thus of structural change.

Is globalisation something new with far-reaching consequences for statistical measurement? Or is it something that merely accelerates an old economic phenomenon – technology driven structural change? The same questions may have been asked, if new needs for the statistical measurement of the so-called „new economy“ were analysed.

Both, Tony Clayton and James Markusen pointed out in their lectures, that globalisation is something new and therefore represent a challenge for official statistical recordings. The way, how multinational firms do their business around the world is quite different compared to what is covered in available statistics. Particularly the fact, that the phenotypes of globalisation are quite differently recorded – in some cases not at all – is good reason for coming together in this seminar. I will and can not answer the question, whether globalisation is an

autonomous phenomenon. Prior to discussions on the effects of globalisation on the statistical measurement it is necessary to ask the question – even in this seminar – whether the present available statistics cover the predominating structural change in a fairly acceptable way.

The statistics that I have in mind in order to answer the questions raised in the beginning of my comment, are expected to record the production process in an economy as good as possible. Only a small part of all businesses is internationally as activ as multinational firms. The major part of all businesses is subject to the predominating features of structural change – changes at the output and input level. Particularly in input structures we expect fundamental changes in all sectors and all sizes of firms:

(a) Increasing capital-labour ratios: labour is substituted by capital.

(b) Up-skilling: low-skilled labour is substituted by human capital.

(c) Outsourcing: self-made product components are substituted by outside produced intermediate goods.

I have already pointed out that globalisation in the meaning of increasing international trade und rising cross-border factor movements influences these substitution processes. But structural change and the impact of globalisation on it is primarily visible in changes on the input and output level of an economy. And this is to be placed in the foreground in statistical measurements.

What are the main working areas for statistical improvements?

To avoid misunderstandings: The subject of this seminar is not of second-rate importance. My task is to comment on the paper by Tony Clayton and Robin Lynch, and to comment means to provide critical remarks. I would rather to advise caution. The dominating objective of economic statistics – what is produced and how it is produced within a country or a certain economic area – must be kept in mind.

What about the assertion, that our present statistics do not record the ongoing structural change in an adequate manner. A possible counter-argument may be that this is the case because we do not cover the effects of globalisation well enough. However, I suppose, that this answer is not sufficient either. Some examples will show, why I believe that the present available statistics are not able to cover the changes on the input and output side of our economies – independent from the international dimension:

- Despite the manifold efforts we do not know enough about the service sector, although it comprises around two thirds of modern economies according to conventional classifications and measurement. Particularly the definition of manufacturing and services is not without problems – what the more or less finished discussion about the so-called „new economy“ made clear.
- We do not have enough information about the inter- and intra-sectoral division of labour. The complex features of outsourcing are to my knowledge not covered in our economic statistics adequately – not even on the national level.
- Changes in inputs and in the cost structure of firms are not covered to a sufficient extent.

Firms and therefore the production process of an economy seem to be more or less still a statistical black box. Globalisation aggravats this problem. Demands to cover the complex features of globalisation – some business associations in Germany already try to do that in a sophisticated way – are more than justified. But I fear that these efforts are pointless in the case of an inadequate statistical starting position. An already problematic statistical basis runs the risk of getting overloaded. In the worst case, to work with such statistics causes more analytical problems than it solves. It is right to cover modern developments in modern statistics – although globalisation works for some time. But it is also right and important to cover the complete economic activities. It makes no sense to know more about certain features but to loose contact with reality concerning other features.

There is some hope that statistical innovations in order to come up to the phenomenon globalisation simultaneously allow to tackle other needs in measuring economic activities. The further development of statistics in order to comprise modern trends must not take place parallel to or isolated from the general picture that statistics have to reflect. Statistical sub-systems have to fit into the general statistical body. But this body is not in good shape.

A Harmonised Methodologigal Framework for Economic Globalisation

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1. The concept of economic globalisation

"Globalisation refers to a dynamic and multidimensional process. Resources that used to be largely national are becoming internationally mobile, while national economies are growing increasingly interdependent both bilaterally and through regional groupings.

The globalisation of trade in goods and services is opening up new and increasingly vast markets. The globalisation of financial markets has triggered sharp growth in investment portfolios and large movements of short-term capital, with borrowers and investors interacting through increasingly unified markets. The globalisation of competition heralds the emergence of new strategic considerations for enterprises. The globalisation of technology stems from the speed with which innovations are propagated, with international networks arising to link public and private research centres, as well as from converging standards. Lastly, the globalisation of corporations and industries involves not only foreign direct investment and relocation but also joint ventures, co-operation agreements and strategic alliances. One consequence of these changes is the fragmentation of production processes, where different stages of production for a given product are carried out in different countries.

In a globalising economy, distances and national boundaries have substantially diminished as obstacles to economic transactions. In such an economy, the markets and production of different countries become increasingly interdependent through the changes induced by the dynamics of trade, capital and technology flows – changes of which the primary vehicles are multinational enterprises. Thanks to information and communication technologies, such firms are organised into transnational networks in a context of intense international competition and strategic interactions which also extends to local firms, as well as to other spheres of each country's economic and social life..." (OECD, Manual on Indicators of Economic Globalisation, forthcoming).

2. Measurement needs

Globalisation places new demands on indicators designed to help public authorities and firms to assess developments and formulate appropriate policies. The existing traditional indicators need to be reinterpreted or readjusted in this new context to take greater into account influences from abroad. For example, in many analyses, international trade is viewed as a key indicator of globalisation and market conquest. But an adequate interpretation of the trade flows needs to take into account other forms of globalisation such as direct investment which can be complementary to foreign trade or provide alternative strategies.

When a firm decides to expand abroad, whether by setting up "greenfield investments" or via acquisitions of existing firms, it could have an influence to the economic activity in various ways. For example, output may fall if the foreign affiliates are acting as subcontractors and producing the same products at lower cost, or it may

increase if the affiliates' products are complementary to the products being manufactured at home. In the latter case, the parent company's additional production will be exported essentially to its affiliates, while part of the affiliates' production will be imported by the parent company (intra-firm trade) in the home country.

Similar situations can occur in the realm of technology. Measurements of what is called the "national research effort" may be affected when research centres, rather than production facilities, are shifted abroad. Reductions in some countries' R&D expenditure have been attributed to the fact that a number of major companies have moved R&D laboratories abroad. These companies have also acquired foreign R&D laboratories through mergers and acquisitions. At the same time, a significant part of domestic R&D is funded from abroad and is performed for enterprises located abroad while other foreign enterprises located abroad perform R&D for domestic enterprises. To these developments may be added R&D co-operation agreements and joint-ventures located in third countries, making it difficult to get a precise idea of the meaning of "national R&D effort" and of its impact on the technological potential of one country.

The indicators corresponding to the economic globalisation generally need to respond to the following questions:

1. To what extent can the intensity of the globalisation process be measured?
2. How can the impact of globalisation on economic performance be evaluated?
3. How can we measure the impact of structural policy reforms designed to get national economies to benefit more from globalisation?

Until now, the OECD has been concentrating its efforts on developing indicators relating to the first question. The reason for this choice is because indicators belonging to this category form the basis for developing the other categories of indicators. The two other categories of indicators are of great interest to policy makers but they are more complex and involve analytical work and often econometrical studies. More recently, the OECD started working on the last two categories of indicators. Concerning the first category, the OECD is also preparing a manual which will present basic definitions and guidelines for the collection of data and the construction of economic globalisation indicators. This manual has two primary objectives:

- Map out the realm of globalisation indicators of relevance to policymakers and propose a selection of them that would warrant systematic effort to track how the process evolves over time.
- Provide the methodological and statistical guidelines needed to construct the chosen indicators, incorporating as much international harmonisation as possible.

This manual is being prepared with the co-operation of several OECD directorates, as well as the main international organisations, and particularly Eurostat.

As far as the second category of indicators concerning the impact of globalisation on economic performance is concerned, three types of analysis and measurement are involved:

- Measuring the impact of the main forms of international transactions (i.e. trade, direct investment, technology transfers, etc.) on the main economic aggregates.
- Evaluating interactions between the main forms of these transactions, insofar as their dynamic has an indirect influence on other economic aggregates. For instance, it would be possible to measure directly the impact of international trade on employment (first type of analysis), but also the effects of direct investments on international trade and, indirectly, on employment (second type of analysis).
- Evaluating the costs and benefits of globalisation in various realms of economic activity.

The third category of indicators involves linkages between policies and structural reforms. Here, the aim is to compare the policies, and especially structural reforms, being carried out with the results and performance actually achieved. It should be stressed, however, that many policy measures cannot be illustrated systematically by indicators, and that consequently outcomes alone cannot be used for such a quantitative evaluation.

Box 1 summarises the areas to which three categories of indicators quoted above refer, with a few examples by way of illustration.

Box 1. Taxonomy of the various categories of economic globalisation indicators		
Nature of measurements	**Examples of analytical areas**	**Examples of indicators**
1. Extent and intensity of globalisation	- Capital movements - Trade - Direct investment - Technology transfers and dissemination - Activity of multinationals	- Value of portfolio investments - Share of production exported - Services as a share of total exports - Electronic commerce as a share of total trade - Stock of FDI in GDP - Technology payments and receipts - Turnover and employment of foreign affiliates
2. Globalisation's impact on economic performance	a) Direct impact on the main aggregates - Growth - Employment - R&D - Exports b) Interactions between forms of globalisation - Linkages between trade, FDI and technology transfers c) Cost-benefit assessment - Net impact on employment - Net impact on growth - Net impact on income - Net impact on exports and imports - Net impact on R&D - Net impact on productivity	a) Main aggregates - Share of growth due to exports - Jobs created by exports - Growth in market shares due to FDI - Exports due to FDI b) Interactions between forms of globalisation - Exports generated by FDI and jobs stemming from these exports - Growth in technology transfers due to FDI c) Cost-benefit assessment - Net effect on employment of . Exports and imports . Offshore relocations . Inward and outward investment . Mergers and acquisitions . Restructuring - Net effect on trade balance due to: . Inward FDI . Outward FDI
3. Structural policies for adjusting to globalisation	- Liberalisation of trade in services - Opening of certain sectors to competition (e.g. telecommunications) - Labour market reforms - Tax reforms - Social welfare reforms	- Effects on the growth of trade in services - Price decreases when sectors are opened to competition - Services as a share of total exports - Effects on employment and unemployment - Effects of tax reforms on growth and innovation

2.1. The driving forces of globalisation

Different major changes which have contributed importantly to the globalisation process are:

- The opening of markets to trade.
- The liberalisation of capital movements and countries' increasing openness to foreign investment.
- The importance of multinational enterprises as a major actor in global economic activity.
- The new role played by the international diffusion of information and communications technologies.
- The role of international migration, particularly the international mobility of the highly skilled manpower.

2.2. The structure of the Manual on economic globalisation indicators

The Manual on economic globalisation indicators is devoted to measuring the magnitude of the globalisation process, a task which encompasses a potentially large number of areas. Priority is given to all the above driving forces of globalisation, except for the role of international migration which will be examined at a later stage and included in the next version of the manual.

The Manual is targeted at national compilers, and to a lesser extent, analysts of the global economy and international organisations. The reason for this is that a good international comparability of data depends

largely on the right application by each country of the concepts and other methodological guidelines concerning data collection. Consequently, the harmonisation of methodology at the international level involves a consensual adoption of basic common definitions and the collection of relevant data at the level of each country. However, some problems that occur at the international level need specific methodological solutions at the national level.

The Manual on economic globalisation indicators recalls the definitions of concepts and recommendations concerning data collection already adopted by the other manuals, putting them within the framework of globalisation and showing the existing links between these manuals. Beyond these reminders and appropriate references, however, the Manual goes further by developing in more detail the concepts linked to the activity of multinational firms as well as already some of them are adopted by the Manual on Statistics of International Trade in Services (2002).

Given the harmonisation needs, it is in this area that most of the new recommendations are made. The proposed priorities take into account observed practices in the majority of OECD countries as well as future needs for better analysing the process of economic globalisation.

The **first** chapter of the Manual sets out to define the concept of globalisation and identify its causes and characteristics. It will also propose a limited list of reference indicators based on the current availability of the underlying data and policy issues confronting policy makers such as those that participate in various OECD policy committees.

The **second** chapter concerns foreign direct investment. It reviews the basic concepts and definitions that apply, including references to the existing manuals, namely the IMF Balance of Payments Manual (fifth edition) and the OECD Benchmark Definition of Foreign Direct Investment (3rd edition). It also gives an overview of the data that are currently available and their possible extension, and discusses the main indicators related to international investment.

The **third** chapter deals with the economic activity of multinational enterprises. It develops all the concepts and definitions regarding multinationals, notably the concept of control of an enterprise and the identification of the country of residence of the parent company or the investor which has the ultimate control over its activities (Ultimate Beneficial Owner). Building on national statistical agencies' best practices, pragmatic and operational recommendations will be made in order to enhance international comparability of indicators and basic data.

The **fourth** chapter is devoted to the internationalisation of technology. Several forms of internationalisation are analysed: the internationalisation of R&D, technological balance of payments and trade in high-technology products. This chapter benefits from the guidelines set out for the measurement of research and development developed in the Frascati Manual.

The **fifth** chapter deals with certain aspects of the globalisation of trade. The purpose of this chapter will not be to repeat what readers can easily find in other manuals, books and articles on international trade, but to focus on several aspects of the role multinational firms play in international trade, particularly intra-firm trade, as well as other indicators provided on shifts in the structure of international trade, such as intra-industry trade, trade in intermediate goods, intra-regional trade, methods of evaluating the trade balance of countries on the basis of the capital owned by their nationals and the measurement of international subcontracting.

3. The main areas for harmonisation

The first part of each chapter of the Manual presents the main questions linked to the principal theme of the chapter and proposes indicators which could respond to these questions as well as discussing some interpretation issues relating to those indicators. In a second part, methodological and conceptual aspects linked to the data needed for the development of indicators are presented. In this part, numerous recommendations are also proposed for collecting more comparable data within a country and indirectly obtaining better international comparability.

It will not be possible to comment on this report on the main recommendations for the harmonisation of indicators presented in each chapter of the Manual. However, in the light of OECD and Eurostat surveys – organised during the last 10 years and partially published by the OECD under the title Measuring globalisation:

the role of multinationals in OECD economies – it is possible to identify the main causes of distorsion concerning the comparability of data at the national and international level. As was mentioned earlier, some problems particularly concern international comparisons, and it would be useful to find the appropriate solutions through data collection at the national level. The harmonisation needs presented in this report concern, on the one hand, foreign direct investment (Chapter 2 of the Manual) and on the other hand the activity of multinational firms (Chapters 3, 4 and 5 of the Manual). Although the main recommendations on the activity of multinational firms are presented in Chapter 3 of the Manual, they are also valid for the other two chapters concerning the internationalisation of technology and aspects of trade globalisation.

3.1. Foreign direct investment

The IMF and the OECD launched in 2001 an exercise to review the information initially drawn from the Report on the Survey of Implementation of Methodological Standards for Direct Investment (SIMSDI) which was conducted in 1997. The last report analyses the results obtained from the 2001 SIMSDI revision for 56 countries (30 OECD and 26 non OECD) that participated to the surveys. The results of this survey show that there have been marked improvements in both the availability of FDI statistics, and the application of a number of recommendations of the international standards for compilation of FDI statistics, but that there are still areas where the majority of countries do not yet follow the international standards. We will make mention of these areas which seem more important:

- Treatment of indirectly-owned direct investment enterprises (fully consolidated system).
- Use of the Current Operating Performance Concept to measure direct investment earnings.
- Valuation of FDI positions (assets and liabilities).

a) Treatment of indirectly-owned direct investment enterprises (fully consolidated system)

According to the international standards, direct investment enterprises include those entities that are "subsidiaries" (enterprise in which a non-resident investor owns more than 50%), "associates" (enterprise in which a non-resident investor owns between 10 and 50%); and "branches" (unincorporated enterprises wholly or jointly owned by a non-resident investor) of the direct investor.

A direct investment relationship is established when a direct investor either directly or indirectly owns a direct investment enterprise. As a result, once a direct investor owns 10% of an enterprise, certain other enterprises related to the first enterprise are also regarded as direct investment enterprises. The definition of direct investment enterprise therefore extends to: "branches" and "subsidiaries of subsidiaries" of a direct investor, enterprises in which subsidiaries of a direct investor have equity participation between 10 to 50% and subsidiaries of non-resident associates of a direct investor.

For convenience, this approach is referred to in the OECD Benchmark Definition of Foreign Direct Investment as the Fully Consolidated System (FCS). At present, only 7 OECD countries fully apply the FCS for their inward transactions data, 17 countries partially apply the FCS and the other countries do not apply it at all. A number of countries cite the difficulties in identifying all indirectly-owned enterprises as a reason for not fully applying the FCS.

b) Measurement of direct investment earnings

The Benchmark and the BPM5 recommend the use of the "Current Operating Performance Concept" (COPC) to measure direct investment earnings. According to this concept, the earnings of an enterprise consist of its income from normal operations before non-recurring items and capital gains and losses are accounted for. Operational earnings of the direct investment enterprise should be reported after provisions for depreciation of capital and income and corporation tax charged on these earnings have been deducted. Direct investment earnings should not include any realised or unrealised capital gains or losses made by either the direct investment enterprise or the direct investor, or exchange rate gains or losses.

According to SIMSDI results, only 8 OECD countries now fully apply the COPC regarding the measurement of their inward direct investment earnings. The disparity in the methodologies continues to be an important issue for global discrepancies, as it results in inconsistencies in the data on reinvested earnings.

c) Valuation of assets and liabilities in FDI position data

In principle, all external financial assets and liabilities should be valued at the market prices prevailing on the date they are recorded in the FDI statistics. However, there are some recognised departures from the market price principle. For direct investment, values recorded in the balance sheets of direct investment enterprises (book values) are often used to determine the value of the stock of direct investment. If these balance sheet values are recorded on the basis of market prices prevailing as at the balance sheet date, such values are generally in accordance with the market valuation principle. However, if balance sheet values are based on historical cost or on interim, but not current, revaluations, such balance sheet values do not conform with the market valuation principle (book values). The SIMSDI results indicate that 21 OECD countries compile inward position data at book values.

3.2. Activity of multinational enterprises

The harmonisation of data on the activity of multinational enterprises could be classified into two categories: on one hand the harmonisation concerning data collected within a country and on the other hand the harmonisation of data with the aim of achieving international comparability.

3.2.1. Data harmonisation within a country

In this part we have identified 6 priority areas where improvement is needed in order to facilitate the analysis of the activity of multinational enterprises without taking into account other aspects affecting international comparisons.

a) Comparing data on the activity of affiliates under foreign control with the national total

The vast majority of countries have chosen the enterprise as the statistical unit for collecting data on the activity of multinational enterprises, while most of variables concerning national totals are collected at the establishment level. It is useful to remind that within establishments, there is greater uniformity of sector activities, while enterprises which have a legal autonomy could have a significant number of establishments, and their principal activity could be different from the activity of their establishments.

Table 1. Example of classification of sectors by enterprise and by establishment: the case of Germany, 1995

Sectors	Total national employment* at		Foreign-controlled employment[1] (%)	
	Establishment level	Enterprise level	Enterprise /enterprise[2]	Enterprise /establishment[3]
Textiles, clothing	117.2	287.2	3.1	7.7
Chemicals	330.5	552.8	12.7	21.2
Pharmaceuticals	137.2	106.5	—	—
Computers	36.2	66.5	19.5	35.9
Electric machinery	210.4	538.9	5.2	13.3
Electronics	360.7	165.5	23.6	10.8

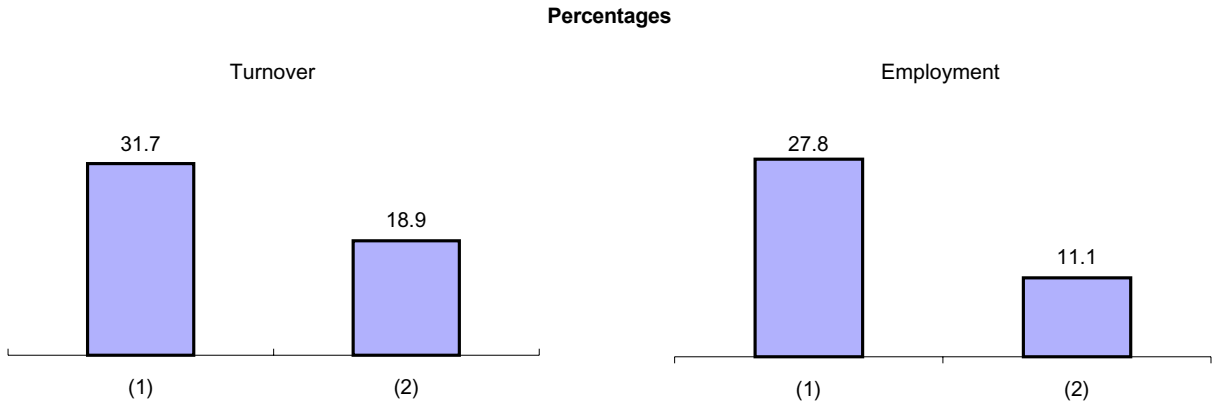
* Thousands of persons.
[1] Share of foreign subsidiaries in the national total.
[2] Identical statistical units: ratios correct.
[3] Different statistical units: ratios incorrect.
Source: AFA database, OECD.

Consequently, for each sector, the total corresponding to establishments could be different from the total corresponding to enterprises. Table 1 shows these differences concerning employment. For example, employment under foreign control in Germany in the computer sector is 35.9% if the statistical unit of affiliates under foreign control is the enterprise and if the total of national firms is the establishment. However, if both statistical units are identical (i.e. enterprises), then the same ratio is 19.5%. This means that in order to obtain the right values for these ratios, both categories of data must be expressed using the same statistical unit.

b) Taking into account direct and indirect control by foreign affiliates

In many cases, affiliates under foreign control in a host country also control directly or indirectly other firms located in the same country. In some Member countries, these firms are not included in the category of firms under foreign control. This could substantially modify the percentage of firms under foreign control in these countries. In France for example, where both ratios are available, the turnover or employment under foreign control of the total manufacturing sector is twice as high if it takes into account the firms controlled in France by the foreign affiliates.

Figure 1 France: Share of turnover and employment under foreign control in the total manufacturing sector, 1998.

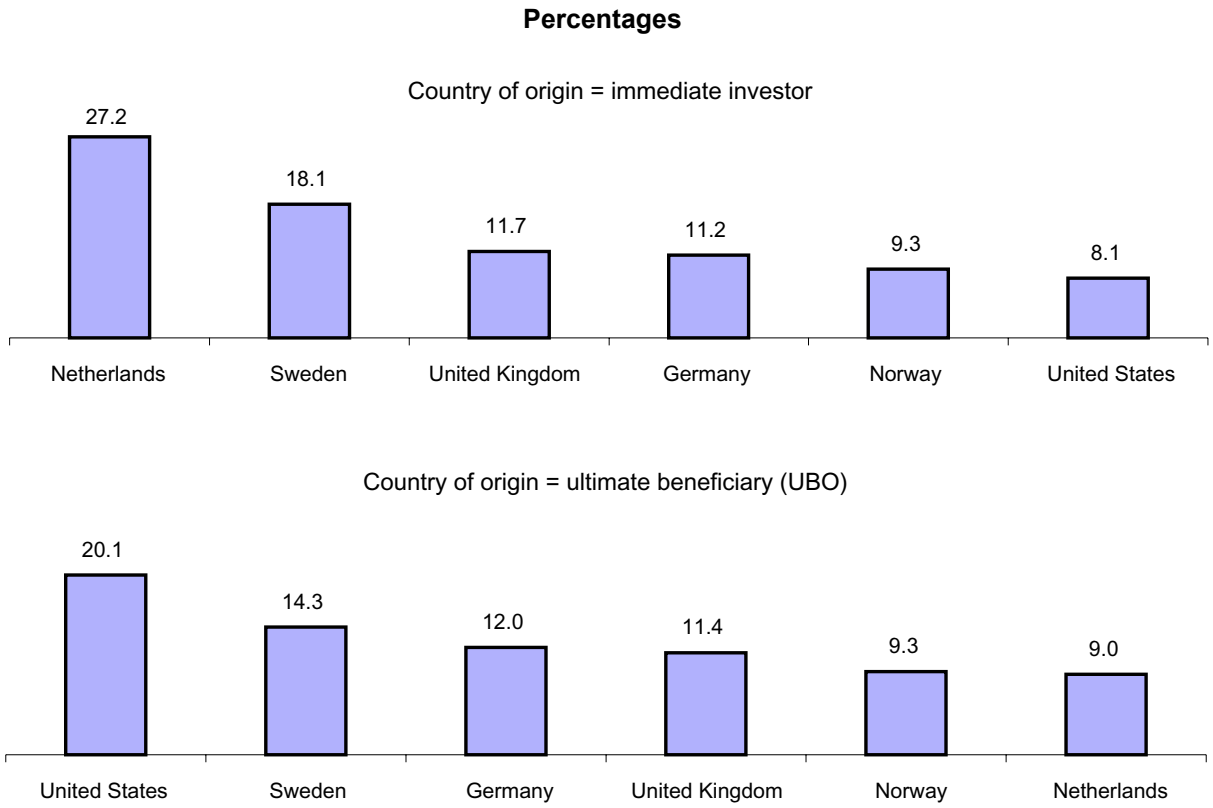


(1) Including firms controlled in France by foreign affiliates.
(2) Excluding firms controlled in France by foreign affiliates.
Source: OECD.

c) Identifying the ultimate beneficial owner (UBO)

This is an important issue for all countries and particularly for the European Union and Eurostat. The aim here is to be able to distinguish between the immediate (e.g. holding companies) and the ultimate beneficiary investor. In the framework of the balance of payments concerning FDI flows, it is the immediate investor who is more relevant to identify, and consequently his country has to be taken into account as origin investor country. But if the ultimate beneficiary is the most relevant information, then the investor as well as the country of origin could be different. Example: in Figure 2 concerning the activity of foreign affiliates in the services sector in Denmark by country of origin, it can be observed that the most important immediate investors are the Netherlands (27%), Sweden (18.1%) and the United Kingdom (11.7%), while the share of the United States is only 8.1% in the total foreign turnover. If the ultimate beneficial owner (UBO) is taken into account, the United States becomes the first investor country with 20% of total foreign turnover. The reason for this is because in the Netherlands are located a significant number of US holdings which fund most American investments in Europe. So in the case of the balance of payments approach, the FDI flows from the Netherlands to Denmark are considered as European investments while in the case of the activity of multinationals approach (UBO approach), these investments are not European but American. This issue is presented in detail in Chapter 3 of the Manual on Economic Globalisation Indicators which defines the OECD guidelines concerning economic globalisation.

Figure 2: Turnover of affiliates under foreign control in Denmark in the services sector broken down by country of origin, 1996.

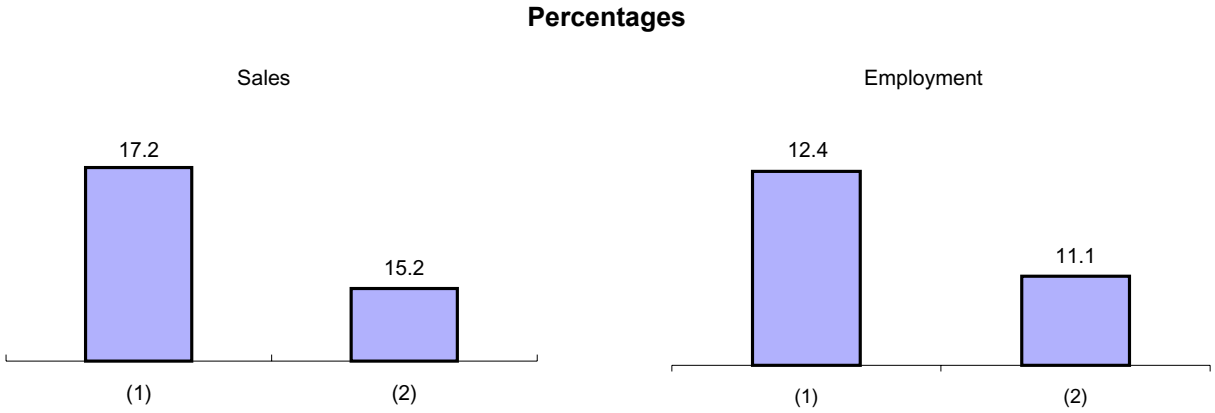


Source: OECD and Eurostat.

d) Implications of taking into account minority foreign ownership

The distinction between majority and minority foreign ownership is not relevant in the framework of the balance of payments/FDI approach. On the other hand, it is essential in the case of the activity of multinational firms since we define a firm under foreign control according to the presence or not of a majority foreign ownership. By definition, all the activity of a majority-owned affiliate (i.e. gross output, employment, value added, etc.) is classified under foreign control. However, some Member countries do not make a distinction between majority and minority ownership and therefore apply the same rules to the activity variables concerning majority foreign ownership (case of control) and minority foreign ownership (case of influence). Conceptually, this treatment is incorrect and it could result in an overestimation of the share of the activity under foreign control in the national total. This effect may vary depending on the weight of minority foreign affiliates in the national total. In the United States (Figure 3), values corresponding to both cases are available, but the ratios are not significantly different.

Figure 3. United States: Share of the sales and employment under foreign control in the total manufacturing sector, 1997.

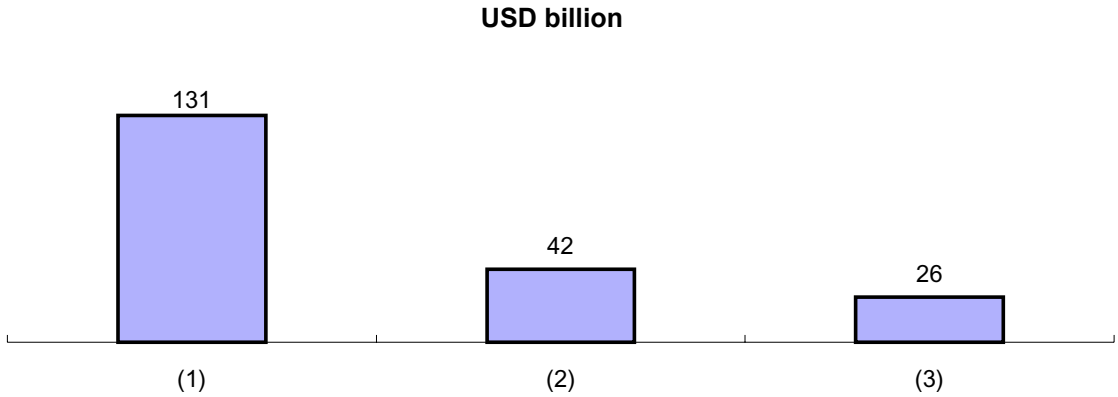


(1) Majority and minority foreign affiliates.
(2) Majority foreign affiliates.
Source: OECD.

e) Potential duplication between data on parent companies and foreign-owned affiliates

In a compiling country's surveys of multinational-company operations, a foreign-owned affiliate in the country that has its own affiliates abroad may be counted both as a foreign-controlled affiliate (in a survey concerned with inward investment) and as parent company of controlled affiliates abroad (in a separate survey concerned with outward investment). There is thus the possibility of some duplication between data collected on the activities of foreign-controlled affiliates and data collected on the activities of parent companies. For example, in the United States in 2000 (Figure 4), business enterprise R&D expenditure was USD billion 199, of which 131 was performed by US parent companies, 26 by majority-owned foreign affiliates and 42 by other US enterprises, including minority-owned affiliates.

Figure 4. United States: Busines enterprise R&D expenditure in 2000 performed by different categories of enterprises.



(1) US parent.
(2) Other US enterprises (including minority foreign-owned affiliates).
(3) Majority-owned foreign affiliates (under foreign control).
Source: OECD.

The above figure shows some duplication, because some of the majority-owned foreign affiliates can be regarded both as parents under foreign control (column 3) and be included in the category of US parents. In order to avoid duplication, two options are possible: either to distinguish between data for parent companies controlled by US residents and data for parent companies under foreign control or to eliminate the category of parent companies under foreign control and to include them in the category of majority-owned affiliates.

f) Comparing trade data by foreign affiliates with trade data of firms controlled by the residents of the compiling country

This problem relates solely to the way in which sectoral data are classified. Data on international trade by foreign affiliates are classified by sector according to the main activity of the firms concerned. On the other hand, data of the compiling country on all firms are compiled by customs and classified by product. To make them comparable with other industrial data, they are classified by sector using a conversion key. The two categories of data (by product or reclassified by sector, and data on foreign affiliates collected by sector from the outset) are not strictly comparable. For instance, a country's trade balance for the automobile industry is the value of exports minus that of imports, regardless of the destination of those imports. Yet when this calculation is applied to a specific category of firms such as foreign affiliates, the exported automobiles are found to have been manufactured by affiliates, whereas most of the imports are destined for the wholesale trade. Unfortunately, the latter is classified under services. Calculating a trade balance for foreign affiliates in the automobile sector is therefore of little significance. A possible solution could be to recalculate all trade flows by product within the firm rather than by a firm's main activity. This solution could improve the comparability of data on foreign affiliates and custom data on all firms.

3.2.2. Data harmonisation at the international level

Data harmonisation at the international level does not give rise to any particular problem if all countries in their surveys adopt the same definitions. However, harmonisation at the international level can present some specificities. Sometimes, thanks to international comparisons, we are able to identify which countries did not adopt the international standards. In the framework of this report, only two problems will be presented: a) the asymmetry of countries' declarations and b) the possibility of double accounting linked to aggregation problems concerning indirect control.

a) Asymmetry of countries' declarations

Difficulties linked to the asymmetry of countries' declarations do not concern only this category of data. However at the present time, this problem is particularly important because many countries are not able for legal reasons to provide data concerning the activity of their affiliates abroad. The only way to obtain this information is to take into account information provided by the host countries. This could be an alternative solution if the data provided by the host and by the home countries were the same, at least in the case of countries for which both categories of data are available.

Table 2 which refers to the number of employees of some foreign affiliates in the United States, shows that declarations of American authorities and those of origin countries are not the same. This result is that in the short term, it will be difficult to substitute the missing data concerning affiliates abroad with data provided by host countries. Further investigations will be necessary to identify the causes of these discrepancies.

Table 2: Number of employees of foreign affiliates in the US by country of origin (UBO) in 1998.

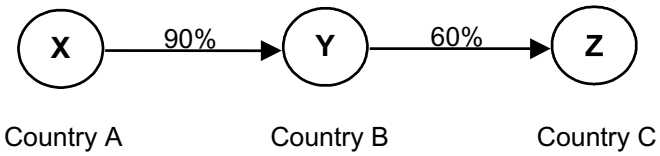
Thousands		
	Declared by the US	**Declared by origin countries**
Austria	6.9	2.2
Belgium	129.0	6.9
Finland	32.2	31.4
France	525.7	—
Germany	782.4	1 164.0
Japan ([1])	835.9	531.4

([1]) 1997.
Source: OECD, FATS database.

b) Aggregation problems concerning indirect control

Indirect control may pose some accounting problems. To take the example shown in Figure 5, if it is assumed that countries A and B are members of the European Union and country C is not, company X may declare that it controls company Z (indirectly) and company Y declares that it controls company Z (directly). If an effort is made to aggregate companies abroad under European control, there is a risk that company Z will be counted twice over. This double counting can be avoided if, in such a case, only the last EU country that has a direct control is counted.

Figure 5: Aggregation of foreign affiliates.



4. Conclusions

Given the high diversity of economic globalisation indicators, two priorities seem important for the action of national authorities. First: making an appropriate effort to harmonise the existing indicators according to international standards and manuals. The forthcoming Manual on Indicators of Economic Globalisation constitutes a good basis for such harmonisation.

This task implies not only changes in the national surveys concerning basic definitions, but also close co-operation among different public agencies and ministries, particularly national statistical services, ministries of economy and finance, trade and industry, central banks and ministries of science and technology. A particular effort needs to be made to improve basic data and indicators concerning multinational enterprises. At the same time, proposing new methods for collecting basic data without engaging new surveys if it is not necessary. A greater exchange of information among statistical services inside a country but also among different countries as well as closer co-operation with international organisations could contribute to improving the international comparability of indicators.

Second: policy makers have to better define their needs and give a higher priority to statistics and to data collection. In many areas, analytical work and the evaluation of the economic impact of globalisation is not possible because of the lack of basic statistics and indicators. More generally, it is obvious that policy makers need to have a better perception of the problems arising from economic globalisation, but this knowledge cannot be obtained without giving a high priority to quantitative information and to appropriate indicators.

MEASURING GLOBALIZATION: THE EXPERIENCE OF THE UNITED STATES OF AMERICA*

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Introduction

As the term is usually employed, "globalization" implies that not only has consumption been internationalized through cross-border trade in goods and services, but production also has been internationalized through foreign direct investment.[1] In discussions relating to statistical indicators of globalization, it is commonly taken for granted that data on cross-border trade will be available, and so the attention is focused on information relating to the operations of direct investment enterprises, or affiliates. For the United States, data on trade date to colonial times, and they have been published in balance of payments accounts since 1923. The United States is also recognized for its early implementation of data on the operations of affiliates. However, some might be surprised to learn that such data were collected for years as early as 1950. A census of U.S. direct investment abroad for that year marked the first appearance on a U.S. Government survey of questions on the financing and operations of foreign affiliates of U.S. companies [U.S. Department of Commerce, 1953]. Previous censuses—the first one covered 1929—had collected only the data needed to compile the balance of payments accounts and the international investment position. The 1950 census introduced a few questions on the overall financing and operations of affiliates, including total assets, fixed assets, and selected information on financing of affiliates provided by U.S. portfolio investors and by foreign investors.

From those modest beginnings has evolved what many regard as the world's most fully developed system of data collection on direct investment operations, covering a wide variety of indicators of the financing and operations of U.S. parent companies, their foreign affiliates, and U.S. affiliates of foreign companies. Not only have the raw data been collected, but numerous steps have been taken to add analytical value to them. These steps will be described in due course, but they can be broadly described as efforts to organize the data in ways that are useful for analysis or to construct additional measures that may be derived from the collected data. To ensure that the data are fully utilized, the collection agency—the Bureau of Economic Analysis (BEA), an agency of the U.S. Department of Commerce—has developed both an in-house research capability and a program of working with outside researchers. Finally, BEA has developed a number of methodologies and users' guides to aid users as they attempt to understand and interpret the data.

From this description, it can be seen that the collection of the raw data, although the *sine qua non* without which the other activities could not occur, is just one element in a larger program to provide information needed to measure globalization and to analyze its impact on the U.S. economy, and on the economies of other countries as they may be affected by direct investments in and by the United States. The remainder of this paper will

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[1] To acknowledge an oversimplification, foreign direct investment also contributes to the internationalization of consumption (through the local provision of foreign-branded products), and cross-border trade also contributes to the internationalization of production (through trade in intermediate products).

outline this program in greater detail, under the following headings: (1) The data, (2) organizing and enhancing the data, (3) research and analysis, and (4) explaining the data.

The data

BEA collects two broad types of data on multinational companies: (1) Balance of payments and direct investment position data and (2) financial and operating data.[2] The former include the various categories of income and capital transactions that may occur between parent companies and their affiliates, as well as the transactions that occur between parents and third parties when parents acquire or sell ownership interests in affiliates. They also include the related investment positions. These data conform closely to those called for by the fifth edition of the IMF *Balance of Payments Manual* and by the third edition of the OECD *Benchmark Definition of Foreign Direct Investment*.

The financial and operating data, which are the focus of this paper, include such items as balance sheets, income statements, sales of goods and services, employment and employee compensation, U.S. trade in goods, research and development expenditures, taxes, and external financial position. Most of these categories represent not just one item, but a group of items. For example, balance sheets show various asset and liability categories, income statements show different types of revenues and expenses, and so on. Unlike the balance of payments and direct investment position data, the financial and operating data pertain to the entire operations of the affiliates, not just the parent company's share. They are defined using the same ownership criteria (10 percent interest by a single investor) as the balance of payments and direct investment position data, but for foreign affiliates, some items are collected only for affiliates that are majority-owned by U.S. direct investors.

Both types of data are collected in mandatory surveys authorized by a law known as the International Investment and Trade in Services Survey Act. This act dates to 1976 and has been critical to the success of the data collection effort.[3] In addition to making reporting mandatory, the act requires that the data reported be held confidential and not published or otherwise disclosed in such a manner "that the person to whom the information relates can be specifically identified." In preparing the data for publication, each table cell is tested to determine whether the data it contains should be suppressed (that is, not shown) for confidentiality reasons. The act further stipulates that the data may be used for statistical and analytical purposes only; the use of an individual company's data for tax, investigative, or regulatory purposes is prohibited.

The financial and operating data are collected in two types of surveys—benchmark and annual.[4] (Data on direct-investment-related balance of payments transactions are collected quarterly.) The benchmark surveys are the most comprehensive surveys, both in company coverage and in subject matter [U.S. Department of Commerce, 1998 and 2001]. The benchmark surveys cover virtually the entire direct investment universe in terms of value.[5] For years not covered by a benchmark survey, an annual sample survey is conducted. The sample is a cut-off sample, with reporting thresholds significantly higher than those on the benchmark surveys.[6] To obtain universe estimates of the overall operations of parents and affiliates for nonbenchmark years, data reported in the benchmark surveys for nonsample companies are extrapolated forward, based on the movement of the sample data reported in the annual surveys. Thus, consistent series are obtained for all years.

On both the benchmark and annual surveys, the data are collected at the enterprise, or company, level and are classified according to the primary industry of the enterprise, using categories derived from the North American Industry Classification System (NAICS).[7] Because each enterprise must be classified in a single industry, the diversity of activity occurring within each enterprise may not be apparent from data collected on this basis.

[2] For inward investment, a one-time survey covering new foreign direct investments also is conducted. It collects information on the cost of the investments, the financing provided by foreign direct investors, and selected items describing the operations of the newly established or acquired affiliates. Thus, it relates to both of the principal data types identified in the text.

[3] The act was initially designated as the International Investment Survey Act of 1976. In 1984, it was amended to authorize collection of data on trade in services and redesignated as indicated.

[4] As mentioned in footnote 2, some financial and operating data also are collected in a one-time survey covering new inward direct investments.

[5] The benchmark surveys do have exemption levels to exclude very small companies from reporting, but in claiming exemption a few key data items must be indicated, as a means of certifying eligibility for exemption. Data reported for these items provide general indicators of size that are used in estimating data for the companies that are not required to report.

[6] BEA is conducting research into the feasibility of using stratified sampling in connection with the annual surveys

[7] NAICS was jointly developed, and is used, by the three partner countries of the North American Free Trade Area—Canada, Mexico, and the United States. Introduced in 1997, it was designed with a view to compatibility at the 2-digit level with the International Standard Industrial Classification of the United Nations. For the United States, it replaces the 1987 Standard Industrial Classification.

However, sales are required to be broken down by industry, to allow BEA to determine the primary industry of the enterprise. This distribution also can provide some insights into the enterprise's mix of activities.

For the financial and operating data, the data are disaggregated by country of location of the affiliate, for foreign affiliates of U.S. companies, and by country of ultimate beneficial owner, for U.S. affiliates of foreign companies. Where there is an ownership chain, these countries may differ from those shown in the balance of payments and direct investment position data, which are classified according to the country with which the U.S. party to the transaction had a direct transaction or position, as recommended by international standards and as is appropriate for tracking financial flows.

The data are published in BEA's monthly journal, the *Survey of Current Business*, and in separate, more detailed publications. They also are posted on BEA's Web site, at www.bea.gov. A comprehensive, regularly updated online listing of articles and publications is available in the International Investment Division Product Guide, available at http://www.bea.gov/bea/ai/iidguide.htm.

To illustrate the data that are provided, selected key items for nonbank foreign affiliates of U.S. companies and U.S. affiliates of foreign companies are shown in Table 1. (This and other tables are at the end of the paper.)

Table 1. Key Indicators of the Operations of Nonbank Foreign Affiliates of U.S. Companies and of Nonbank U.S. Affiliates of Foreign Companies (Billions of dollars)

	Foreign affiliates of U.S. companies		**U.S. affiliates of foreign companies**	
	1990	**2000**	**1990**	**2000**
Total assets	1,559.0	5,260.2	1,550.2	4,847.3
Sales	1,493.4	2,891.5	1,175.9	2,334.7
Net income	84.6	209.6	-4.5	30.6
U.S. exports of goods [1]	106.4	203.0	92.3	165.3
U.S. imports of goods [2]	102.2	215.3	182.9	366.6
Compensation of employees	184.8	302.6	163.6	329.7
Employment (thousands)	6,833.9	9,606.9	4,734.5	6,429.2
Gross product	440.0	704.5	239.3	522.2
Research and development expenditures [3]	10.2	30.2	11.5	19.8

[1] For foreign affiliates, shows goods shipped to affiliates. For U.S. affiliates, shows goods shipped by affiliates.
[2] For foreign affiliates, shows goods shipped by affiliates. For U.S. affiliates, shows goods shipped to affiliates.
[3] For foreign affiliates, covers majority-owned affiliates only. (In 2000, majority-owned affiliates accounted for 88 percent of the assets, 86 percent of the sales, and 84 percent of the employment of all nonbank foreign affiliates of U.S. companies.)

3. Organizing and enhancing the data

In addition to providing data on the items collected in its surveys, BEA has made considerable efforts to organize the data in ways useful for analysis and to derive additional measures from the collected data. Through these efforts, value and function have been added to the data over and above that available from the straightforward tabulations of collected items. Moreover, these gains have been achieved without an increase in the burden imposed on the companies that must report the data. Four of the most important types of information that have been made available in this way will be described here: (1) Linkages to establishment-level data, (2) estimates of gross product (value added), (2) information on the "structure of production", and (3) an ownership-based framework of the U.S. current account.[8]

Linkages to establishment-level data. — As growth in foreign direct investment in the United States accelerated in the 1980's, concerns were expressed about the impact of foreign direct investment on particular industries, such as high-technology industries. To satisfy the need for greater detail on the activities of foreign-owned U.S. companies in particular industries, a joint project between BEA and the U.S. Census Bureau, which collects a

[8] An exercise similar to these in spirit, but pertaining to the balance of payments and direct investment position data rather than the financial and operating data, revalued the direct investment position from the historical-cost basis reflected in data reported to BEA to prices of the current period [Landefeld and Lawson (1991)].

wide variety of data on the domestic economy, has been undertaken periodically over the last several years to identify the foreign-owned subset of all domestically located establishments (e.g., plants). The resulting data provide information on foreign-owned establishments in over 1,000 individual industries, compared to around 200 industries in the enterprise-level data [U.S. Department of Commerce, 2003]. This project was made possible by the 1990 Foreign Direct Investment and International Financial Data Improvements Act, which—among other provisions—authorized data sharing between BEA and the Census Bureau.

Gross product. **—** Although BEA collects data on sales by affiliates in its benchmark and annual surveys, for most purposes, gross product, or value added, is a preferable measure of production. Gross product indicates the extent to which affiliates' sales result from their own production rather than from production that originates elsewhere, whereas sales data do not distinguish between these two sources of production. Also, gross product estimates measure the value added to the economy by affiliates in a specific time period, whereas sales in a given period may represent production of earlier periods (that is, out of inventory).

In a global economy, gross product estimates for affiliates are important because they can be compared to total gross product of the home or host economy, to determine affiliates' unduplicated contribution to production. BEA first published estimates of the gross product of foreign affiliates of U.S. companies for 1966 and first published estimates of the gross product of the U.S. affiliates of foreign companies for 1974. Its first estimates of gross product for U.S. parent companies covered 1977. For all three groups of companies, the estimates were initially provided only for years covered by a benchmark survey, but subsequently an annual series was introduced.

Gross product is not a directly collected item, but is estimated from other items that are collected. The estimation methodology exploits the national income identity that states that gross product is equal to the sum of various charges against production. The BEA estimates are derived as the sum of the following five factor and nonfactor charges: Compensation of employees, net interest paid, capital consumption allowances, indirect business taxes, and profit-type return. An alternative method would be to subtract purchases of intermediate inputs from gross output. However, purchases data are not requested on the BEA surveys, and respondents have indicated that such data would be difficult to provide.[9]

One limitation of the initial gross product estimates for parents and affiliates was that they were available only in current dollars; thus, they reflected not only changes in real output, but also changes in prices and, for foreign affiliates, in exchange rates. To partly overcome this limitation, in 1997 BEA developed estimates of real gross product of majority-owned foreign affiliates in manufacturing [Mataloni, 1997]. These estimates are based on purchasing-power-parity exchange rates and are stated in terms of chained 1996 dollars, which are free from the biases associated with current-dollar measures and with traditional, fixed-weighted measures. The estimates are restricted to manufacturing because the source data necessary for the adjustments are currently unavailable for other industries.

Structure of production.**—** The data BEA collects on affiliate operations, together with the estimates of gross product and certain residually derived information, can be used to analyze how affiliates structure their production. For example, data on gross product, sales, and inventory changes can be used to derive estimates of affiliates' purchases from outside suppliers (calculated as sales plus inventory change minus gross product). These estimates can be used to gauge the extent to which affiliates' sales result from their own production (gross product) or from the production of others (as measured by purchases). In addition, by using this information in conjunction with information on the affiliates' imports, local content can be separated from content that originates elsewhere. Structure of production methodologies have been developed both for U.S. affiliates of foreign companies [Lowe, 1990] and for U.S. parent companies and their foreign affiliates [Mataloni and Goldberg, 1994]. Going into the details of the calculations for all three groups of companies is beyond the scope of this paper, but the tabulation shown in table 2 for majority-owned foreign affiliates of U.S. companies illustrates the kind of information that can be provided.

[9] As will be explained in the next section, once value added has been estimated, it becomes possible to construct a residually derived estimate of purchases.

Table 2. Structure of Output for Nonbank Majority-Owned Foreign Affiliates of U.S. Companies (Billions of Dollars).

	1990	2000
Billions of dollars		
Sales	1,208.3	2,486.9
plus: inventory change	17.8	6.8
Equals: total output (also = line 4 + line 5)	1,226.1	2,493.7
Gross product	356.0	605.9
Purchases	870.1	1,887.8
U.S. exports of goods shipped to MOFA's	100.2	196.0
Shipped by U.S. parents	88.4	167.6
Shipped by unaffiliated U.S. persons	11.9	28.3
Other[1]	769.9	1,691.8
Foreign content of output (line 4 + line 9)	1,125.9	2,297.7
Percent		
Share of total output accounted for by:		
Foreign content	92	92
MOFA gross product	29	24
Other	63	68
U.S. content	8	8
U.S. exports of goods shipped by U.S. parents	7	7
U.S. exports of goods shipped by unaffiliated U.S. persons	1	1

MOFA Majority-owned foreign affiliate.

[1] Includes purchases of goods and services from foreign (non-U.S.) residents and purchases of services from U.S. residents. The inclusion of purchases of services from the United States in this item, which is necessary for practical reasons, imparts some upward bias to the estimate of foreign content (line 10).

Ownership-based current-account framework.—A fourth application of the financial and operating data has been to integrate selected items into a supplemental, ownership-based framework of the U.S. current account. An objective of the framework is to better recognize the role of foreign affiliates as a means of delivering goods and services to international markets and as a contributor to the nation's economic performance in world markets. Under this framework, "trade" is construed broadly to include not only cross-border exports and imports of goods and services, but also deliveries through affiliates. However, the latter are entered in the accounts, not at their full value, but in a way that reflects only the return to the capital ownership by the parent firm. An alternative trade balance is introduced that reflects both channels of delivery, thus capturing the effects on the United States economy of sales that originate both within and beyond its geographical borders.

The conventional measure of the trade balance reflects a country's performance in international markets in terms of the net value of goods and services transactions between firms and persons residing in that country and those residing abroad. Sales of goods and services by foreign affiliates of investing companies to other foreign persons, and sales by foreign affiliates in host countries to other persons in those countries, are not regarded as exports and imports and are therefore excluded from the trade balance.

In the ownership-based framework, in contrast, sales by foreign affiliates are no longer disregarded, but are entered in the accounts in a way that reflects the return to the direct investor's ownership interest in the affiliate (which, in conventional balance of payments accounts, may be labelled "direct investment income"). Returns to U.S. direct investors generated by the sales of goods and services by their foreign affiliates are added to the conventional measure of U.S. cross-border exports, to yield a measure of total U.S. receipts arising from cross-border sales and sales by foreign affiliates. Similarly, returns accruing to foreign owners of affiliates located in the United States are added to U.S. cross-border imports, to yield a comparable measure of total U.S. payments. Entering the effects of affiliate sales in this way recognizes these sales as a separate and distinct method of supplying foreign markets, while at the same time ensuring that only the portion of sales revenues that accrues to the benefit of the home country is included as revenue from that country's foreign sales. The grouping of these items recognizes that cross-border trade and sales through affiliates both are methods of

active participation in international markets. In this regard, they lie in sharp contrast with other items in the current account, including the more passively generated income on other types of investment and the fundamentally different types of transactions recorded under current unilateral transfers.

To show the linkages between the returns to direct investors and the activities of affiliates that generate these returns, details obtained from the financial and operating data are added showing the gross sales and expenses (as well as any profits accruing to local or third-country investors) that, when netted against one another, give rise to this return.[10] Expenses are further broken down to show compensation of employees, thus providing a more detailed picture of the activities generating and underlying the return to direct investors. Having constructed these more comprehensive measures of receipts and payments resulting from international sales and purchases, a balance is calculated equal to the difference between them.

Accounts compiled on this basis have been presented periodically in the United States since the early 1990's.[11] The basic structure of the accounts and key figures for the year 2000 are shown in table 3. The table shows that the U.S. deficit on goods, services, and net receipts from sales by affiliates is smaller than the deficit on goods and services alone, reflecting the fact that U.S. investors had higher returns on their direct investments abroad than foreign investors had on their direct investments in the United States. In addition to the items discussed above, the table adds details on whether the cross-border trade is with unrelated parties or with affiliated parties and, for the latter, on whether the trade is with foreign parent companies or with foreign affiliates.

[10] The information on expenses is not collected directly but is estimated residually, as the difference between the return to direct investors and the sales that generate the return.

[11] The initial developmental work is presented in Landefeld, Whichard, and Lowe (1993) and in Whichard and Lowe (1995). The most recent presentation of the accounts—including historical data and a few items not shown in table 3—is in Lowe (2003).

Table 3. Ownership-Based Framework of the U.S. Current Account, 2000 (Billions of dollars).

Exports of goods and services and income receipts	**1,417.2**
Receipts resulting from exports of goods and services or sales by foreign affiliates	**1,213.9**
Exports of goods and services, total	**1,064.2**
To unaffiliated foreigners	736.5
To affiliated foreigners	327.7
To foreign affiliates of U.S. companies	247.4
To foreign parent groups of U.S. affiliates	80.3
Net receipts by U.S. companies of direct investment income resulting from sales by their foreign affiliates	**149.7**
Nonbank affiliates	147.9
Sales by foreign affiliates	2,891.5
Less: Foreign affiliates' purchases of goods and services from the United States	247.4
Less: Costs and profits accruing to foreign persons	1,971.1
Compensation of employees of foreign affiliates	302.6
Other	1,668.5
Less: Sales by foreign affiliates to other foreign affiliates of the same parent	525.1
Bank affiliates [1]	1.8
Other income receipts	**203.3**
Imports of goods and services and income payments	**1,774.1**
Payments resulting from imports of goods and services or sales by U.S. affiliates	**1,503.7**
Imports of goods and services, total	**1,442.9**
From unaffiliated foreigners	952.4
From affiliated foreigners	490.5
From foreign affiliates of U.S. companies	195.4
From foreign parent groups of U.S. affiliates	295.1
Net payments to foreign parents of direct investment income resulting from sales by their U.S. affiliates	**60.8**
Nonbank affiliates	56.9
Sales by U.S. affiliates	2,334.7
Less: U.S. affiliates' purchases of goods and services from abroad	389.4
Less: Costs and profits accruing to U.S. persons	1,888.4
Compensation of employees of U.S. affiliates	329.7
Other	1,558.7
Less: Sales by U.S. affiliates to other U.S. affiliates of the same parent [2]	n.a.
Bank affiliates [1]	3.9
Other income payments	**270.4**
Unilateral current transfers, net	**-53.4**
Memoranda:	
Balance on goods and services	-378.7
Balance on goods, services, and net receipts from sales by affiliates (line 2 minus line 19)	-289.8
Balance on current account	-410.3

[1] Details on underlying sales and expenses are not available for bank affiliates.
[2] Not available but, because affiliates are required to report on a consolidated basis, probably immaterial.

4. Research and analysis

BEA conducts a variety of research and analytical activities in support of its data on operations of multinational companies. Research is conducted to interpret the data and place the data in context and to develop new methodologies and measures, such as those discussed in the previous section. Research is also conducted in an effort to identify and understand the economic characteristics and effects of affiliate operations. Finally, the Bureau administers a program under which outside researchers may work with the data on projects that are of mutual interest. Most of the in-house work is done by a specially designated research staff, which at present is comprised of seven people.As an example of the economic analysis conducted by the in-house staff, one study compared the operations of foreign-owned manufacturing establishments with those of U.S.-owned establishments by examining such characteristics as wage rates, plant size, capital intensity, and labor productivity [Howenstine and Zeile, 1994]. It found that foreign-owned establishments tended to be much larger than U.S.-owned establishments, and to have somewhat higher capital intensity, wage rates, and labor productivity. The

study attributed the difference in plant size to foreign ownership per se, but concluded that the other differences probably were largely due to the nature of the industries in which foreign investment was concentrated.

Another study examined trade in goods between affiliated units of multinational companies (MNC's) [Zeile, 1994]. It found that such intrafirm trade accounted for a major share of U.S. international trade in goods—for more than one-third of U.S. exports in 1994 and for more than two-fifths of U.S. imports. For both exports and imports, this trade consisted mainly of shipments from parents to their affiliates rather than shipments to parents from their affiliates. By industry, most of the intrafirm trade of U.S. MNC's was found to be between U.S. manufacturing parents and their foreign manufacturing affiliates, while most of the intrafirm trade of foreign MNC's was between U.S. wholesale trade affiliates and their foreign parent groups.

A third example of in-house research is an article that examined why the average rate of return on assets of foreign-owned nonfinancial companies in the United States was persistently lower than the comparable measure for U.S.-owned companies [Mataloni, 2000]. Among several factors examined, age and market share were found to be significant, while industry mix and shifting profits out of the United States using transfer prices were found to be relatively insignificant.

An earlier study involving rates of return investigated the relationship between age and rate of return of foreign manufacturing affiliates of U.S. manufacturing parent companies [Lupo, Gilbert, and Liliestedt, 1978]. It found that the rate of return tended to increase with age and, furthermore, that the relationship was genuine, and not due to industry mix effects. The authors concluded that "the age effect may reflect the cost of breaking into new markets, decreases in costs that are the result of the learning process, the progressive weeding out of unprofitable affiliates, and the preemption of the most profitable investment opportunities by older affiliates."

Complementing the research performed by internal staff, BEA administers a program that permits leading academic researchers to work on site as unpaid Special Sworn Employees to conduct formal studies using its confidential micro data on multinational companies. This work is conducted under strict guidelines and procedures that protect the confidentiality of company-specific data, as required by law. Results from this research have received widespread attention through publication in high-quality academic journals and through dissemination in the National Bureau of Economic Research working paper series (including nine issued within the past two years alone). Recent papers have covered such topics as the extent to which the location decisions of multinational firms reflect a trade-off between achieving proximity to customers and concentrating production to achieve economies of scale [Brainard, 1997]; industry and country determinants of U.S. direct investment abroad [Yeaple, 2003 (forthcoming)]; the choice between exports and direct investment as a means of serving foreign markets [Helpman, Melitz, and Yeaple, 2003]; factors influencing the tendency of U.S. firms to organize their foreign operations as joint ventures rather than as wholly-owned subsidiaries [Desai, Foley, and Hines, 2002a]; the sensitivity of multinational company operations to tax rules [Desai, Foley, and Hines, 2002b]; the determinants of foreign entry into U.S. manufacturing industries through takeovers and the creation of new firms [Feliciano and Lipsey, 2002]; and how tariff reductions, changes in technology, and changes in prices influence trade flows of U.S. parent companies and their Canadian affiliates [Feinberg and Keane, 2003].

5. Explaining the data

No matter how extensive the data, they cannot realize their full potential unless users have a good understanding of them. BEA has taken a number of steps to promote such an understanding. Articles that present and interpret the data generally include key definitions, and may include explanatory boxes or footnotes relating to definitions and terminology. Where a measure, such as the real gross product estimates or the ownership-based current account framework, was discussed in detail in an initial developmental article, references back to that article will be provided in subsequent articles and presentations that carry the series forward. In addition, detailed methodologies are provided in benchmark survey publications [U.S. Department of Commerce, 1998 and 2001]. Less technical explanatory materials, targeted at a more general audience, have been published as users' guides [Mataloni, 1995 and Quijano, 1990]. A set of public information fliers that the Bureau recently prepared for the various data series in the international area included separate information sheets for U.S. direct investment abroad, foreign direct investment in the United States, and the International Accounts research program ["BEA's International Accounts," 2003]. Finally, BEA's research staff, senior data collection staff, and managers of the data collection and research efforts all regularly give presentations to interested groups on the direct investment data and field inquiries from a variety of data users, including researchers, Government users, journalists, and the general public.

References

Brainard, S. Lael. 1997. "An Empirical Assessment of the Proximity-Concentration Trade-off Between Multinational Sales and Trade," *American Economic Review 87* (September): 520-544.

"BEA's International Accounts." 2003. *Survey of Current Business* 83 (February): 7-27.

Desai, Mihir A.; Foley, C. Fritz; and Hines, James R. Jr. 2002. "International Joint Ventures and the Boundaries of the Firm." NBER Working Paper No. 9115 (August).

Desai, Mihir A.; Foley, C. Fritz; and Hines, James R. Jr. "Chains of Ownership, Regional Tax Competition and Foreign Direct Investment." NBER Working Paper No. 9224 (September).

Feinberg, Susan E. and Keane, Michael P. 2003. "Accounting for the Growth of MNC-based Trade using a Structural Model of U.S. MNCs." Mimeo, University of Maryland and Yale University (January).

Feliciano, Zadia and Lipsey, Robert E. 2002. "Foreign Entry into U.S. Manufacturing by Takeovers and the Creation of New Firms." NBER Working Paper No. 9122 (September).

Helpman, Elhanan; Melitz, Marc J.; and Yeaple, Stephen R. 2003. "Export versus FDI." NBER Working Paper No. 9439 (January).

Howenstine, Ned G. and Zeile, William J. 1994. "Characteristics of Foreign-Owned U.S. Manufacturing Establishments," *Survey of Current Business* 74 (January): 34-59.

International Monetary Fund. 1993. *Balance of Payments Manual*, 5th ed. (Washington, DC: International Monetary Fund).

Landefeld, J. Steven and Lawson, Ann M. 1991. "Valuation of the U.S. Net International Investment Position," *Survey of Current Business* 71(May): 40-49.

Landefeld, J. Steven, Whichard, Obie G. and Lowe, Jeffrey H. 1993. "Alternative Frameworks for U.S. International Transactions," *Survey of Current Business* 73 (December): 50-61.

Lowe, Jeffrey H. 1990. "Gross Product of U.S. Affiliates of Foreign Companies, 1977-87" *Survey of Current Business* 70 (June): 45-53.

"An Ownership-Based Framework of the U.S. Current Account, 1989-2001," *Survey of Current Business* 83 (January): 17-19.

Lupo, L.A., Gilbert, Arnold, and Liliestedt, Michael. 1978. "The Relationship Between Age and Rate of Return of Foreign Manufacturing Affiliates of U.S. Manufacturing Parent Companies," *Survey of Current Business* 58 (August): 60-66.

Mataloni, Raymond J., Jr. 1995. "A Guide to BEA Statistics on U.S. Multinational Companies," *Survey of Current Business* 75 (March): 38-55.

"Real Gross Product of U.S. Companies Majority-Owned Affiliates in Manufacturing," *Survey of Current Business* 77 (April): 8-17.

"An Examination of the Low Rates of Return of Foreign-Owned U.S. Companies," *Survey of Current Business* 80 (March): 55-73.

Mataloni, Raymond J., Jr. and Goldberg, Lee. 1994. "Gross Product of U.S. Multinational Companies, 1977-91," *Survey of Current Business* 74 (February): 42-63.

Organization for Economic Co-Operation and Development. 1996. *Benchmark Definition of Foreign Direct Investment*, 3rd ed. (Paris: OECD).

Quijano, Alicia M. 1990. "A Guide to BEA Statistics on Foreign Direct Investment in the United States," *Survey of Current Business* 70 (February): 29-37.

U.S. Department of Commerce, Bureau of Economic Analysis. 1998. *U.S. Direct Investment Abroad: 1994 Benchmark Survey, Final Results.*

Foreign Direct Investment in the United States: Final Results from the 1997 Benchmark Survey.

U.S. Department of Commerce. Bureau of Economic Analysis and Bureau of the Census. 2003 (forthcoming). *Foreign Direct Investment in the United States: Establishment Data for 1997*.

U.S. Department of Commerce, Office of Business Economics. 1953. *Direct Private Foreign Investments of the United States: Census of 1950*.

Whichard, Obie G. and Lowe, Jeffrey H. (1995) "An Ownership-Based Disaggregation of the U.S. Current Account, 1982-93" *Survey of Current Business* 75 (October 1995): 52-61.

Yeaple, Stephen R. "The Role of Skill Endowments in the Structure of U.S. Outward Foreign Direct Investment." *Review of Economics and Statistics*, Forthcoming 2003.

Zeile, William J. 1997. "U.S. Intrafirm Trade in Goods," *Survey of Current Business* 77 (February): 23-38.

MEASURING GLOBALISATION – THE SWEDISH EXPERIENCE

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Sweden has a long tradition of research and statistics on outward investment, but as a result of international co-operation, i.e. at EU and OECD as well as an increase in inward investment, focus has changed to inward investment. More researchers in Sweden are also getting involved in analysing inward investment and its impact on Swedish economy.

ITPS – Swedish Institute for Growth Policy Studies – is a relatively young government authority, founded in January 2001. ITPS is responsible for policy intelligence, evaluation of industrial and regional policy measures and official statistics in the areas of international business, firm creation, survival of new firms and bankruptcy as well as information and communication technology related to the business sector. Its task is to provide a better knowledge base for forward-looking growth policy and an in-depth understanding of how growth is created and what factors adversely affect growth.

Globalisation of companies

Globalisation is mainly an expression for new and more complex relationships between trade and direct investment as well as an increased dependence between performance of businesses within an enterprise group but located in different countries. Today the focus on globalisation often relates to the upward trend in direct investment. The acceleration of mergers and acquisitions in the US and European Union is the principal motive behind this trend. The former task force of Globalisation Reflection Group at Eurostat used the following concept of globalisation: *The existence of interactions between enterprises residing in different countries which are related than mere market, trade and their socioeconomic consequencies.*

Increased direct investment is in many ways associated with cross-border sales and the need for a physical presence. For products that need to be adapted locally, being located near the customer is critical. Many types of services can only be sold in other countries through direct investment, that is, local presence. For manufacturing companies, direct investment is often a result of trade. Direct investment can also come about because of ownership advantages, i.e. internalising operations.

The wave of acquisitions in 1990's is different from that in 1980's. Before it was deregulated capital markets that made it easier for companies to expand globally. Now several other driving forces for global expansion have become more important. Company strategies, for instance, have become an increasingly important factor. They are often focused on becoming bigger and bigger to face growing international competition and manage increasing research and development costs as well as concentrating resources on their company's core competencies. Companies are also streamlining operations by reviewing the effeciency of their global activities. This also results in increased competition in global enterprise groups. Deregulation in telecommunication as well as in the financial and energy sectors has also helped to increase direct investment.

What the government would like to know

In 2003 ITPS was assigned by the Swedish government to survey changes in the structure of ownership in the business sector due to the increase in globalisation. This analyse is supposed to cover foreign control of affiliates in Sweden as well as Swedish control of affiliates abroad. The first task is to analyse the extent of globalisation and the development of cross-border activities over time. The second task is to analyse the difference between foreign and Swedish enterprises in their contribution to productivity, employment and intensity in research and development by considering different modes of entry such as acquisition and greenfield investment. International comparisons are requested as far as possible. What the government really would like to know is the extent of relocation of production from Sweden to other countries. But there are no statistics on relocation of production neither on closure of businesses in Sweden. In order to manage this survey on globalisation we have to do our best by using existing data.

In the public debate, negative aspects of foreign control due to acquisitions of some very big enterprise groups have dominated. Worries have been expressed that inward investment by acquisitions might lead to reductions in production and employment or to relocation of headquarters and other strategic functions. Recently, closures of some foreign controlled manufacturing plants and possible relocation to other EU countries supported by subsidies have been widely debated. The mentioned worries also concern Swedish enterprise groups, which increase production as well as research and development abroad.

Definition of international and domestic enterprises in Swedish statistics

International enterprises are Swedish controlled enterprises with at least one subsidiary abroad and foreign controlled enterprises with subsidiaries or branch offices in Sweden. Enterprises controlled by a foreign owner, with more than 50 per cent of the voting shares, are regarded as foreign controlled. An enterprise controlled by two or more owners with voting rights totalling to more than fifty per cent and with different country of origin, is since the reference year 2001 assigned to a special category, split control.

Enterprises which have not been defined as foreign controlled are regarded as Swedish controlled enterprises.

Domestic enterprises are Swedish controlled enterprises which do not have any subsidiaries abroad.

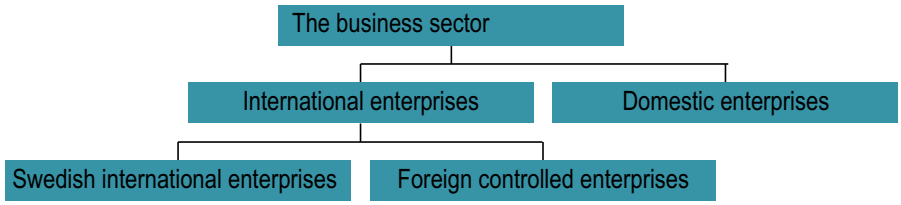
After about a decade of discussions at OECD and Eurostat no solution has been agreed on how to define the nationality of enterprises controlled by two or several owners with different nationality. In the forthcoming OECD framework on globalisation a separate category for split control will probably be suggested. We have earlier in Swedish statistics split variables on two respectively three countries of origin. Even though there were only two such cases, this method has caused us a lot of practical problems. For the reference year 2001 we identified about 150 enterprises with control split between two or several main shareholders and we could therefore not wait for an international harmonisation of such definitions. Enterprises with multiple control and nationality (excluding 50 or less voting rights by Swedish owners) have since the reference year 2001 been assigned to a special category, split control.

Collection of data

Inward investment is surveyed annually by sending questionnaires to parents of enterprise groups in Sweden (if there are any), their subsidiaries and to branches in Sweden. We ask for indirect and direct control in order to define the ultimate control and nationality of the enterprise group or enterprise. Besides there are for example questions on mode of entry. These data are combined with industrial activity and number of employees in the Business Register as well as financial data in the Structural Business Statistic. Every other year our data on foreign controlled enterprises are combined with Statistics on Research and Development. Statistical units are enterprise groups, enterprises (=legal unit) and branches.

Outward investment is also surveyed annually, but the main source is annual reports. Data on number of employees for some of the biggest enterprise groups have to be collected by questionnaires, because they have become more restrictive in publishing data according to the Swedish law on annual accounts. Research and Development is based on a sample survey carried out every other year, which covers the 20 biggest manufacturing groups. The statistical unit is mainly enterprise group.

The structure of the business sector in Sweden by different types of enterprises



Indicators on globalisation

In Sweden we use some simple indicators to measure the extent of globalisation. The main indicators used, are based on number of employees. Inward foreign direct investment is measured as number of employees and as a share of business sector. For outward foreign direct investment we use an indicator showing the degree of internationalisation, i.e. the share of employment abroad of all employed in Swedish international enterprise groups. R&D intensity is measured as number of R&D person years as a percentage of all employees in international enterprises.

Statistics in recent Swedish reports

Following data on international and domestic enterprises are examples from the most recent reports on international business in Sweden. They are available at www.itps.se and some of them have been translated into English. See also the Annex to this paper.

Increased global presence

In the 1990's enterprises in services as well as small and medium-sized enterprises have increased their global presence.

Half of the total number of employees in foreign controlled enterprises in Sweden, totalling 258 000 were employed in services industries, predominately in wholesale trade and business services in 2001. Swedish international enterprise groups in services employed 344 000 persons abroad which corresponds to 38 per cent of all employees abroad in 2000.

In 2000 about 80 per cent of all foreign controlled enterprises in Sweden as well as Swedish international enterprises had less than 50 employees, i.e. small enterprises dominate. Today it is impossible to compare sizes of enterprises internationally, because many countries do not produce such data. Besides, there are many different thresholds in current statistics, which vary among variables within and across countries.

Foreign controlled enterprises most efficient

International enterprises, i.e. Swedish and foreign controlled enterprises as per definition above, contribute to growth in Sweden. On average they have higher value added per employee than domestic Swedish enterprises

(with no employees abroad). Of the international enterprises, foreign controlled enterprises had the highest productivity (SEK 639 000), particularly those with 1-50 employees (SEK 646 000 per employee) and those with more than 250 employees.

Table 1: Enterprises' productivity in Sweden 2000.

Category of enterprises	Value added per employee, SEK
Total business sector	553 000
Swedish international enterprises	619 000
Foreign owned enterprises	**639 000**
Domestic enterprises	489 000

Source: ITPS, International Business.

Export intensity highest in foreign controlled enterprises

Foreign controlled enterprises had the highest export intensity in the Swedish business sector, measured as exports as a proportion of net turnover for all company categories. They have also increased their export intensity from 26 per cent in 1996 to 38 per cent in 2000. But Swedish enterprises with the highest degree of internationalisation, i.e. those with more than half of their employees abroad, increased their export intensity to 62 per cent in 2000.

Table 2: Enterprises' export intensity in Sweden 2000.

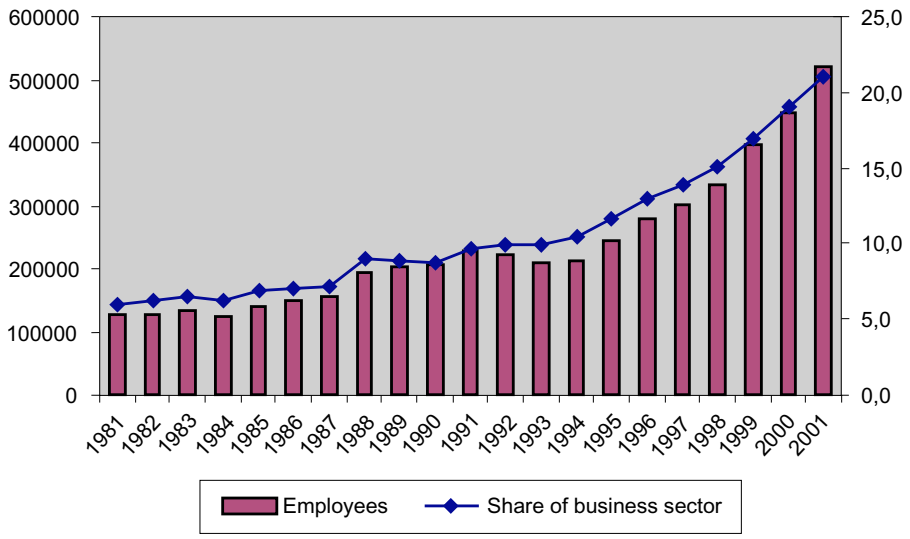
Category of enterprises	Exports/net turnover, %
Total business sector	21
Swedish international enterprises	34
Foreign owned enterprises	**38**
Domestic enterprises	4

Source: ITPS, International Business.

In 2000, the international enterprises accounted for 92 per cent of exports of goods and services in the business sector, whereof Swedish international enterprises accounted for 50 and foreign controlled enterprises for 42 per cent. Approximately half of the exports of manufacturing enterprises in Sweden to other countries are intra-firm exports, i.e. sales to subsidiaries within the same group.

Inward foreign direct investment

Number of employees in foreign controlled enterprises in Sweden 1981-2001.

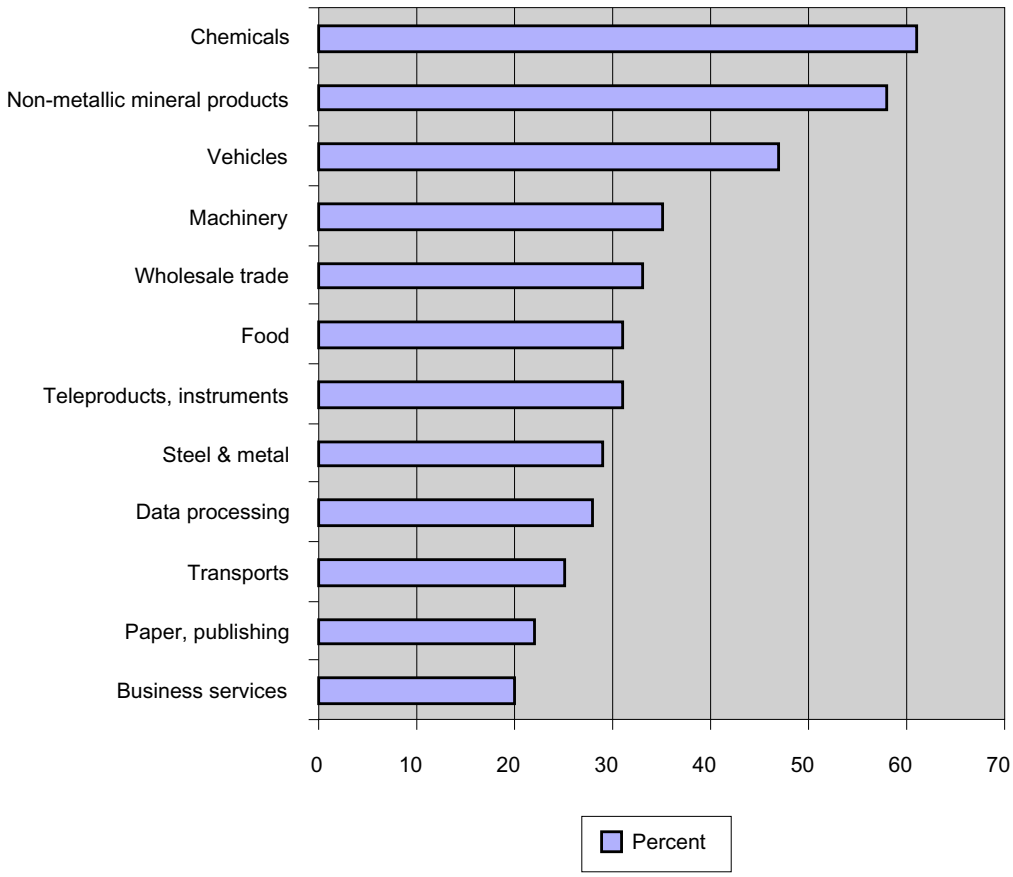


Source: ITPS, International Business.

Sweden has experienced a large increase in inward foreign direct investment during the 1990's. At the end of 2001 the highest level of foreign control in Sweden ever was recorded. There were 7 800 foreign owned enterprises in Sweden that had about 520 100 employees. The foreign controlled enterprises accounted for 21 per cent of the total employment in the business sector in Sweden. In chemical industry including pharmaceuticals 61 per cent were employed in foreign controlled enterprises. Wholesale trade and business services were the biggest industries according to number of employees in foreign controlled enterprises in 2001.

In 2001, 294 200 persons were employed in enterprises controlled by EU-countries. USA was still the largest country of origin with 18 900 employees in Sweden. United Kingdom was the second largest country of origin, followed by Finland.

Foreign controlled enterprises' share of employment in some industries in Sweden 2001.



Source: ITPS, International Business.

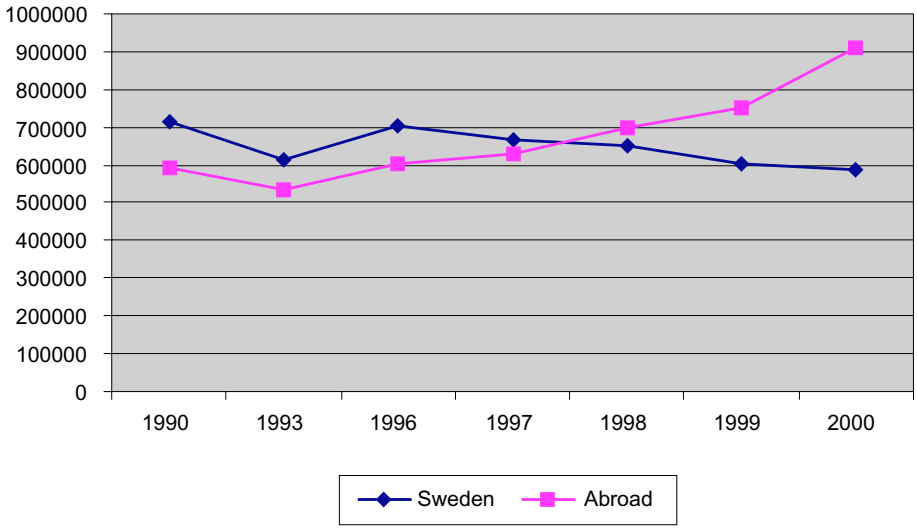
Foreign controlled enterprises have continued to increase their share of business sector's exports of goods and services, value added per employee and net turnover. Their share of net investments in the business sector and research and development was largely unchanged between 1999 and 2000. They accounted for 42 per cent of the exports and approximately a third of research and development in Sweden 2000. Their share of business sector's net turnover and net investments was 24 respectively 16 per cent.

Manufacture of pharmaceuticals and motor vehicles are now dominated by foreign enterprises in Sweden, mainly due to acquisition of some very large companies. For example, foreign controlled enterprises account for almost all exports and R&D expenditures in pharmaceuticals and about 60 per cent of corresponding values in the manufacture of motor vehicles.

Outward foreign direct investment

About 900 Swedish enterprise groups had at least one employee abroad in 2000. The number of employees abroad has increased and the highest level with 910 000 employees was recorded in 2000.

Number of employees in Swedish enterprises groups 1990-200.



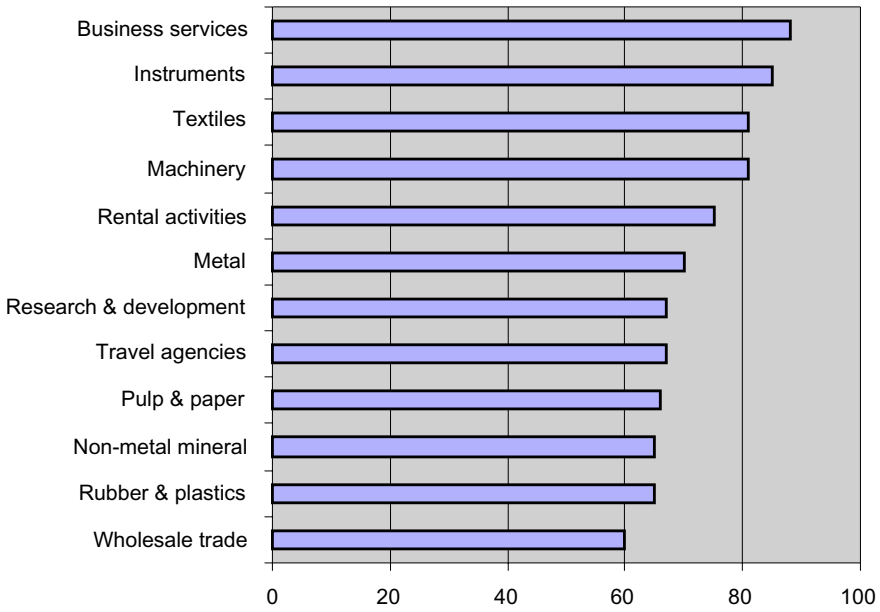
Source: ITPS, International Business.

For the third year in succession, the Swedish enterprise groups had more employees abroad than in Sweden.

The number of employees increased most in business services and this industry has become the one with most employees abroad. The second biggest industry abroad is manufacture of machinery.

Swedish international enterprise groups have most employees and increased employment most in the US and in the European Union. Between 1999 and 2000 the number of employees more than doubled in Poland, which resulted in a high ranking for Poland. In 2000 Poland became the ninth biggest country of location for Swedish international enterprise groups, in terms of employees.

Degree of internationalisation in Swedish enterprise groups 2000, number of employees abroad as a percentage of all employees in respective enterprise groups by industry.



Note: The industrial classification corresponds to the enterprise group in Sweden and not to affiliates abroad.
Source: ITPS, International Business.

Main challenges for statistical providers

There are two main future challenges for statistical providers: data should be more up to date and we should try to find out why these phenomena are happening. Statistics and, especially, international harmonised data on globalisation are lagging behind. At the beginning of 2003, the latest data published on foreign affiliates in the EU[1] covered eight countries (Denmark, Finland, France, Luxemburg, the Netherlands, Portugal, Spain, and Sweden) for the reference year 1999. Yet, dramatic changes have since 1999 occurred in the structure of cross-border ownership. Rapid changes in merger and acquisitions, which might have a big impact on growth and employment has led to cross-border restructuring of businesses. For example, the recent down turn in the ICT sector cannot be covered by existing statistics. According to data for 2000 the ICT sector in Sweden contributed more than other sectors to growth in the business sector. No one would accept that result to be presented in 2003.

Several comparisons of foreign and national enterprises show that foreign enterprises are more efficient, on average, than national ones, i.e. they have higher value added per employee. There is still no explanation for this difference. Another subject that has not been completely surveyed, is the relationship between trade and investment. Are they substituting or complementing each other? Further, the real value of trade could be something quite different than shown in trade statistics due to that a big proportion of trade is carried out within enterprise groups at unknown prices, i.e. the question of transfer pricing.

There is also an increasing interest among politicians to obtain more accurate comparisons between countries. The question of relocation of businesses in Europe due to state subsidies is also of growing importance as competition among countries is increasingly attracting foreign direct investment.

Merger and acquisitions

Market entry modes such as greenfield investment and acquisition – with its long-term impact on employment and growth – is also an important issue. The public debate on the effects of increasing foreign control in Sweden is fuelled more by sentiment than concrete knowledge.

In the 1990s, the main mode of market entry in Sweden and in other industrialised countries seems to have been dominated by acquisition of existing companies. The principal patterns of international expansion, up to the 1960s, mainly consisted of greenfield investments.

An interesting issue is therefore if different modes of entry such as greenfield investment and acquisitions have different long-term impacts on the national economy in terms of employment and contribution to growth. Even the basic question – the extent of different modes of market entry in different countries – have not yet been completely surveyed.

There are almost no official statistics available on merger and acquisitions. Instead the most common sources being used are the press, annual reports, and private databases. Thomson Financial Securities is one database, which has been used by the EU Commission[2], OECD[3] and UNCTAD[4] to cover the extent and development of merger and acquisitions. The quality such as total coverage, date for concluded transactions and industrial classification might be questioned. The value data are more incomplete than number of deals due to confidentiality.

The frequence of merger and acquisitions as well as greenfield investment is part of Swedish official statistics on foreign controlled enterprises in Sweden and is being surveyed annually.

Table 3: Mode of entry in Sweden, stock at the end of 2001.

Mode of entry	Number of enterprises	Number of employees
Acquisition	3 300	317 700
Greenfield	1 600	69 200
Merger	210	59 200
Other modes	180	9 700
No answer	2 100	52 100

Source: ITPS, International Business.

[1] Statistics in focus, Theme 4 – 3/2003.
[2] European Commission, European Economy Supplement A, Economic trends, No 12 December 2001.
[3] OECD 2001, New Patterns of Industrial Globalisation, Cross-border Mergers and Acquisitions and Strategic Alliances.
[4] UNCTAD, World Investment Report 2000 – Cross-border Mergers and Acquisitions and Development.

Future needs of data

The future needs of data is closely related to the need to analysing the rapid cross-border restructuring of enterprise groups. Globalisation in terms of merger and acquisitions also calls for more cooperation between governments and in several policy areas.

Hot issues

There are some hot issues, which are difficult to cover by statistics. It is obvious that statistics have to be combined with analyses in order to answer complex questions.

How to explain differencies in productivity among foreign and domestic enterprises?

How to measure cross-border relocation of businesses?

How to define relocation?

How to measure the impact on the national economy by different entry modes such as acquisitions and greenfield investment?

Policy areas

Globalisation of companies have an impact on several policy areas and also imply international cooperation among governments. Some examples of areas are mentioned below.

- Competition rules (merger & acquisition, state subsidies)
- Trade and investment policy (WTO/OECD)
- GATS – General Agreement on Trade in Services (WTO)
- Tax or other subsidies used in attracting inward investment
- Labour market & education initiatives
- Migration (brain gain and brain drain)
- Internal pricing on intra-firm exports

Improvement of statistics

Improvement of statistics on globalisation can only be achieved by international cooperation of users and producers. There is a need for continuous work on harmonisation of definitions and variables. There is also an increasing demand among politicians to get more up to date international comparisons. Below are some examples on possible improvements of statistics, which are based on Swedish experience.

Encourage more countries to provide basic harmonised data on globalisation such as number of employees by industry and by country of origin/location

Reduce the time-lag in producing statistics

Reduce the big amount of different thresholds in statistics and aim for better and harmonised coverage

Improve data on services

Improve data on size-classes

Improve data on enterprise groups

Combine production of statistics with analyses and encourage more users to participate in international meetings at Eurostat and OECD

IMPACT OF GLOBALISATION ON THE RELEVANCE OF CURRENT STATISTICS[1]

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Introduction

In dynamic societies the ability to adapt to new developments is an ever-present task facing national statistical institutes (NSIs). Without this ability to adapt NSIs cannot ensure the relevance of statistics, i.e. that statistics cover those fields of demographic, economic, social and environmental developments that are considered important from a policy point of view and in more broad terms by the users of statistics.

This has been true throughout the post-war industrial boom, the gradual increase and growing importance of the service sector and now the emergence of hot issues like new economy, knowledge-based economy, information society and globalisation just to mention the latest trends.

When you come across the word globalisation nowadays we all seem to have an idea of what is meant although a strict definition is not easy to present. An attempt to do so shall therefore not be made – suffice it to say that globalisation is about economic interaction and interdependency between countries.

1. General aspects

1.1. Relevance – the legal context

Relevance is among the governing principles behind the Council regulation on Community Statistics also known as the Statistical Law (Regulation (EC) 322/97 of 17 February 1997).

Relevance appears together with five other principles namely impartiality, reliability, cost-effectiveness, statistical confidentiality and transparency.

The following definition applies to relevance:

"(it) shall mean that the production of Community statistics is a function of clearly defined requirements determined by the Community objectives. These requirements determine the fields, timeliness and scale of statistics, which should keep abreast of new demographic, economic, social and environmental developments at all times. Data collection should be limited to what is necessary for attaining the desired results. The production of Community statistics, which has ceased to be of interest for Community objectives, should be abandoned."

As mentioned in the Introduction the ability to dynamic adaptation of NSIs to meet new developments has become an integral part of their agenda and strategy design.

Some of the developments take place over a longer period, and this will normally make the adaptation and integration of the developments into statistics easier.

[1] This paper has been drafted by Ole Berner, Sven Egmose and Jens Thomasen, Statistics Denmark, and is the result of a number of inspiring discussions with Karsten Stetkær, Director, Statistics Denmark.

In those cases where the developments take place over a relatively short period, and if, moreover, the developments are characterised by complex and not simple structures, the adaptation will become a bigger challenge. And the outcome – the statistical coverage and its quality - will come under scrutiny by the users. Their assessment will indicate if we have been successful and achieved our objectives.

Globalisation is no exception. Although economic interaction and interdependency between countries have been present in the form of external trade for centuries the interaction has gradually developed into a complex concept with multiple facets - globalisation.

In the following we will demonstrate in more detail that the impact of globalisation on current statistics basically concerns

- a lack of appropriate statistics to cover certain aspects of globalisation
- a lack of quality across statistical fields

However, the impact of globalisation on the relevance of current statistics is not a question of rejecting current statistics as obsolete – on the contrary these statistics are still needed, they are still indispensable.

The issue at stake is far more a question of their insufficiency. We need to add value to current statistics with a view to incorporate the impact of globalisation.

1.2. Relevance and the challenges for NSIs

Before we enter into a more detailed discussion and describe some of the issues often mentioned when speaking about globalisation, it is useful initially to analyse what kind of challenges the NSIs are facing today, and in addition what makes the situation more difficult today than 10 or 20 years ago.

Firstly, we know that we have stepped into the information society and during this phase the technical development has increased our productivity, i.e. the statistical output, and in addition we are now able to combine more data.

Moreover, analytical tools have been developed with facilities that enable us to present results with new and value added information.

In general, the technological platforms used by NSIs allow us to respond to internal and external requests in short time using advanced and integrated systems. At the same time we have witnessed a considerable growth in the demand for statistics.

The increasing technological ability and potential imply that NSIs, moreover, face a strong demand to explore data collection methods that continue to reduce burdens on business, e.g. data submission via internet, electronic tracing etc.

Secondly, we have developed and reinforced the international statistical cooperation in particular within the EU. The European Statistical System today is a cornerstone framed by legislation and agreed procedures for the implementation of new legislation.

Thirdly, most NSIs have during this period accumulated long lists of new statistical needs. However, it has only been possible to realise these partially because the budgets have not increased at the same speed. A number of countries have experienced real budget cuts limiting the capacity to take on board new statistics. A few countries have, nevertheles, been successful and have obtained a certain degree of financial freedom that allows them to take the lead in particular concerning new fields.

A fourth point are the changes on global or regional level that have strongly influenced our economies, e.g. the occurrence of the technological revolution that allows us to communicate practically speaking worldwide and on line; the increased globalisation including the single market within the EU where goods, services, capital and labour are moving across borders and are subject to no or only few formalities; the impact of intangibles in our economies etc.

As a fifth and last point changes determined by the political agenda should be emphasised. Within the EU the semi-annual summits at the closing of the presidency of a Member State have seen more and more political initiatives that subsequently require statistics as background or complementary information. Examples are the

need for structural indicators, indicators under the e-Europe 2005 initiative, sustainable development indicators, data in support of the EU enlargement process etc.

All these changes – some of them domestic, others with a clear international dimension - demonstrate how important it is that NSIs are capable of managing a dynamic adaptation proces.

This process in fact is critical in terms of quality at two levels. First of all the NSIs must ensure that new developments are fully integrated into the statistical systems. Secondly, it is important that the integration is done in a manner that ensures a consistent and coordinated framework – an entity – for social, economic and environmental statistics.

1.3. Relevance and globalisation

Let us return to the problems regarding relevance.

Some of them are directly linked to globalisation. Some countries are strongly exposed to the effects of globalisation, others only slightly.

However, countries playing an economic, active role internationally are certainly obliged to consider how they are going to explain the observed social and economic facts and present them in statistical terms.

NSIs have during the last 6-10 years intensified their commitment to do something about the statistical problems related to globalisation. But basically, we still provide data based on what is going on within the statistical / economic territory regardless of the fact that many decisionmakers base their decisions on global information.

Globalisation entails a number of direct consequences for statistics and thereby it will emerge in different contexts. Some of the examples are

- Demography of enterprises and transnational groups
- International transactions in goods, services, intangibles, capital and financial income including FDIs

Should the scope of activity of the enterprise as statistical unit be expanded to cover what is going on abroad by including enterprises operating abroad and to separate foreign enterprises operating on the domestic territory a totally new approach is required. Consequently, it could be argued that, if country of ownership shall define what we include in statistics we will face difficulties with a view to data collection, and in terms of interpretation of results. Assuming, in addition, that this new approach entails problems of coverage not only reliability is at stake, certainly also overall quality.

1.4. The enterprise group issue

According to the report of Eurostat's Globalisation Reflection Group, that finalised its work in 1998, some of the main conclusions were that existing, basic statistics are still required for analysing the domestic economy. However, there is an urgent need to develop complementary statistics to compensate for the information deficit caused by the occurrence of globalisation activities.

Some of the areas most concerned are the delineation of the enterprise and enterprise groups including transnational groups. For the professional statistician the nationality of ownership of enterprises may clearly be different from their country of residence. At the end of the day the users should have a similar conceptual approach and understanding.

Closely linked to this delineation are the embedded enterprise characteristics e.g. classification by activity.

… and that of transfer pricing

The occurrence of transfer pricing constitutes yet another main area following the increased globalisation.

In the following we will deal with these two issues in more detail.

2. Enterprise units

2.1. Globalisation and enterprise units

The unit of observation used for statistics on employment, production, value added, investment etc. is in general either the enterprise or parts of the enterprise like the local unit, the kind-of activity-unit, or the local kind of activity unit. The latter corresponds to what is called the establishment in ISIC.

The definition of these unit types does not explicitly mention the national borderlines as criteria for delineation of the units. However, all statistical systems are focused on the activity within the national territory, and the units in fact are never delineated on a transnational basis.

This might be a problem in a world of growing international transactions or globalisa-tion.

Up till now the superstructure of the enterprise, the enterprise group (EG), has not been used very much for official statistics.

2.2. Statistics on the national level

The problems resulting from the fact that unit types used for statistics on production etc. are delineated within the national borders are only minor as long as the statistics aim at describing what is going on within a country. It could even be argued that these unit types in almost all cases would be delineated in the same way with or without national borders because these enterprises are defined as autonomous units in control of current resources only.

One conceptual problem can, however, be the determination of the activity code for units, which are treated as independent units even though they in reality are ancillary units. An example is the agencies of international airlines operating in different countries. These agencies are registered as independent legal units and classified as travel agencies (NACE 63.30). But "in fact" they are ancillary units of the airline company to which they belong, and if all the activities of the airline company were going on within the same country, the agency would have been classified according to the activity code of airline transport (62.10).

Although, the conceptual problems are only minor, the practical problems connected with the data collection and data verification rules are much more distinct. In a world of globalisation many businesses operate in different countries and do not focus on the national borders. When such business units respond to statistical questionnaires they might not limit their answer to what is going on within the national border. In fact, they will often include the results of their global activities.

That is a serious quality problem for statistics. The activity will be overvalued and the statistics will not give a reliable picture of the economic activity.

Another practical problem comes with statistics on enterprise demography. When an EG initiates activity in another country it will have to register here. This registration will be considered as the start of a new enterprise in this country even though you might argue that the enterprise is really not new. Moreover, the new affiliate of the EG will normally be bigger by turnover and number of employees at least in the initial phase compared to the average-sized new enterprise in that country.

2.3. Analysis of why

An even more serious problem occurs if you want the statistics to describe not only *what* is going on but to describe *why* something is (or is not) going on.

In the old days most of the decisions in a country on scale of production were taken by units with most or all of their activities placed within that same country. The units within the country were therefore also the relevant units if statistics should be collected to explain why something was (or was not) going on.

Things look different now. Decisions on production within a country might very well be taken in business headquarters outside that country. The relevant units for analysing why production, employment etc. have increased or decreased are thus not necessarily present in the population of business units within that country. This implies some limitation to the analytical use of national statistics.

The way forward is certainly not to abolish the existing statistics. On the contrary, there is a need to supplement the existing statistics by adding new information that can be used for explaining what is going on. To this end

an attribute like country of ownership for the business units would be very useful just like information on foreign affiliates.

Such attributes would make it possible to analyse the influence of globalisation. It would for instance be possible to analyse if firms with decision centres outside the country behave in a way different from that of national firms and if firms with foreign affiliates behave differently from other national firms.

Within EU work is going on to add such information to the structural business statistics and in that way make the statistics better suited for present day analytical purposes.

2.4. Enterprise Groups

As stated earlier the unit type EG is up till now normally not used for official statistics. The reason for this is probably that such units are often heterogeneous and represented multi-nationally, which complicates the compilation of production statistics. Such statistics are most relevant when based on rather homogeneous units. The implicit assumption is that production statistics should be broken down by activity code etc. Such breakdown becomes meaningless if the statistical units are not homogeneous.

For statistics on *why* something is going on the EG, nevertheless, might be the relevant unit type as the CEO of the EG represents the centre regarding strategic decisions. This could be an argument for evaluating statistics on decision taking based on the EGs.

For such statistics it would be desirable that the EGs could be delineated irrespective of national borders to identify the real decision centres. However, this is probably difficult as it will necessitate the exchange of information among NSIs of all countries concerned or a majority of them.

A less ambitious goal could be to delineate EGs truncated to the units within the national borders and adding an attribute on foreign ownership to the EGs.

In parallel to the description above for the enterprise unit, such an approach would allow analysis of behaviour and reactions to decisions, which is the real goal for such statistics.

3. Transfer-pricing

3.1. Valuation of intra-group transactions

A specific problem often mentioned in connection with globalisation is the existence of transfer-prices. By this we understand prices on transactions between different units in an EG, which do not reflect “true” market prices.

The use of transfer-prices affects the value of the transactions and thereby the valuation of output, intermediate consumption, value added, operating surplus etc. of the units involved. If transfer-prices are used between units residing in different countries (but belonging to the same EG) it has a direct impact on the valuation of international trade and the main aggregates of the different economies.

Nevertheless, it should be recognised that the use of transfer-prices not only relates to international transactions, but they might also be used domestically, and thereby cause shifts in value added between different branches. In a broader sense transfer-prices can be seen as a special case of the more general case of regulated prices. Regulated prices usually differ from “true” market prices and can have considerable effects on the economic aggregates. An outstanding example in EU is the artificially high internal prices on agricultural products, which have profound effects on the economic aggregates.

The problems encountered by the use of transfer prices can from a statistical point of view be separated into two aspects: theoretical and practical.

The theoretical issues relate to the relevance of the statistics for various analytical purposes.

The practical problems relate to problems in terms of capturing the correct data and specific estimation procedures in particular grossing up.

Before considering the theoretical and practical aspects of the use of transfer-prices a few points should be made.

The use of transfer-prices is part of the real world and should as such be reflected in the statistical description of the economy. In fact, the effect of transfer-prices on the countries’ output, intermediate consumption, value

added, operating surplus etc. as well as on the resulting tax-revenues should be shown. No attempt should be made to estimate the value of the transactions using "true" market prices. Moreover, it would be a tremendous work to do so in a consistent way through all the accounts.

However, in order to give all of us some idea of the possible effects of the use of transfer-prices in international trade a subdivision of the transaction values could be a way forward. In particular, a separation of enterprises controlled by foreign enterprises and domestic enterprises that control foreign enterprises could be fruitful because these enterprises are assumed to use transfer-prices regularly.

3.2. Theoretical statistical considerations

As mentioned above transfer-prices are part of the real world and should as such be reflected in the statistical description thereof. This implies that transfer-prices should be incorporated in all statistics, both general economic statistics as well as price statistics.

For many analytic uses this would also be relevant. For example an analysis of the productivity development would be of usual relevance if both the transaction values and the price indices used for constant price calculations included the (change in) transfer prices. However, if only the actual transaction values included valuation at transfer-prices, but this kind of prices were deliberately excluded in the price indices the resulting constant price figures and thereby the estimated productivity development could be distorted.

For some analytical uses, however, statistical information including transfer-prices could reduce the usefulness of the statistics. A price index including transfer-prices will of course reflect the actual prices on the market but might hide the development of "true" market prices in an economic sense, i.e. the prices, which would have prevailed in a perfect market. As mentioned earlier, however, it is not only in the case of transfer prices that these kinds of problems occur. Similar problems arise for instance in the case of agricultural products in EU.

The use of transfer-prices affects the operating surplus and thereby the profitability of the units. In particular when transfer-prices are used in international trade this will change the profitability rate between countries. Indeed, this is usually the reason for the use of transfer-prices, which are often based on tax considerations. Analysis of profitability rates will in these cases of course be of limited value.

3.3. Practical statistical considerations

The use of transfer-prices poses greater demands on the statistical production process given the fact that the transfer-price valuations should be adequately recorded in the statistical description.

In the production process of statistics special attention has to be paid to statistical information based on sampling. Transfer-pricing conflicts fundamentally with the idea behind sampling, where units in a given strata develop more or less alike so that you only need data for a limited number of units in order to obtain a reliable estimate of the total. Units trading on the basis of transfer-prices might move in quite a different direction than "normal" units, and maybe also in a different direction than other transfer-pricing units. The assumption of a representative sample collapses.

Finally, the quality of some statistics might be reduced because the existence of transfer-prices makes the controlling process more difficult.

4. Conclusion

The existing statistics make sense – they are not superfluous. But they should be complemented by new statistics that will allow us to better understand the many aspects of globalisation and the reasons for the observed phenomena. It should not remain wishful thinking to have better statistics about enterprise groups or new statistics for instance about foreign affiliates' transactions in services.

Traditional enterprise statistics have always included conceptual and quality problems. With the globalisation dimension the quality problems in particular will continue to exist, and NSIs will face a huge challenge in order to ensure consistency and reliability.

It is unlikely that a sustainable solution to these problems can be found without a strong international collaboration among the statisticians.

Impact of Globalisation on the Relevance of Current Statistics

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Introduction

As the background paper for this seminar correctly states, our statistical system is based on concepts and - more important - implicit assumptions established before the rapid expansion of globalisation.

One of the basic (implicit) assumptions with high relevance for the interpretation is that factors of production are mobile within domestic territories only; international division of labour is based on the exchange of commodities across national borders. In the meanwhile many national borders are no longer an obstacle in the decision where to invest, where to produce. Many economic agents are not only active in one country but in many countries simultaneously.

In this modified environment we have to ask whether the present statistical concepts are still adequate for the phenomena we want to analyse. This question has two different aspects:

The first aspect is, whether the analytical orientation of the statistical system is still appropriate or not, whether the current statistical information is still useful to answer the questions raised by the users. It is the issue of relevance of the present system as it is termed in THOMASEN's paper.

The other question refers to the implications globalisation may have on the quality, the reliability and other key characteristics of the statistical data that we are used to.

This important aspect is the topic of this session. If we feel that there might be implications and that they are of a "non-incremental nature" (s. RUANE 2003), we have to identify the problem areas and provide information on the magnitude of the effects. In addition, we have to find out which building blocks of our present statistical system may be affected and what the implications for the different uses to which the results are put might be.

In discussing the paper by Jens THOMASEN "Impact of Globalisation on the Relevance of Current Statistics" I will make a few comments only and raise one additional issue. I will concentrate my remarks on the implications of globalisation on the nature of the statistical system.

The two key issues: Choice of the statistical unit – Valuation of transactions

The two key issues identified in THOMASEN's paper are choosing the most adequate statistical unit and – closely related – the valuation of transactions. Both issues are of high relevance for one important manifestation of globalisation, the existence of units - enterprises, enterprise groups -, which are:

– economically active in more than one country,

– consisting of different units in different countries,

– under some - more or less pronounced - common control and

– with a certain division of labour within the group but across national borders.

The existence and operation of such multi-national units is but one aspect of globalisation. The term globalisation is – as contributions to this seminar clearly indicate – also used in a much broader sense. Sometimes this term stands for a process, sometimes for the results of a process, sometimes it is used to describe a set of phenomena. The term globalisation is also used to describe phenomena that are not of economic nature.

The paper by THOMASEN concentrates on the effects resulting from economic interaction and interdependency between countries caused by enterprises economically active in more than one country. This is a very meaningful limitation and I will follow his paper in this respect.

In the case of units operating on a multi-national level basis we are inevitably confronted with the trade-off between the number of variables which we can observe according to the concepts and criteria we have in our statistical system and the homogeneity of the unit. We can:

– **either** measure total output, value added etc. in an unambiguous way on a supranational level (for the entire enterprise group)

– **or** have results for parts of the multi-national group on the national level, which by no means should be seen as unambiguous figures.

If full independence especially with respect to setting prices of output is applied as a basic criterion in defining both enterprises and establishments for the purpose of statistics on the national level and national accounts in particular (as proposed by BLOOM, 1990), unambiguous statistical results on the national level and national accounts are no longer possible in the case of globalisation.

Units operating on a multi-national basis are equivalent to ownership control clusters. “An ownership control cluster consists of one or more legal units, natural or legal persons, which, on the grounds of an ownership or control relationship are connected, and which are independent as a totality, in the sense, that no unit outside the cluster has any authority over them” (BLOEM 1990, p. 283). Such a unit is independent, autonomous in its decision, but this independence is given on the supranational level only.

If we want to derive reports from such units in a way fully consistent with reports from units that are only active within one country, the difficulties in arriving at a fully coherent set of information simply arise from the fact that we try to measure phenomena that are of multi-national nature through national windows or lenses.

We no longer can avoid asking whether it is still meaningful to conceptualise economic activities **as if** these activities were still primarily nation-based or in other words - homogeneous with respect to nations.

If we insist to look through the national lenses and at the moment we do insist, we have to be aware that market prices according to the basic principles upon which our present statistical system rests simply do not exist for transactions between interrelated units.

The principle to use market prices as numeraire for adding up different transactions is clearly expressed in the System of National Accounts: „Transactions are valued at the actual price agreed upon by the transactors. Market prices are thus the basic reference for valuation“ (SNA 1993[1], 2.68). This strategic role of market prices is not limited to National Accounts but also part of the fundamental principles on which more or less all economic statistics are based, which are not confined to the measurement of quantities.

The transactors should be autonomous in their decisions. „An institutional unit is defined as an economic entity that is capable of owing assets, incurring liabilities and engaging in economic activities and in transactions with other entities. This includes to take economic decisions and engage in economic activities for which it is itself held to be directly responsible at law” (SNA 1993, 4.2). De facto independence with respect to such central issues as setting prices is more important for arriving at unambiguous valuation than just legal independence (s. BLOEM 1990).

As the definition quoted from the SNA illustrates - because of practical considerations - statisticians and national accountants are quite often satisfied if at least some relative degree of independence is guaranteed.

[1] EUROSTAT, IMF, OECD, UNITED NATIONS, WORLD BANK (1993), quoted as SNA 1993

The interpretation of the results, however, does not pay any attention to the fact that only some relative degree of autonomy of the transactors is given. All users proceed as if full independence were given.

In the case of multi-nationals or ownership control clusters, market prices are substituted by "agreed prices" or prices set by some central authority. In this context I cannot agree with the argument raised in THOMASEN's paper. He views such valuation practices in full analogy to regulated prices. This can be a little bit misleading. In the case of regulated prices it is up to the customer to buy or not to buy, he is free to choose the quantity. In the case of transactions between units under common control the actors involved are not usually autonomous with respect to the decision to buy or to sell at the given price, fixed by some central authority. The price to which they have to agree is determined by factors such as:

– pricing in the most tax efficient way

– availability/conditions for credits and similar considerations, etc, etc.

This flexibility in setting the prices is only limited by national tax regulations and the like. This flexibility is given and already the topic of research in business economics[2].

It the case of the valuation of transactions between units under some form of common control, the deviation from the basic principle of valuing transactions at market prices is therefore much more pronounced than in the case of regulated prices.

Because of globalisation we have we have at least four different categories of valuation in our statistical system and in National Accounts:

– transactions valued at market prices,

– transactions valued „in analogy" to market prices; an example being own account production,

– transactions valued at "agreed prices" between units under common control,

– transactions valued on the basis of a cost convention; the best known example being government production.

Regulated prices in the terminology of THOMASEN can be seen as a special case of market prices in which only one of the transactors involved is independent, but also as a special case of agreed prices.

If we have different principles of valuation it needs to be emphasised that aggregation over transactions belonging to such different categories does not only entail aggregation over different layers of accuracy. This issue was already the topic of the famous contribution by MORGENSTERN (1965). It is also not the closely related issue that economic data span a wide spectrum of precision, in the sense that they are to a different degree sensitive with respect to the methods of measurement (s. PESARAN, SMITH 1992). The argument raised here is that aggregation over elements, which are of different epistemological character, is involved. From a methodological standpoint it is adding up elements that are not commensurate. Aggregation results in conglomeration.

This conglomeration necessarily leads to a kind of heterogeneity[3], which might be of high relevance for the analytical use of the resulting statistical data.

An additional issue: Missing transactions

Increased division of labour between countries and units under common control only cause valuation problems as long as (measurable) flows of commodities are involved.

In the case of the existence of „public goods" within networks of interrelated units under common control we face an additional problem. Measurable flows of commodities do not exist, consequently we „miss" transactions in our statistical system both on the output and on the input side. In the alternative case of division of labour between autonomous units such transactions would be recorded both on the output and on the input side.

Because observable transactions are lacking it is almost impossible to estimate even the order of magnitude of phenomena like „shared use of intellectual capital and other assets" (s. LYNCH, CLAYTON 2003). The most

[2] For an overview on the range of transfer pricing models and on how multi-nationals respond to these alternatives see for example WELLISCH (2003).

[3] As one of the consequences for the stastistical production process THOMASEN (2003) mentions the conflict between the given lack in homogeneity and the basic hypotheses on which standard sampling techniques rest.

important phenomena of this type probably are R&D activities, the development of software and centralised marketing activities.

E-business activities like electronic sales to private households are also difficult to record. Such transactions also may be major source for discrepancies between Foreign Trade Statistics and Balance of Payments Statistics.

Implications for the present statistical system

What are the implications of the impossibility to value all transactions at market prices and the fact that some transactions might be missing because of globalisation?

Because multi-nationals are unevenly distributed across industries, across countries and over time, globalisation reduces the comparability of data across industries, across countries and over time.

More or less all results of economic statistics are affected. In Foreign Trade Statistics values of exports and imports are distorted. The order of magnitude of the effects is quite remarkable. As the study by EBERTH (2002) based on a (rather small) sample survey indicates the degree of globalisation is quite different by commodity groups and by industries. It is very low with respect to agricultural products but very pronounced for example in the case of motor vehicles. More than 70% of the German import transactions in motor vehicles take place between interrelated units.

Short Term Business Statistics is not so much influenced as far as physical indicators and indices based on such information are concerned.

The effects on Producer Price Indices may be quite pronounced, especially in the case of a change in the strategy of a headquarter vis-à-vis the various dependent units in the cluster. Since a change in the strategy will result in a real change in output prices and will be of relevance for customers it is consistent with the goals of price statistics to record such changes. On the other hand analysts will face major problems in explaining changes in output prices in the traditional way. Linking such changes to changes in variables like wage pressure, movement of import prices or to demand factors will not yield good results.

In Structural Business Statistics we have to expect major distortions in the key variables gross output and value added. Both variables are affected by the valuation problem as well as by the fact that some transactions might be missing.

All the shortcomings of Foreign Trade Statistics and Structural Business Statistics vis-à-vis the basic underlying concepts are reflected in National Accounts. There is little hope that the effects caused by two of the major sources on which National Accounts rest empirically may cancel out. In the case of an international ownership the central authority might be interested to keep profits of dependent units in country A low. Under such considerations the transactions to the dependent unit from outside country A will be valued at a relatively high price, the transactions from the dependent unit in A to other units of the cluster not located in A at relatively low prices. Such a strategy will have implications on the demand side of National Accounts as well as on the production side and lead to a lower GDP than in the case of an alternative strategy.

Such effects are not of just mere academic interest. Multi-national activities measured by sales of units under foreign control account for more than 25% of major EU manufacturing output (s. LYNCH, CLAYTON 2003). The sensitivity of the results of totals with respect to the underlying pricing strategies of headquarters deserve some attention.

The implications of globalisation on the statistical system are of high relevance for all the different uses to which the results are put. They are important for monitoring the behaviour of the economy and making international comparisons. At the same time they have implications for the role of the statistical systems as the basis for empirical economics.

The lack of homogeneity of the resulting data sets has consequences for the academic world. The instruments used by the scientific community to test hypotheses or to estimate parameters rely on the assumption of a perfectly homogeneous data set.

For the purpose of production analysis on the national level for example, all models assume that the data for output and the data to measure inputs are parts of one fully coherent data set. Inputs belonging to a certain pro-

duction process are to be recorded in the same country and in the same time period as the respective output. In the case of missing transactions this elementary condition is violated.

The joint use of results of R&D across countries within a cluster of units under common control may have major consequences for cross-country analysis. Just to provide an additional example: standard specifications in the new or endogenous growth theory attempt to explain the differences in the rate of change of output among other factors by the differences in the R&D expenditure. If output and R&D expenditure are reported in different countries although the outcome of the R&D expenditure in country A goes directly into the production process in country B the resulting parameters will not be very meaningful.

Negative repercussions are not only to be expected for the academic world. The impossibility to provide an unambiguous, unique solution has serious implications for the administrative use of statistical data.

Even such a total of strategic importance as GDP has to be viewed as one solution out of a range of competing results only. The existence of different establishments active in different industries belonging to one enterprise always has – because of the limits to an unambiguous valuation - consequences on the production side of national accounts and has implications on value added per industry. As long as all industries are operating within one country these effects cancel out on the national level and GDP is not affected. In the case of globalisation the various units under common control are operating in different countries. Therefore GDP is also affected.

In a highly globalised world a considerable sensitivity of the results of many statistics and of National Accounts in particular should be taken for granted. This sensitivity in turn has consequences for the role of National Accounts aggregates for the calculation of own resources, for the calculation of Maastricht criteria, etc.

The order of magnitude involved is not negligible. Even if the share of daughters and granddaughters of multi-national units in total value added in many countries of the EU is only about 15% (s. KNAUTH 2002) and the range of results is only plus/minus 10% because of the flexibility in setting prices for these non-independent units, the effect on the level of GDP is more than 1%. There is no guarantee and little hope that this relationship remains stable over time.

Conclusions

Globalisation – defined in this narrow sense - is not so much a challenge for statistical measurement as such, if we do not insist to work on the national level. On the national level, however, globalisation reduces the relevance of our present statistical system considerably. „In national statistical systems we see different part of the elephant which do not necessarily make sense in isolation“ (LYNCH, CLAYTON 2003).

Additional data on new phenomena is required. Additional data, however, does not solve the problem that globalisation alters the information content of the present statistical data. It is not a “bias” that is caused - a new category of information is entered into the statistical system. The notion „bias“ is quite misleading since the notion implicitly assumes that „unbiased“ estimate is possible. In the case of transactions between units belonging to the same cluster all our efforts never will lead to measurement in analogy to market prices. As mentioned above we have to accept that different layers of information do exist in our statistical system.

What can be done? One answer should be to make a distinction between activities of units under foreign control and other units. Such a distinction would be an adequate reaction to the “patchwork character” of the statistical information we have in front of us. It would help to keep layers of data of different cognitive status separately and would inform us about the relative size of the layers. Attempts to go in this direction are being made, one example being the work already started on the “enterprise group issue”. In this respect I fully agree with the argument put forward in the paper by THOMASEN that a separation of (domestic) enterprises controlled by foreign enterprises and domestic enterprises that control foreign enterprises could be very fruitful.

The second answer is to create more awareness. More attention should be paid to the information content in our statistical data. We have to acknowledge that the implicit assumptions on which the present statistical system is based do no longer hold in the age of globalisation.

Already in 1995 FRANCHET warned that the increase of the share of transactions within multi-national enterprises might endanger the traditional concepts of national economies. In this context he argued to take the implications of increased globalisation - also because of the creation of the single European market - on the sta-

tistical system and on Balance of Payments Statistics and National Accounts in particular seriously and to examine them carefully (s. FRANCHET 1995).

There are a number of hints that the role of globalisation has not diminished since 1995. The implications should be taken seriously. Because of globalisation, business as usual is no longer possible in a meaningful way in the field of statistics on a national level.

References

BLOEM Adriaan (1990)
Units in National Accounts and the Basic System of Economic Statistics
The Review of Income and Wealth 3/1990, pp. 275 – 288

EBERTH Florian (2002)
Untersuchung von Globalisierungseffekten in der Außenhandelsstatistik
Wirtschaft und Statistik 5/2002, pp. 375 – 382

EUROSTAT, IMF, OECD, UNITED NATIONS, WORLD BANK (1993)
System of National Accounts 1993 (SNA 1993)
Brussels, Luxembourg, New York, Paris, Washington D.C. 1993

FRANCHET Yves (1995)
Funktion der Statistik bei der Europäischen Integration
Allgemeines Statistisches Archiv 1/1995, pp.. 18 - 25

KNAUTH Bettina (2002)
A driving force for the integration of the world's economies
Sigma 1/2002, pp. 21 - 23

LYNCH Robin, CLAYTON Tony (2003)
Globalisation – New Needs for Statistical Measurement
22nd CEIES Seminar, Copenhagen 2003

MORGENSTERN Oskar (1965)
Über die Genauigkeit wirtschaftlicher Beobachtungen
Physica, Wien, Würzburg 2. Auflage, 1965

PESARAN Hashem, SMITH Ron (1992)
The Interaction Between Theory and Observation in Economics
The Economic and Social Review, 1992, pp. 1 - 23

RICHTER Josef (2002)
Kategorien und Grenzen der empirischen Verankerung der Wirtschaftsforschung
Lucius&Lucius Stuttgart 2002

RUANE Frances (2003)
Measuring Globalization: How to meet Statistical Needs
22nd CEIES Seminar, Copenhagen 2003

THOMASEN Jens (2003)
Impact of Globalisation on the Relevance of Current Statistics
22nd CEIES Seminar, Copenhagen 2003

WELLISCH Dietmar (2003)
Internationale Verrechnungspreismethoden, Neutralität und die Gewinne nationaler Unternehmen
Jahrbücher für Nationalökonomie und Statistik, 3/2003, pp. 332 - 358

How to meet the new needs ?

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Introduction

The papers presented yesterday and this morning have identified new statistical needs arising from globalisation. In my presentation I'll deal with some means to meet those needs, and I'll try to assess their effectiveness. In particular, I shall address the following questions: Are new modes of international co-operation called for? Should new indicators be developed? Are new concepts needed?

In this endeavour, I'll draw on my experience (i) at the OECD Working Group on Globalisation since '98; and (ii) at the German Parliament's Blue Ribbon Commission on the "Globalisation of the World Economy", where I served as principal liaison with the Economics Ministry. Even though, the views expressed here should not be taken as official but rather as personal ones.

I am not a statistician but an economics generalist. This is why I think that, at the outset, it might be informative to look for a short time, from a non-statistical angle at the strong pressures for globalisation indicators which governments are faced with.

It is generally recognised that globalisation has altered the nature of national sovereignty. In the process of economic globalisation, one of the key tasks of the nation state has become to establish and to sustain the compatibility of the body of national law with the activities of foreign actors such as trans-national companies, global markets, and supranational organisations. A properly functioning network of off-shore production sites, foreign affiliates supplying business services, and global financial markets presupposes the existence of innovation in particular areas of the national law. In this perspective, to give just one example, deregulation of domestic financial markets can be viewed as a regulatory innovation, whose legislative effects impact on national sovereignty. In this light, regulation must be understood as a major creative task, and the government's objective is it to shape the relationship between on the one hand, the trans-national business practises of economic agents and, on the other hand the established body of national law. For even in a fully-globalised economy, it is the national law that represents the ultimate instrument to guarantee property rights and the fulfilment of contracts.

Hence, the perception of newness itself is a political outcome which is fed by two related sources, one market-driven, the other primarily policy-driven. Generally, calls for new indicators originate from political pressure points in the institutional set-up that supports the national economy. The lesson to be drawn from this is that identification of new needs should be policy-driven!

Modes of international co-operation

My position is that when the traditional committee approach is applied to the development of internationally comparable indicators of economic globalisation, it seems to have reached the limits of effectiveness.

As you know, in this field the established process of international co-operation runs according to the following blueprint. National representatives to EUROSTAT expert panels and OECD's specialised statistical committees, have deep knowledge of their own country's specificities as regards statistical issues pertaining to a given sector, industry or other fields. This perspective often is called the "national window". However, when looking out of the national window at the international scene, it normally falls on the Secretariat (OECD) or the division overseeing the work of the group in question (EUROSTAT), to provide substantive inputs. They put forward proposals for the improvement of the international comparability of data and for the assurance of compatibility with other international statistical systems. When the process threatens to get stuck, frequently either due to conflicting views taken by different countries or because of unresolved technical issues, the Secretariat/parent division negotiates a less ambitious solution or brings in an outside expert with deep knowledge on the issues at hand, to advise the committee/Group.

This set-up has proved a good division of labour, as joining the two profiles of specialisation has tended to produce statistical outputs of high quality. Think of the NESTI Group at OECD or the Globalisation Group at EUROSTAT, and recall the Frascati and Ottawa Manuals. When an oversight body exists to which the working group is reporting, the final product is put before the peers to give it their blessings. This last step provides political validation of the results while quality control is, at this stage, mostly only notional.

The effectiveness of such a process hinges to a large extent on the statistical knowledge base within, and accessible to, OECD and EUROSTAT. Staff resources are complemented by their respective international networks of top-level statistical experts. Generally, a limited number of discussion rounds and a few iterations of written comments by delegations on successive drafts could be expected to yield a robust set of statistical recommendations. These found approval by national governments while at the same time meeting desirable criteria for the international comparability of indicators.

What then is different when the committee process is tasked to work towards a consensus on internationally comparable indicators that mirror the process of economic globalisation? To capture key features of economic globalisation by developing indicators which are technically sound, exhibit a large degree of international comparability and answer to the policy concerns of national governments, has proved a very demanding and complex exercise. Compared with the production of indicators for a single subject area only, globalisation indicators touch on a wide range of politically sensitive subjects. Political attitudes differ widely in respect of the effects of globalisation, whether to embrace its challenges with enthusiasm or to fend off its negative effects with defensive policies. The former approach would lean towards economic indicators, the latter would favour social indicators of globalisation (not discussed in this paper).

My own experience, based on the OECD Working Group on Globalisation which is charged with the development of indicators on economic globalisation[1], can be summarised by a number of observations:

- The design of even a limited set of reference indicators, let alone of numerous more specific indicators, draws on vastly different areas of statistical expertise. Deep knowledge of the internationalisation of trade, the transnationalisation of production, the globalisation of technology, of direct investment, and of financial flows is rarely combined in one and the same expert.

- For the committee process to be effective, it is highly desirable that national positions reflect a consolidation of experts' views in their respective fields of competence. This prerequisite is barely met in practise in full. Globalisation affects a broad range of subject areas which are usually covered by a number of ministries, government agencies and the national statistical office. All strive to retain control over their respective fields of responsibility. A well-known example in most OECD countries is the Central Bank which traditionally is responsible for the Balance of Payments statistics which includes the technology trade balance. However, interpretation and evaluation of such data is often the domain of the Ministry of Technology or the Department of Commerce.

- Frequently consistency across different national data sources does not exist. This lacunae renders such consolidation even more difficult, perhaps even unlikely.

[1] OECD, Draft Manual on Indicators of Economic Globalisation, DSTI/EAS/IND/SWP(2002), 1 seq. The Manual will consist of five chapters, an introduction, one on foreign direct investment, one on activities of trans-national firms, one on globalisation of technology, and one on international trade.

- When a groundswell of change in the public opinion vis-à-vis globalisation occurred, triggered by the turmoil that had accompanied the two WTO Ministerial Meetings at Genoa and Ottawa, governments were pushed to re-assess their approach to globalisation. This was rapidly felt at the OECD, and at the Working Group a highly controversial debate over principles reopened again. What should the main substantive areas be that needed to be covered by globalisation indicators? As a consequence, drafts got longer, quality control suffered, and the focus of the whole exercise got blurred.

Reorientation of government policies gained momentum after the terrorist attacks of Sept. 11, 2001. When the stock-market bubble burst, the new economy boom ended abruptly, and the global business community joined in to re-consider the balance of costs and benefits of globalisation. In Europe, governments reacted to public concerns, expressed by the civil society and belligerent NGOs which demanded to abandon the neo-liberal paradigm. They shifted their public emphasis from economic efficiency and income gains towards social concerns and the need for solidarity with globalisation losers. In contrast, the US Government publicly re-affirmed its commitment to push on with the globalisation agenda. At the OECD, the "G-word" - for globalisation - was temporarily blacklisted by the Secretary-General, and work on the manual was about to loose the political support by top-level management which it had enjoyed until then.

At that stage of uncertainty, given resource constraints and pressures either to abandon the project or to finalise an immature product, the bureau of the Working Group, after consultation with the Secretariat, took a number of decisions - some implicit only.

First, the OECD-internal vetting process of the drafts should go ahead according to the routine appropriate under the given circumstances:

- All four substantive draft chapters should be vetted by the relevant OECD-directorates. They undertook it in turn, to consult, on an unofficial basis, with the respective international expert bodies at the IMF, WTO, UNCTAD, as the case may be.
- When the Secretariat has finalised its revisions, taking account of the last set of comments by national experts, collaborating directorates, and international agencies, each substantive chapter is put before the appropriate parent body at the OECD for approval.
- The last act of the internal approval process belongs to the Statistics Committee of the OECD and its Chief Statistician.

Second, the large group of prospective users initially envisaged for the manual, i.e. besides statistical offices, the ministries and other government agencies, private sector firms and public enterprises, was narrowed down to official compilers of statistics only. As an immediate consequence, most of the prose that had motivated the in- or exclusion of a particular indicator, was no longer needed. More importantly, the decision had major implications with respect to the degree of technicality of the language; the level of quality to achieve; and the ways and means to set up a quality control system on par with the targeted level of quality.

When revising the draft chapters, especially the statistical recommendations would require a much higher degree of conciseness and precision than had been thought admissible with the broader user group. As the final product now had to aim at meeting a very high standard of quality, the new guidelines lead the Secretariat to separate the treatment of substantial comments from editorial matters. The latter were to be taken up again only after issues of technical quality had been resolved in a satisfactory way.

Third, the function of high-level quality control with respect to technical issues as well as to editorial matters was to be entrusted to experts outside the committee process. Let me elaborate on this innovative approach to outsource two important elements of quality control.

The process comprises three distinctive steps and is organised as follows:

- Each chapter that has passed the in-house approval process outlined above, is now being scrutinised another time by a smallish and informal group of people. These are handpicked by the Secretariat for their high level of statistical, analytical and conceptual skills and reputation. The group meets only once, for a few days at best, the aim being to have their comments and suggestions on substantive issues, reflecting distinct walks of the statistics profession. In addition, a bureau member of the respective OECD oversight committee is invited to participate in order to assure that its concerns for policy relevance are respected. At this stage no regard is given editorial matters.

There are four such meetings, one for each substantive chapter, and the experts are mostly drawn from those few national statistical offices and governmental departments of OECD countries that have engaged in leading-edge statistical work on specific areas of globalisation indicators.

- In the next step, a "vertical editor" is chosen from each of the small panels, who is tasked to integrate the substantive comments that have resulted from "his" group's technical scrutiny, into "his" chapter. Again at this stage, the focus of the exercise is on conciseness, precision and technical quality, not on language as such.
- In the last phase a choice has to be made concerning the kind of product the OECD wants to bring to the market. The draft's potential, as it stands, ranges from an authoritative manual (high profile) to an experimental list of globalisation indicators (low profile), and anything in between. The work to be done comprises imposing a common framework on the four chapters and the introduction, and editing of the whole piece. Obviously, the common framework would differ according to the kind of product chosen[2].

For this job a high-calibre consultant would be called on, - a "horizontal" editor. Ideally, he would be an "eminence grise" with sufficient international clout to command respect for his professional judgements. Yet, the final word on this matter would rest with the Secretary-General.

Where does all this leave the Working Group on Globalisation which did the ground-laying work?

Its next meeting is scheduled for November this year. The five draft chapters are to be put on OLIS two months ahead of that date, and delegates are asked to comment in writing on anything they wish to address. At the meeting itself it is not envisaged to asked the Group for comments on contents. Instead, discussion will concentrate on the strategic choice as just outlined under the last step above. Certainly, delegates' preferences in this regard will be influenced by their views on the overall quality of the complete draft.

The principal conclusion drawn from these observations seems to be that the committee approach to international co-ordination works fine - up to a point. A critical junction is reached when the consensus sought by countries in respect of globalisation indicators, gets in the way of further improvements to the level of quality aspired for such a product. It is the management's task to determine when growing ineffectiveness begins to jeopardise the project, and decide on what supplementary approach is called for.

In concluding this part, I should like to draw attention to the similarity of the approach I have outlined, with the international system of certification and accreditation. A certifying body issues a certificate by which specified properties of a given product are attested. The issuing body itself has to have an accreditation by which the accreditation institution testifies that the certifier meets the professional standards as specified by the system's charter.

New Indicators and How to Prioritise?

I now turn to the perceived need for new indicators. As you may recall, I have already pondered on the meaning of "new needs". Putting semantics aside, to assess something as new implies that it can be distinguished from something labelled "old", by some discriminating criterion. For example, from a federal government's perspective, a "new" indicator is most likely one that until now is not officially available in its own area of jurisdiction. Yet it may already be taught in seminars or even be widely used in private sector analysis.

One advantage for countries to adopt this simple logic would be that it would show country-specific profiles of established and of "new" indicators of globalisation. Indeed, the OECD Draft Manual includes overview tables on indicators for each of the four substantive areas identifying those OECD countries where a given indicator is available.

However, from an international policy-analytic point of view, the old/new dichotomy does not seem a promising one. Instead, I prefer another simple taxonomy as suggested by the Draft Manual. It distinguishes three kinds of indicators relating (i) to the magnitude/scope and direction of the globalisation process; (ii) to its impact on the economy; and (iii) to linkages with structural adjustment policies. As the complexity of such indicators grows, resource requirements increase. Impact indicators require more analytical input, while policy-linkage indicators also depend on extensive modelling work underpinned by economic theory.

[2] The common framework comprises notation, algebra, bibliography, a taxonomy for indicators, boxes, position of statistical recommendations, and so on.

It follows that one way for countries to prioritise their work on globalisation indicators would be to work off the respective subject area lists, beginning with what is called reference indicators. The choice of subject area would be country-specific and would depend on what kind of politically-sensitive issues emerged that would argue for impact analysis, for example on high-tech trade by enterprise groups. For the German authorities for example, one of the most pressing statistical needs concerns German enterprise groups. Yet, it took several years until the Central Bank and the National Statistical Office ceded to political pressures orchestrated by the Monopolies Commission, until a federal law was passed - prerequisite for any new official statistics. A working party was set up tasked to develop the new set of indicators.

Another way for countries to prioritise their work on globalisation indicators while at the same time enhancing international comparability, would be to follow the logic of economic globalisation itself. Despite the current cyclical weakness of the global economy, it is generally agreed that trans-national firms will most likely remain the principal drivers of the process. Their global business strategies will continue to shape the dynamics of international business linkages. In consequence, competitive pressures are propagated more rapidly than hitherto through the world economy, impacting also on less-globalised sectors and economies. Hence, governments may opt to accord priority to a set of indicators which concerns economic activity of trans-national firms.

This avenue would directly favour the cross-country comparability of these indicators, as the adoption by countries of common definitions and the harmonisation of concepts would be concentrated on one common priority area at a time. Closely related to activities of trans-national firms are the indicators on foreign direct investment. Though the latter may be mostly considered as "old", there is plenty of scope for improved adherence to the IMF/BP-rule book[3] .Greater compliance automatically would enhance international comparability of the data collected. For developing countries, UNCTAD's trans-nationality index gives a rough idea of an economy's dependence on foreign investment and foreign-affiliates of trans-national firms.

It is my perception, that a few sensitive areas, such as SMEs, business services, and foreign-controlled technology have triggered new policy concerns in a number of OECD countries recently. For example the Blue Ribbon Commission of the German Parliament, in its final report on globalisation published in June last year, listed 12 different fields where it thought additional indicators highly desirable[4]

The daunting challenges SME's are facing in the process of globalisation, and domestically sheltered business services that suddenly have become tradable due to advances in communication technology, i.e. commercial presence, have provoked calls for new indicators. Because governments are keen to learn to what extent and where, also high-skilled jobs might be threatened by foreign competition, a deeper dis-aggregation of trade in services has become highly desirable. Also, the potential for growing dependence of an economy on foreign-controlled technology and intellectual property rights makes it imperative for governments to learn more about technology trade flows including IPR-related transfers, in particular by trans-national firms and their foreign affiliates. Barriers to entry to industrial markets and international tax shelters are two further hotspots, where benchmark indicators are being developed to facilitate assessing progress across countries in deep integration and in the fight against money laundering.

There are two kinds of supplementary indicators, my personal favourites I admit, that I wish to put before you. From my vantage point they reflect truly new needs. One kind of indicator concerns the vulnerability of countries to negative external shocks; it has been suggested by Rodnik[5]. The other set answers to claims that developing countries do not benefit from globalisation. These new indicators on global income inequality are based on recent quantitative research on within-country and across-country income distributions. Both measures do not feature in the OECD Draft Manual.

Globalisation is a dynamic process implying that an economic shock is propagated faster and more intensely from one country to another than hitherto. Measures of the openness of an economy to international trade are therefore considered as key indicators of the size of the repercussions likely to be felt within the economy. However, an economy's pattern of trade can be such that its structure operates as a sort of shock-absorber. For this to happen, exports must exhibit high income- and low price-elasticities, while its imports should show high price- and low income-elasticities. If that were the case, this country's vulnerability to external shocks would

[3] See the last IMF/OECD-Survey on compliance (2001) which is based on the Survey of Implementation of Methodological Standards for Direct Investment (SIMSDI; 1997).

[4] Bundestag-Enquetekommission "Globalisierung der Weltwirtschaft, Abschlußbericht (2202).

[5] Rodnik, D., Has Globalisation Gone Too Far? 1998.

be much reduced, despite a high degree of openness as suggested by the more traditional measures of openness. At the macro-level, the impact on the country's trade balance would be much reduced.

I am aware that calculating trade elasticities is a challenging as well as resource-intensive task, and full of statistical pitfalls. Yet, as an avowed advocate of the (net)benefits of globalisation, I see significant systemic merit in distinguishing openness from vulnerability of an economy. Governments equipped with such internationally comparable indicators could, I think, much more easily fend off demands for protection which frequently are based on indicators of openness and import penetration alone.

The other set of indicators relates to the apparent inequality of the world distribution of income. NGOs and the anti-globalisers are accusing globalisation of having stacked the cards against the world's poor, especially developing countries. Moreover, globalisation is said to have skewed income distributions towards the rich, in industrial and developing countries alike. The type of indicator chosen in support of such claims are world poverty rates and the ratio of per capita income of the highest quintile of the world's people in the richest countries to the per capita income of the world's lowest quintile. All such indicators are taken to show that over the past 30 years globalisation has been associated with an increase in world income inequality and in poverty as well. The Blue Ribbon Commission of the German Bundestag grounded its analysis on this kind of measure.

Fortunately, there is now seminal research at hand that throws fresh light on these issues. Sala-i-Martin has succeeded in tracing back most of such claims, echoed widely over the last few years by many of the world's authoratative voices on poverty and economic development, to one single source only. The 1999 edition of the UN Human Development Report (HDR) states*: " In 1960, the 20% of the world's people in the richest countries had 30 times the income of the poorest 20%. The ratios increased to 60 to 1 in 1990 and to 74 to 1 in 1997"*[6].

However, when using the same data set as the HDR but adjusting for PPPs and introducing country-specific weights for the size of population, the picture looks quite different: *" ... rather than rising from 30 to 60 to 74, the ratio increases from 11,3 in 1960 to 15,9 in 1980, but then declines slowly to 15,09 in 1998."*

Moreover, by according the same weight i.e. of 1, to small and large countries alike, nearly one third of the world's population which has seen a significant increase in their standards of living over the past 20 years, of China, India and Indonesia, is not taken account of in the UDR-methodology. China has the same weight as Costa Rica or Luxembourg, implying that a citizen of Luxembourg is many more times important in assessing income inequality than one Chinese citizen.

In an econometric companion paper Sala-i-Martin estimated the world distribution of income by integrating individual income distributions for 125 countries between 1970 and 1998[7]. Again, he finds that poverty ratios declined over the last 20 years and that all of 9 measures of income inequality implied by the world distribution of income, show substantial reductions in global income inequality during the 1980s and the 1990s.

Quite a few governments which pursued pro-globalisation policies in the last few years, appear to have been too timid to rebuke the mantra of anti-globalists that globalisation has tended to impoverish the poor at the expense of the rich. Given the findings of the seminal investigation reported, it is high time to spread the message by making its positive results and the new indicators more widely known in the public domain.

New Concepts ?

In the previous section I have argued for two kinds of "new" or "supplementary" indicators that derive from a reassessment of established concepts, openness of an economy and world income inequality. In a way, both concepts are related to the benefits and costs of economic globalisation.

I have argued already there would be merit to distinguish conceptionally openness and vulnerability of an economy. Both concepts are complementary, the former reflecting internationalisation of a country's trade while the latter provides a rough measure of its resilience to external shocks.

[6] Sala-i-Martin, NBER Working Paper 8904, April 2002.
[7] Sala-i-Martin, NBER Working Paper 8933, May 2002.

Concerning measures of world income inequalities, Sala-i-Martin has shown that UN-HDR researchers' conceptual approach to world income inequality is fundamentally flawed:

"If one observes that income inequality has risen within countries and has also risen across countries, the natural inference must be that overall inequality has also increased. Although the conclusion seems to follow from the premises, it actually does not. The reason is that the within country and the across-country inequalities ... are not strictly comparable: the within-country measure refers to "individuals" whereas the across-country measure refers to "countries"[8].

The empirical upshot of this is that one can observe increasing inequality of per capita income in both measures, cross-country and within country, but overall reductions across world individual income disparities. Therefore Sala-i-Martin concludes:" *The three step procedure followed by the United Nations says nothing about the true evolution of world income inequality"*.

The empirical justification for claims that there is "divergence, big time" does no longer exist. Rather there is "convergence, period," to quote a famous dictum from the age-old divergence/convergence controversy.

Another sensitive area that merits attention in my view, is the rapid growth in the number of foreign trade agreements (FTAs) and what that does to the multilateral trade system. Whether a conceptual underpinning already exists for indicators on the influence of FTAs on patterns of regionalisation is beyond my knowledge. Most economic activities such as trade flows, activities of trans-national firms, foreign direct investment and technology transfer summarised by the term "globalisation", exhibit distinct regional patterns. We all know the familiar tripolar figure - the Triade - that depicts the geographic pattern of globalisation, especially trade links between North America/Mexico, Europe and Japan with it economic satellites. According to WTO sources more than 50% of world trade today is conducted outside the multilateral trade system and its rules. As FTAs sprawl, it seems useful to support WTO-monitoring by developing indicators that would mirror how FTAs impacted on regional patterns i.e. bilateral, intra-regional and inter-regional trade flows.

Conclusion

In concluding I should like to summarise my impressions by the following points:

Tight public budgets will continue to dictate a cautious approach by most governments to mandating the development of new official statistics, in particular indicators on economic globalisation.

Instead, they will continue to aim at small improvements in regard of refinement, extension, depth, and coverage, of "old" indicators reflecting national priorities in areas that will benefit most within given constraints.

The choice of new indicators on economic globalisation will be country-specific and policy-driven, as political pressure accumulates to admit to the new needs. At this junction, there is more room for EUROSTAT and OECD in their respective fields, to champion the cause for international comparability by arguing for the adoption of common definitions and the harmonisation of concepts.

If governments could reach a consensus view on a common subject area of globalisation, the systemic benefits accruing could be substantial in respect of coverage, depth, completeness and comparability; all would see improvements in a few years only.

The traditional committee approach of generating an international consensus view on indicators on economic globalisation has proved effective - up to a point. When targeted quality standards in regard of conceptual and technical issues are being jeopardised, organisational and managerial innovation is called for. One way to proceed would be to set up a parallel process by resorting to a small group of external experts that imposes solutions which will be ratified ex post by the statistical group.

Overall, my impressions warrant slight optimism at best, with regard to a major change in public authorities' cautious attitudes towards new globalisation indicators: Fine to have, but - at the limit - dispensable.

[8] Sala-i-Martin (April 22001).

MEASURING GLOBALIZATION: HOW TO MEET STATISTICAL NEEDS

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Introduction

This session of the Seminar is designed to examine how the growing needs for globalisation statistics can be met. In his paper, Dr Fest brings his very considerable experience of the OECD Globalisation Working Group and the German Blue Ribbon to bear on considering the statistical issue in terms of three dimensions:

- *Who is responsible for developing globalisation statistics and how might they be produced?*
- *What new indicators need to be developed?*
- *What new concepts are needed?*

In this short paper, I will touch on each of these dimensions, with reference to what he has to say – but I will do this in reverse order. I should say that I am in broad agreement with his approach and assessment of the situation. Before turning to his paper, I feel that it might be helpful if I were to give some background on my own perspective on globalisation, which influences my approach to commenting on how we might meet the needs for data in this area.

Background

In less than twenty years, the word globalization has gone from being a 'catch-all' term used in the economics media to capture the process of integration in world financial, product and service markets, to a term that is now used widely to describe the impact of increased international integration across a range of academic fields – from literature to sociology to technology. In very recent times the term has begun to acquire a pejorative dimension, as 'anti-globalization' has become the slogan of groups critical of what they see as the exploitation by large corporate interests in the developed world of smaller enterprises in lesser-developed economies. Indeed, this shift in the meaning of globalization has led some economists (for example, Rodrik (2000:177)) to favour the term 'international economic integration' as being 'self evident to economists' and free of the baggage associated with the globalization. Were this trend to continue, one could see the "G-word" being replaced with parallel expressions such as 'international social integration', 'international cultural integration' and 'international technological integration'. I believe that this would be a considerable linguistic as these terms lack the breadth, intensity and multi-dimensionality that 'globalisation' evokes as well as its strong inter- and cross-disciplinary associations. Thus while it is reasonable to concentrate on economic globalisation, as Dr Fest has done in his paper, I think that, if we are really to capture the essentially non-incremental nature of change that has taken place in the past decade in particular, we should be mindful that we need statistics across the full range of social, economic and technological elements to capture this.[1]

* I am grateful to Bill Keating and Joe Treacy (CSO) and Frank Cunneen (NSB) for helpful discussions. The usual disclaimers apply.

[1] Many economic historians are keen to note that the scale of late 20th century globalisation is nothing out of the ordinary – and this is due to their over-concentration on traditional methods of measuring international activities. It is the multidimensional nature of what has happened in the past 15 years that makes it special – the total is greater than the sum of the parts.

It is perhaps insightful to consider briefly the origins of the word. The Oxford English Dictionary (OED) defines globalization as "the act of globalizing", and identifies Webster's Dictionary in 1961 as its source of the use of the word.[2] Webster in turn defines "globalize" as "to make worldwide in scope or application", i.e., nothing specifically related to economics or indeed to any particular discipline. The OED's first reference to the written use of the term globalization (with the European 's' spelling) is in *The Spectator* in 1962. The very strong economic association with the term in recent times seems to have arisen some 20 years later (the mid-1980s) in the context of increased integration in product and financial markets.[3]

The attraction of 'globalization' as a new word in economics must surely stem from its potential to capture in a single word the increased scale, intensity and complexity of international relationships in the late 1980s, arising from the cumulative effect of declining trade and capital barriers, reduced transport costs, and modern electronics-based technology. The word came into widespread use at a time when it was unclear how different the world economy might become as the possibilities of international fragmentation of production extended (see, for example, Arndt and Kierzkowski: 2001). It captured the sense that there was something more than incremental change taking place – that all countries would be affected to some degree by the scale and developing nature of the integration so that few activities within countries would be immune to the process, and that it could change the dynamic of growth processes.[4] When we talk about Economic Globalization as a process, we recognise explicitly the complexity of the economic interdependency within and between both enterprises and countries, which in turn leads us to appreciate the important role of the international institutional frameworks in allowing and assisting us to deal with such interdependency.

Globalization manifests itself in increased international trade, foreign direct investment flows, rapid technological transmission, and, to a lesser extent**,** international migration of labour. But the process of globalizing is much more complex as it impacts on the "how" as well as the "what" – it is more than an issue of scale. Many economists have attempted to deal with this complexity by combining studies based on aggregate data (on trade, factor flows, relative prices and wages, etc.) with case studies or historical examples from specific markets or periods; see for example, Feenstra (1998), Obstfeld (1998), and Williamson (1998). Others, such as our keynote speaker for the Seminar, have focused on the role of the multinational in developing alternative modes of conducting business in the international economy. (See Markusen (2002).) Furthermore, developments in micro-econometrics over the past decade and the growing availability of micro data at plant level have provided another vehicle for looking at issues in globalization. Such developments allow research studies to move in sequence from lower to higher levels of dis-aggregation, taking account of the heterogeneity of plants in explaining different patterns of change in individual sub-sectors, and to look at economic integration from the enterprise rather than the economy level. (See, for example, Brauerhjehlm and Oxelheim (2000); Könings and Murphy (2001).

This raises a key question: is it meaningful to continue to conceptualise economic activities as being primarily nation-based and collect our international data separately from our data on basic production? I will turn to this in the next section.

Globalisation: Does it need new concepts?

This is the shortest section of Dr Fest's paper – and perhaps not surprisingly as it might be expected to overlap with what is likely to have arisen in earlier sessions. Dr Fest sees the need for further development of the concept of "economic openness" and in the measurement of "global inequality".

With regard to economic openness, I believe this requires, as suggested in Professor Markusen's address, and as recognised by Dr Fest, that different vehicles for international transactions and relationships need to be con-

[2] It is also interesting to note how relatively new the word "global" itself is in the context in which we think of it today. The OED, in addition to relating the term global to a spherical shape, describes 'global' as "Pertaining to or embracing the totality of a number of items, categories, etc.; comprehensive, all inclusive, unified total; spec pertaining to or involving the whole world; worldwide, universal". It cites Harper's Magazine (1892) as the first use of global:
"M. de Vogüé loves travel; he goes to the East and to the West for colors and ideas; his interests are as wide as the universe; his ambition, to use a word of his own, is to be 'global'".
Early twentieth century contexts in which the OED identifies the use of the term include, not surprisingly, trade and foreign investment. However, the OED also identifies its use in warfare, linguistics, psychology, meteorology, and electronic media (in the context of McLuhan's creation of the term "global village" in 1960).

[3] The earliest reference to Globalization in book titles in the Journal of Economic Literature Index occurs in 1985

[4] This raises the attractive idea that some countries/regions could skip phases and painful parts of the developmental process.

ceptualised and measured, and in this context relevant institutional frameworks need to be identified (e.g., trade agreements). The conceptualisation of alternative forms of international transactions is essential if we are not to risk biases in the data, as transactions in different sectors may vary according across production types.[5] However this requires that we see transactions from the point of view of the agents involves – in effect we need to measure the different activities of enterprises (producers, distributors, importers) rather than simply focus on concepts such as trade flows, FDI flows, portfolio flows, etc.[6] As noted in Section 2, the collection of statistics historically views the different activities of enterprises separately reflecting the time period in which the data began to be collected. Thus the enterprise's marketing decisions are reflected in the international trade data and its financing decisions related to capital flows are reflected in the Balance of Payments data. Data on production are collected at the enterprise level but aggregated in ways that do not mesh easily with the trade or retail data. Furthermore, such data as we have on technology and innovation at the enterprise level are usually collected separately from production data, reflecting the role of the OECD and EUROSTAT in the development of these statistics.

If we are to be honest with politicians, policymakers, markets and indeed civil society, we should admit that globalisation requires not so much new concepts but rather a re-conceptualisation of how we see/use/collect/analyse business data, since they are the key conduits of the globalisation process. Furthermore, we will need increasingly to use tools of analysis that are more complex than those that are often used in policy analysis that has been nationally based.[7] Lest it be thought that I am just talking about multinational companies (MNCs), I am not – though they raise specific issues for NSIs that will be discussed further below and also raise issues as to the approach to data collection. With modern technology increasing numbers of SMEs are engaged in foreign trade directly almost from birth and others are engaged in a sub-supply industry, which is now increasingly globalised. This has major implications for the births/deaths/survival rates of enterprises and the relationships between them. Fortunately, this same modern technology that makes it vital that we begin to think about re-conceptualisation business data, also provides us with the ability to handle billions of different items of data that can then be aggregated in a variety of ways according to need.[9] However, if we are to do this, we need to have established codes of behaviour that will meet the confidentiality needs of enterprises that are operating globally.

Globalisation: do we need new indicators?

In his paper Dr Fest refers to three types of indicators suggested by the Draft OECD Manual, which unfortunately I was not able to obtain when writing this paper, namely:

- magnitude/scope and direction of the globalisation process;
- impact of globalisation on the economy
- linkage of globalisation to structural adjustment policies

I agree with him that indicators in these areas are very important for present policy purposes and identifying them clearly shows where work needs to be done collaboratively at national and supra-national levels. (I also agree with him that there is a skill composition issue arising here (in terms of statistical specialization) and that a team approach is essential if the different elements in the globalisation process are to be captured properly.) Personally I see indicators (such as vulnerability to external shocks) as derivative concepts – involving the key statistics and other methodological tools – in the sense that the emphasis of indicators changes according to different policy and institutional environments. What might be dangerous would be to expend energy and resources on compiling very specific indicators rather than setting in place a process that will allow a range of indicators to be derived in due course. I recognise that resources for statistical generation are limited – but I

[5] Differences in the transactions costs of, and opportunities faced by, enterprises will impact on how they transact business. A similar situation arises with regard to ownership systems.

[6] This approach would build on the industrial organisation literature looking at what activities take place outside or inside the enterprise, extending it to an international level. See, for example, Williamson (2002).

[7] Statisticians and economists should not apologise for this, anymore than they would expect their doctors to apologise for using more up-to-date diagnostic tools to understand changes in their health patterns!

[8] There is a close analogy here (in terms of data demand) with the types of individual/household data recognised to be required to study global inequality and how it might be affected by globalisation. As long as we collect data on representative individual/household units within countries on a similar basis, measures of inequality can be generated at different levels of aggregation as required, i.e., national/regional/global.

think that there is a good case for fully scoping what globalization means for statistics, identifying the long-term best way of generating these data, and working on a plan which gives crude indicators in the short run en route to a range of conceptually-better indicators in the long-run. Such an approach would have to be supra-nationally driven, and, if agreed across countries, would minimise the future costs of getting comparability across statistical measures. From my perspective, as will be obvious from Section 3, this would mean placing the enterprise at the centre of the system and looking to collect data systematically across enterprises. While, as Dr Fest suggests, the immediate emphasis might be on the trans-national enterprise, it would be wrong to ignore what globalisation means for the development of SMEs.

Collection of Globalisation Statistics

Dr Fest's description of the process of developing internationally comparable indicators of economic globalisation points to the huge challenges for statistics posed by the speed with which globalisation accelerated over the 1990s. This speed creates pressures on those involved in developing statistics to capture the essence of globalisation very quickly and increases the risk that the developed indicators may be politically driven rather than conceptually determined. His analysis identifies several weaknesses in the global and national statistics systems:

- Fragmentation in the production of statistics at national levels, i.e., the absence of a coordinating institution across the relevant data needed[9];
- The absence of a critical mass of expertise in NSIs and international organisations to deal with the very large conceptual issues raised by globalisation; and
- The absence of a process for agreeing concepts internationally to ensure that high quality data are generated (and lowest common denominator is not adopted).

It would be sheer madness not to get internationally comparable measures agreed at this point – damaging to the statistical community, and possibly more seriously damaging if it leads to policy mistakes. Comparability inevitably involves compromise but should not require the lowest common denominator.[10] While there is always a degree of subjectivity as to what should be measured (just as there are differences in the systems used by accountants across countries), the more these statistics are grounded in the expert views of independent economists and statisticians, the more likely it is that the correct concepts will be measured and the less likely they will be subjected to change.

While globalisation statistics are important for policy, enterprises are also stakeholders in terms of their information needs and potential statistical burdens.[11] The globalisation of enterprises means that increasingly common codes (e.g., in accounting) need to be adopted and in some sense, global statistics is part of this process. Perhaps under the auspices of the WTO, which needs to understand very fundamentally how enterprises operate internationally, there will be a momentum to fund the production of enterprise-based globalisation statistics properly, so that they are not overly subject to the pressures of geopolitics.

Concluding Comments

As a phenomenon, globalisation raises three important issues in terms of meeting data needs:

1. There must be a coherent integration of enterprise data at national level. This is vital to ensuring that all the activities of an enterprise are captured coherently and consistently[12] and that the role of changing technology in production is better understood. Where trade is internal to the enterprise, as is often the case in MNCs, the calculations can be very complicated because of the range of trading practices in use and because the continuum between services and manufacturing is increasingly blurred.

[9] In governance terms, Ireland is relatively better served in this regard as its NSI, the Central Statistics Office, has responsibility for virtually all the data required to generate globalisation statistics.

[10] For countries, such as Ireland, which are exceptionally open in terms of trade and factor flows, it may be sensible to invest more heavily in such statistics and have more sophisticated measures than those required for international comparability purposes.

[11] I have not focused here on the market need for global statistics as these have been discussed at other CEIES seminars.

[12] For example, the level of exports must be consistent with value added in GDP, which in turn must be consistent with profits in the Balance of Payments.

2. More information needs to be collected in enterprise surveys on the global activities (including accessing technology) of all enterprises, and not just of MNCs. This is essential at the national level in order to monitor the national impact of globalisation and to underpin macroeconomic statistics.

3. Specific mechanisms are needed to deal with global enterprises, where intra-group production and financial behaviour is complex and, in many instances, undergoing continual change. This can be done in a networking manner by coordinating work across NSIs. This approach would give rise to the need to develop new codes so that confidentiality issues associated with data sharing were not seen as problematical by companies or countries. An alternative approach would be through the direct collection of data by a supra national body such as the WTO or a statistical organisation reporting to it. An agreed data base of "global companies" would have to be established and continually updated. This would represent a completely new departure in terms of governance/responsibility for statistics and relationships between NSIs and such a body would have to be defined. In either the networking solution or the supra-national solution, or some combination of both, there is a need to generate greater expertise is this complex area if we are to have the statistics we need to understand these important global players and hence the evolving patterns of globalisation.

References

Arndt, Sven and Kierzkowski, Henryk (2001). *Fragmentation: New Production Patterns in the World Economy***.** Oxford: Oxford University Press.

Braunerhjelm, Pontus and Lars Oxelheim (200) 'Does Foreign Direct Investment Replace Home Country Investments? The Effect of European Integration on the Distribution of Swedish Investments', *Journal of Common Market Studies*, 38:199-220

Feenstra, Robert C. (1998). 'Integration of Trade and Disintegration of Production in the Global Economy'. *Journal of Economic Perspectives*, 12/4: 31-50.

Könings, J. and A.P, Murphy, 2001. "Do Multinational Enterprises Substitute parent Jobs for Foreign Ones? Evidence from Firm level Panel Data", Centre for Economic Policy Research, Discussion Paper 2972.

Markusen, James (2002). *Multinational Firms and the Theory of International Trade.* Cambridge: MIT Press,

Obstfeld, Maurice (1998). 'The Global Capital Market: Benefactor of Menace?'. *Journal of Economic Perspectives*, 12/4: 9-30.

Rodrik, Dani (2000). 'How Far Will International Economic Integration go?' *Journal of Economic Perspectives*, 14/4: 177-186.

Williamson, Jeffrey G. (1998). 'Globalization, Labour Markets and Policy Backlash in the Past'. *Journal of Economic Perspectives*, 12/4: 512-72.

Williamson, Oliver E. (2002). 'The Theory of the Firm as Governance Structure: From Choice to Contract' *Journal of Economic Perspectives,* 16/3: 171-195.

22nd CEIES Seminar
"Statistics and Economic Globalisation"

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Reaction from Eurostat

First of all, I would like to thank all the speakers, discussants and participants in the discussions for their contributions. This has made the seminar a real success and provided Eurostat with a source of ideas. The presentations and discussions have illustrated the scope of the phenomenon, have shown the emergence of new needs, new theoretical and methodological frameworks, have shown the shortcomings of the existing systems but also what can be achieved with mainly the current set of statistics when correctly integrated and analysed, they have suggested the way forward. We have learned a lot from the various contributions presented at this seminar and I will try to comment on the different aspects from Eurostat's point of view. What are the main lessons for us? How are we facing the challenges which have been evoked and what is still missing in the framework which is currently being implemented in the European Statistical System?

Following the order of the seminar, I will start from the needs for these data which were the subject of the first session yesterday. Then I will briefly review the methodological, organisational and legal frameworks Eurostat has proposed for measuring globalisation (if that expression has some meaning ….). I will continue by commenting on what has been discussed this morning: the innovations possibly needed in the process of collection of official statistics and the main obstacles we have to face. Finally, I will stress the long-term challenges and possible avenues to complement the system we have started to implement.

Statistical needs

Many papers have illustrated the need of improving the current statistics on FDI, FATS and ITS, to mention a few important ones, to improve their timeliness and their comparability. So far, official statistics has proposed some important pieces of a big mosaic which still has to be completed. Policy makers want to be informed about facts and scientists require data to test their models. More integration is needed, new focus on dimensions like trade barriers, quality of the administrative and legal environments and intangible factors are asked for too. Enterprises are continuously inventing new ways to reduce their costs and by doing so, challenging statisticians. The Swedish and American experiences have shown that, within the existing statistical framework, much can already be learnt on Globalisation. They provided specific examples of what type of analysis can be conducted having these data available and show the way forward. Some presentations have also illustrated the shortcomings of current statistics which often ignore, for instance, intra group transfers, sharing of some intangible assets inside the groups as well as complex links between economic actors.

The framework proposed by Eurostat

I must say that we have long been aware of the need to improve the quality of our statistics in the EU. The CEIES Seminar on FDI held in Venice at the end of 1999, for instance, already contained recommendations on the need

for FATS statistics to complement FDI data amongst its conclusions. Eurostat has made strong efforts to respond to some of these needs. Our actions are trying to improve or to complete the system at different levels.

Eurostat is indeed aware that progress in Europe is too slow but this can be explained partly by institutional differences in the compilation procedures of transactions abroad.

In opposition to the Anglo-Saxon approach where the collection process was driven by enterprise surveys, Continental Europe made use of the so-called "banking settlement" – a process driven by Central Banks. By nature, central banks are not used to dealing with the corporate sector and related legal acts. These historical barriers to deal with the corporate sector were an obstacle to substantial progress in the nineties.

In recent years the environment changed radically. Reporting obligations on transactions abroad in the monetary union are already and will be still further reduced. This event forces Member States to gradually replace the banking settlement system by a survey induced approach of direct reporting by enterprises.

The outcome of this evolution is that Eurostat, with the help of Central Banks and Statistical Offices, can envisage a more integrated and consistent approach for the collection and production process with the final aim to come closer to the U.S. achievements.

What do we need?

First we need to complete the existing infrastructure to collect data on multinationals and globalisation. This is being done through new projects to study enterprise links, to register financial links in national Business registers, to register multinational groups and in the future, link together different specific registers like the BOP register and the intra/extrastat registers. Thomas Hatzchronoglou has illustrated the importance of an appropriate and agreed methodology to integrate and compare statistics. We are continuously working with other organisations on the definition of an harmonised methodological framework. To pick up a very concrete example, the classifications by type of service (for ITS) and by kind of activity (for FDI and FATS) have been taken from the recently published Manual on Statistics of International Trade in Services. This Manual is the result of the joint work of Eurostat, the United Nations, the IMF, the OECD, the UNCTAD and the WTO. BEA statisticians were also well represented in the drafting group of the Manual. This should be regarded as an example of our regular and very good co-operation with the OECD and with other international organisations.

Secondly, the experience has also shown us the utility of an appropriate legal framework to facilitate the implementation of co-ordinated data collections, or the implementation of compatible tools. We are considering amendments to our Business Registers regulation, to our Structural Business Statistics regulation and a new regulatory framework in the field of FDI, ITS and (separately) FATS statistics. This is conceived as a long-term solution for the collection of these data in EU Member States.

The new legal frameworks will help complete the already well-advanced harmonisation process of the statistics produced by the Member States. It will provide data collectors in the Member States with the legal power needed to support the recent evolution of the collection systems. Setting up new regulations involves a lot of discussion at all levels and this takes time. In the case of FDI and ITS statistics, the phase of technical discussion with the Member States has now been concluded. The Statistical Programme Committee gave its support to Eurostat's proposal on 13 March 2003. A proposal by the Commission to the European Parliament and to the Council is being prepared at the moment. FATS data collection was originally included in the BOP Regulation (and also in the SBS Regulation), but for a number of reasons it was decided to create a separate proposal for a FATS Regulation. The main reason is that, in the EU, inward FATS data are collected not only in the balance of payments framework, but also in the structural business statistics (SBS) framework. It should also be pointed out that several Member States (the UK, Italy, Spain, Ireland, the Netherlands and Denmark) do not produce statistics on foreign affiliates abroad (outward FATS) at all and therefore consider that a longer period is needed for their implementation. The proposed Regulation now contains common definitions for both inward and outward FATS, and the framework does not change with the data collection method (BOP or SBS) applied in a given Member State. The creation of a *Working Group FATS* composed by representatives of both statistical fields was another achievement, which, among other things, fostered the co-operation between NSIs and Central Banks at the Member States level. The working group met in March 2002 and in January 2003 and discussed the draft proposal of the Regulation. The proposal will be discussed at the CMFB and the group of directors of Business Statistics in June 2003 and at the SPC in September 2003. It has also been agreed that a recommendation manual covering both inward and outward FAT be drafted.

The discussion on the registration in Business registers of groups has just started. The main orientations of the amended version will be discussed in two weeks by the group of directors of Business Statistics.

Finally, some pilot surveys, with subsets of countries, will be launched on more complex issues (like outward files, data collection at the group level).

Co-operation with the OECD, the ECB and other international organisations

As already mentioned, substantial progress is only possible if a better co-ordination between countries and also between international and supranational organisations is achieved. I have already mentioned our collaboration with OECD and other organisations to adopt internationally agreed definitions. The papers presented by Thomas Hatzichronoglou and Hartmut Fest reflect this co-operation in the case of the new Manual on Economic Globalisation Indicators very well. Another example of good co-operation I would like to mention involved this time Eurostat with the ECB in the already mentioned Steering Group on Multinational enterprises, aiming at testing the possibilities for an harmonised reporting of BOP and FATS data for EU multinationals. (see also the paper by Tony Clayton). This can in fact be seen as a first concrete experiment towards the objective that has been advocated here by various speakers, of having a higher degree of globalisation – so to speak - in the way in which statistics are collected. This leads me to the next point I would like to discuss here.

Do we need a new organisation in the way statistics are collected to face globalisation?

This was a topic tackled today in the papers by Jens Thomasen and Hartmut Fest, but also referred to in other interventions. It is true that international co-operation in official statistics has until now largely concerned the level of concepts, methods and classifications. It seems now that we need to move a step further and start considering the possibility of forms of international co-operation, in some parts at least of the process of data production, to face the 'fragmentation' across national borders of the productive process that has been induced by globalisation. This will raise problems that have been evoked during this conference. We need common sampling frames, consolidated information on the structure of the groups, mechanisms to exchange information on a regular basis and appropriate legislation. Indeed, our experience tells us that national producers would be in most of the cases ready and willing to put in common information, but there are legal obstacles, particularly linked to the confidentiality of individual files that sometimes prevent this exchange, even inside the same country, (for example, between the Central Bank and the NSI). We have a contradiction (or a trade-off) between the protection of individual information and the advantage of putting in common this information among producers of statistics to have more complete and coherent data on the activity of multinational enterprises. This trade-off can create a true bottleneck in the progress of our statistics linked to globalisation. We clearly have a problem for the political agenda in which all interested parties should be involved to try and find solutions that can be advantageous for enterprises as well.

I think that on this point we should, in a first step, remain highly pragmatic and pursue concrete objectives to extend as much as possible the sharing of information among the different producers of statistics. Our first priority will be to establish a common framework for the registration of multinational groups. This will link and complete the existing national registers and open new possibilities for possible future data collections at the group level.

What is still missing?

What I have presented so far are the actions which have already been launched. But clearly, even when they will have reached their objectives, important information on globalisation and related effects will still be missing as mentioned during these two days. Let me mention a few areas:

– as designed so far, our system will not make it possible to acquire an in depth knowledge on intra-firm trade, creation of added value inside groups and behaviours of the groups in general – here structural elements should come from group business registers;

– information on conditions or barriers to globalisation (institutional quality, administrative environment, corruption …) does not really exist so far; this would necessitate major methodological investments;

– the necessity of an assessment of the impact of globalisation on prices, employment, working conditions, distribution of income has been underlined several times. Much still has to be done in that area as well;

– the assessment of the impact of globalisation on traditional statistics and their quality has to be completed;

– a well organised approach to analyse and explain the data in co-operation with other partners (as practised in the US) and to assure their access including confidential information for research purposes is still lacking.

I will conclude by stressing once more the conflict between reduced resources of Official Statistics and growing needs of quantitative and timely information. The tendency to base more and more political decisions on sound, objective and, where possible, quantitative information is clear. And politicians do not have time. Priority setting is part of the answer. We should concentrate on urgent needs, grasp the low hanging fruit, so to say, and avoid dispersion of our efforts. The improvement and consolidation of FATS, FDI, and Business Registers are examples of this first type of approach. Secondly, we should try to tackle a maximum of issues with existing information. Harmonisation is not needed in all domains. Benchmarking of policies, for instance, can be done sometimes without fully harmonised data. This seminar has shown examples of similar results, common trends identified from different sets of data - for instance the better efficiency of foreign controlled enterprises. Finally, I will insist on the necessity to federate or share resources, and by doing so, to create economies of scale. Globalisation is clearly an issue where more co-ordination is required. Statisticians have a long tradition of co-operation; this should help them to face the statistical challenges of Globalisation with success.

22nd CEIES Seminar
"Statistics and economic globalisation"

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Summing Up

1. The seminar did not just deliver a good analysis of the whole issue, but also yielded a wealth of new, interesting, and also controversial, results, estimates and expectations for future solutions. The latter, in particular, was by no means self-evident given that issues relating to the scope, causes and consequences of globalisation have - once again - been the topic of intensive discussions for more than ten years. Given the breadth of the topic, however, it was also inevitable that there would be a certain in-built professional bias – if you wander through the house with a hammer after all, you tend only to see nails. Many of the problems of statistical coverage raised in connection with globalisation – foreign direct investment (FDI), migration, intellectual property, the information economy – are discussed independently of globalisation or under different headings (such as "acceleration" or "removal of borders").

   With regard to rapidly changing economic and social developments and problems (buzzword: *New Economy*), it was pointed out that of the *three* factors which make up globalisation – (1) falling transport costs for goods, services and information, (2) deregulation, particularly of the financial markets, and (3) liberalisation of product and factor markets - the latter two trends could quite easily be reversed, as the economic history of the first half of the 20th century had, unfortunately, shown, and not for the first time. In this context, it was important - and this was major contributory factor to the very well-defined focus of the seminar - that the CEIES and its subcommittees had already held intensive discussions on a number of facets at previous seminars: e.g. the statistical coverage of FDI (19.., Venice), the "new economy" (2002, Rome), the need for new short-term indicators (2001, Libourne), but also the recent seminar on recording innovation (2003, Athens) and, more generally, the field of services. This made it possible for this meeting to concentrate on interaction or key factors in economic globalisation.

2. On a more detailed level, there was unanimity on the significance of "globalisation" and its causes. Less attention was obviously given to the question of *causes*, as economic hypotheses are required to answer this question and the primary task of statistics is to create the conditions for developing these hypotheses. In this respect, statistics themselves are obviously also a component of the process of globalisation and removal of borders, which they attempt to portray; the same is also true of "acceleration". On the question of *effects*, there were differing estimations which, at the end of the day, also emphasised the need for further statistical information. All in all, therefore, it was clear above all else that there was still a considerable need for statistical clarification on "globalisation", without this always entailing new statistics, as this could be largely achieved through the appropriate processing and consistency of available (national) data.

3. Regrettably, one of the components of the phenomenon - *users'* needs - is still not specific enough. In the first instance, this is obviously a political issue – what is supposed to be regulated: "processes", "structures",

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"competition"? But thought should also be given to the expectations of private users – primarily companies and associations, but also other interested bodies - whose expectations were barely aired at the seminar. As regards countries to be given special consideration, there are enormous differences in how individual countries are actively and passively affected by globalisation. Presumably, the effects do not just run along a developed/underdeveloped or large country/small country axis. In this respect, the explanations offered on the coverage of globalisation and its effects in the *United States* and in *Sweden* were particularly revealing. These two countries could at present be seen as marking the opposite ends of the possible spectrum as regards not just motivation, effects and tradition, but also in terms of the resources dedicated to dealing with the problems.

It was established that whilst globalisation as a phenomenon has been observed for over 150 years, its appearance and effects are much changed with corresponding consequences for statistical coverage. Whereas the main manifestations of globalisation in the 19th century, for example, were an increase in goods exchanged, specific financial transactions and substantial migratory flows, the focus nowadays is on the process of the globalisation of business functions (production, sales, administration, research), and also the consequences of political integration which emanate from the liberalisation of trade, regional economic integration or currency unions. One of the consequences of the fact that almost all business functions are now to a certain extent "location-free" is that a country can also contain virtual enterprises which are able *per se* not just to evade national economic policy, but can also be lost to national statistical records. Unfortunately, the criticism was made that most of the evidence presented for this was merely anecdotal. Quantitative information on the phenomenon, going beyond references to developments in the growth rates for external trade, foreign direct investment or capital transactions, is rare. On the other hand, this can of course, with all good intentions, be seen to indicate the need for the better statistical coverage of globalisation. The criticism was also made - if more in passing - that the renewed interest in matters relating to globalisation was very much oriented towards current issues or the volume of flows, with much less attention being paid to existing "stocks" of, for example, FDI and its effects. It would therefore be interesting to find out whether, as FDI beds in, the behaviour of foreign and domestic enterprises converges in the areas of production, finance or sales; leaving aside the difficulties in following changes in the ownership of subsidiaries, which were highlighted by several contributions. Germany's experiences in this area would seem to support this hypothesis: there are barely any (remaining) major differences between the actions of *Adam Opel AG* (a subsidiary of *General Motors*) or *Ford AG* (a subsidiary of *Ford ....*) and domestic producers *on the domestic market*, especially since the latter have now also become global operators. Further support for this hypothesis might also be found in the changes in IBM's pricing system which were discussed in this context. It is possible that a distinction should be drawn here between transitory and permanent effects. A substantial amount of statistical effort is of course required to identify these, involving first and foremost economic hypotheses and concepts, which once again illustrates the huge level of interdependence between statistical demand and statistical supply.

4. It was established several times that the minimum general requirement was for the data to be internationally comparable, which of course presupposes the existence of national data in the first instance (this is by no means the case for all the aspects discussed here). There is also a risk involved in this demand that one settles on the lowest common denominator, which would then also in this case amount to some form of "balancing of resources", i.e. transfers between the national statistical units or by Eurostat. A number of contributions also mentioned *timeliness* as another important dimension, but here too it is quite possible – as already mentioned above, we have no precise information – that users' expectations are far greater than the statistical capabilities. As always in such cases, there are of course high hopes that the burden involved in making these improvements will be relatively low, i.e. that they are carried out at little financial cost to (official) statistics and respondents.

5. The outcome of all this is that considerable efforts are required on the part of official statistics to make operational use of, harmonise and standardise the individual pieces of the globalisation jigsaw. Further action and cooperation at international level would be very useful in this respect, and the OECD manual on globalisation statistics holds great promise of progress; in so saying, it is clear from the presentation of America's experiences that we should be wary of the temptation to seek perfection, firstly because it is important even to obtain information as quickly as possible, and secondly because significant modifications have always had to be made over the course of time. In order for a manual of this type to be widely accepted, cir-

culated and used, it is more important that it is practical rather than a perfectionist's attempt to implement theoretical concepts and constructs. Vertical cooperation between Eurostat and the NSIs, as well as cooperation among the NSIs, is of course indispensable in order to draw an accurate picture of globalisation and its development.

6. In this respect, attention should be paid for several reasons to the US and Swedish experiences described at the seminar. They do not just testify to the *gradual* process of approaching what is in fact the moving target of globalisation. How would we have "statistically" defined the problem fifteen years ago? What sort of changes in focus and interest in this phenomenon have been observed over the intervening period? From an official statistics standpoint, however, the experiences of the two countries appear to be at least as important in that the resources required can obviously be kept under control. The US experiences in particular prove this point as, by all appearances, they managed to tackle this problem with some 80 persons plus comparatively fewer external staff. It should, however, be said here that the US coverage was generally restricted to recording *bilateral* relations. All the participants did admittedly agree that elements of globalisation should be dealt with *multilaterally* and, for instance with FDI, they should look at both inflows and outflows. It was further emphasised here that the approach underlying both the US and Swedish efforts was, all in all, very pragmatic. It goes without saying that it needs to be prompt and user-oriented.

   Due to current and foreseeable financial constraints at Eurostat and the NSIs, there looks to be little leeway for the time being for any improvements to the current efforts. That would mean that we can only make very slow progress towards the desired data objectives. We can only hope that the world economy develops so dramatically that money is suddenly no longer any object for this policy.

7. Eurostat states in its position that it agrees with the premises advanced concerning supply and demand and is attempting to take these into account. It considers that institutional differences in the concepts of "abroad" (Enterprise surveys vs. "banking settlement"/Central banks) explain the fact that faster progress is not being made in improving the supply. The recently adopted reporting obligations for foreign activities of enterprises were, however, reduced in the EMU and are now being replaced by the *survey approach*. There is also now a whole series of registers, which will improve information on multinational companies and groups of companies in particular, including those in the field of services. International cooperation will play an important role – in this context attention will be paid to the expectations and suggestions presented at the seminars, particularly the many references to pragmatic solutions and specific objectives. The agenda is unlikely to be completed when it comes to (1) intra-firm trade and intra-group trade, (2) data on trade restrictions (...) and (3) illegal activities. Eurostat also raises the point about insufficient data on the effects of globalisation, there being a need of course for very much more than just statistical information.

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