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**OECD'S EFFORTS TO MEASURE THE ACTIVITIES OF MULTINATIONAL
ENTERPRISES**

Paper submitted by OECD²

ABSTRACT

The OECD, through the Statistical Working Party of the Committee on Business and Industry Environment, has been meeting in a special session to develop indicators of economic globalisation for a decade. Early work of this group focused on empirical analysis which quickly reached the limits of existing data, re-orienting the work towards data development that focused on the activities of multinational enterprises (AFA / FATS), complimenting already existing work on FDI Flows that adhere to a balance of payments approach. Difficulties in achieving international comparability in these data have led to a multi-year effort to develop methodological guidelines for a core set of reference indicators that depict economic globalisation. This manual is now reaching fruition. Rather than focus on one narrow aspect of economic globalisation (e.g. trade), this work seeks to integrate four different driving forces of economic globalisation – FDI, MNE activities, technology diffusion and trade – taking advantage of already existing international methodologies as well as developing work in the area of AFA / FATS. The near-term future work is focused on compiling these reference indicators that adhere to these guidelines, resolving some of the outstanding international comparability problems in this

¹ The Russian version of this paper can be found on the ECE Statistical Division's website. The Russian translation was provided by Statistics Canada.

² This paper has benefited from a number of contributions made by delegates to OECD's Statistical Working Party of the Committee on Business and Industry Environment operating in its special session on globalisation. Any opinions, recommendations or errors are those of the authors and should not be attributed to the delegates to this working party, the OECD or its governing Council.

area; using the data in empirical analysis to test the robustness of the indicators in exploring policy issues and extending the work to cover additional areas such as financial portfolio investments. The longer-term work is to fill in some of the missing pieces as regards MNEs: their investments abroad and the overall activity of the parent. This may require the development of new surveys that entail a high degree of international co-operation.

I. THE CONCEPT OF ECONOMIC GLOBALISATION

1. The term “globalisation” has been widely used to describe the increasing internationalisation of markets for goods and services, the financial system, competition, technology, corporations and industries. Globalisation refers above all to a dynamic and multidimensional process. Resources that used to be largely national are becoming internationally mobile, while national economies are growing increasingly interdependent.

2. 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 a more and more unified market. 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 linking to 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.

3. In a globalised 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, firms are organising themselves into transnational networks in response to 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. From this point of view, it is important to emphasise that despite the dominant position of the economic dimension of globalisation, other dimensions are also important, such as social, cultural, political or institutional. But across nearly all of these dimensions, multinational enterprises (MNEs) are perceived to be the key vector through which globalisation has occurred. For this reason, much of the work on globalisation undertaken by the OECD has focused on MNEs.

II. WHY DOES ECONOMIC GLOBALISATION MATTER?

4. When the OECD started working on economic globalisation there was little public debate on the subject. At the time, economists were focusing on the understanding the rapid growth of trade and FDI and the increasing role of multinationals. As trade in goods and services and investment income represents about a quarter of GDP for OECD countries (Figure 1) and where foreign affiliates account for a quarter or more of all manufacturing value added for 8 OECD

countries including France, the Netherlands, Sweden and the UK (Figure 2), it is clear that these issues are still important and will continue to draw attention in policy circles.

5. Globalisation has become increasingly politicised since work at the OECD began on this topic, both complicating and slowing our progress, but underscoring its importance. Demonstrations around the world and at the OECD reflect the concerns people have about globalisation. While globalisation was already a vague and unknown concept before these debates started, it has now become better known but people's understanding of what the term means has not gotten more precise as it has expanded to include a wide spectrum of phenomena: culture, language, employment, industrial restructuring, environment, etc. Statistics can play a very useful role in providing a framework for concrete definitions, measures that dispassionately show the extent of globalisation and provide a common reference point that better informs the public debate.

6. Globalisation also challenges and places new demands on statistics and indicators designed to help public authorities and firms to assess developments and formulate appropriate policies. The existing traditional economic statistics and indicators were developed largely in an era where most economic activity, with the exception of arms-length trade, occurred domestically. These measures need to be reinterpreted or readjusted in this new context to take into greater account influences from abroad, many of which are intra-firm and as such are more difficult to value.

7. For example, many analyses focusing on competitiveness see international trade as a key indicator of globalisation and market conquest. This focus does not adequately reflect the fact that other forms of globalisation such as direct investment can be complementary 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 influence 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 costs, 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*). These flows are significant. Of all exports coming from manufacturing affiliates under foreign control, between 35 and 60 percent are intra-firm. The ratio for imports for countries where this data is available is even higher, ranging from 50 to 80 percent (Figure 3). For selected bi-lateral trading relationships, the role of intra-firm trade plays a dominant role. Over 30 percent of the exports from the US to Argentina, Australia/New Zealand, Canada, Ireland, Hong Kong-China, Singapore, Switzerland and the UK are from one part of the company to another while for US imports from Canada nearly 30 percent are intra-firm, nearly 40 percent for Ireland, more than 50% for Hong Kong-China and more than 60 percent for Singapore (Figure 4). These figures suggest that the interpretation of trade surpluses or deficits between countries needs to reflect the role of intra-firm trade that may reflect business behaviour (e.g. international supply chains, transfer pricing) that is different than the traditional notion of arms-length trade.

8. Better accounting for the role of foreign affiliates helps to better understand the nature of the service sector that dominates all OECD Member countries in terms of value added or

employment. Given the nature of services, very little of their production is traded. Rather accessing foreign markets usually requires a foreign presence. Figure 5 shows the ratio of turnover from foreign affiliates controlled by compiling countries compared with total exports from those countries for both manufacturing and services. The ratio ranges from a factor of 1 in France, Belgium and Portugal to 2.7 for Germany, 3.1 in the US, 4.5 for Finland and 8.0 for Japan. In every case the ratio is much higher for services than it is for manufacturing.

9. The role of MNEs is also prominent 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 amount of manufacturing R&D expenditure under foreign control has grown by nearly 90 percent between 1993 and 1999 (current prices) with the US being the destination for nearly half of this investment (Figure 6), accounting for about 18 percent of all US manufacturing R&D in 1999 (Figure 7). For many countries, including Canada, Ireland, Hungary, the Netherlands, Spain, Sweden, and the UK, foreign affiliates account for 30 percent or more of manufacturing R&D.

10. These examples illustrate that indicators corresponding to the economic globalisation generally need to respond to the following questions:

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

III. OECD WORK ON MNES

11. Work by a Special Session on Globalisation of the Statistical Working Party of the Committee on Industry and Business Environment (CIBE), has sought to address this problem by preparing a document provisionally called “Manual on Economic Globalisation Indicators.” Given the horizontal nature of this work, the project has been pursued in close co-operation with other OECD working parties³ as well as a number of other international organisations⁴.

12. The manual has three primary objectives:

³ This co-operation involves, in particular, the Working Party on Financial Statistics, the Committee on International Investment and Multinational Enterprises (CIME), the experts on international trade in services statistics (Statistics Directorate), the Trade Committee, the OECD National Experts on Science and Technology Indicators (NESTI), the Science and Technology Policy Committee (CSTP) and the Working Group on Innovation and Technology Policy (TIP).

⁴ Eurostat, IMF, WTO, the World Bank, UNCTAD, ILO.

- Map out the realm of globalisation indicators of relevance to policy makers and propose a selection of them that would warrant a systematic compilation effort;
- Provide the methodological and statistical guidelines needed to construct the chosen indicators, incorporating as much international harmonisation as possible;
- Provide compilers with clear, practical, and consistent guidance on the collection of activities of MNE data on inward and (secondarily) outward investment.

A “core” set of indicators of economic globalisation

13. The Manual is not strictly a methodological manual but rather a manual that identifies a set of “core” reference indicators that collectively provide insight into the globalisation process. These indicators are then broken down into their constituent variables for which methodological recommendations are made, drawing from a variety of official manuals. By adopting this approach, the Manual integrates parts of other relevant manuals into one source⁵. These reference indicators provide a partial, but fairly concrete and coherent response to the need to assess the extent and intensity of globalisation by examining the role of MNEs in three areas that have played a driving role in the process of globalisation: international trade, foreign direct investment, activities of multinational enterprises and various forms of technological dissemination. Like all methodological manuals, however, this one needs to be dynamic rather than static, providing a set of guidelines and recommendations for defining new concepts as well as constructing indicators and compiling data. This is important inasmuch as indicators of economic globalisation need, more than other indicators, to be comparable at international level.

14. Some of the main questions related to the activity of multinational firms that the reference indicators seek to address are:

What is the FDI position (inward and outward) as a share of GDP?

What is the balance of inflows and outflows of direct investment for a given country?

What is the propensity to reinvest earnings (earnings / income) from direct investment?

What is the share of a foreign-controlled affiliate in economic output (e.g. GDP, value added, gross output) and employment in the compiling country?

What is the share of parent enterprise’s economic output, gross fixed capital formation, employment, and employee compensation in their own compiling country?

What is the share of foreign-controlled R&D in the overall R&D of the host country?

⁵ While the picture may be blurry due to the lack of appropriate measures that account for globalisation, nevertheless, thanks to a variety of existing standards a basis exists for improvement. Most of the conceptual framework with regard to statistics on international financial flows has largely been defined and elaborated already by other manuals developed by the international statistical community, including: IMF Balance of Payments Manual, 5th edition, 1993; OECD Benchmark Definition of Foreign Direct Investment, 3rd edition, 1995; IMF Balance of Payments Compilation Guide, 1995; IMF Balance of Payments Textbook, 1996.

What is the ratio of controlled affiliates abroad R&D to the overall R&D of the host country?

What is the role and importance of MNEs in trade?

Do MNEs mostly trade between affiliates?

How important are affiliates controlled abroad in delivering goods and services to international markets?

15. The Manual is expected to be published early in 2004, subject to approval by several committees and working parties directly involved in its preparation (see footnote 3). This document will identify limits to existing data in comparison to the standards adopted in the manual, and improve the description of the metadata. It should also be a useful tool for OECD Member countries and any other countries that are just beginning to collect these data, since they will be able to use internationally agreed definitions from the outset.

Future Work

16. The current mission of the group and broad orientation of future work of the Group is to improve the coverage and international comparability of its data collection and dissemination efforts in light of the recommendations made in the manual. Further work on the manual will benefit from comments made by other groups and feedback from users as they adopt the recommendations and seek to compile data for constructing the various indicators.

Data

17. Data is currently collected for 29 manufacturing industries and for 34 services sectors with 18 variables for manufacturing industries⁶, and five variables for services⁷. Where available the data are classed by country of origin and destination.

18. Short-term goals in this area include:

- Ensure better coverage and country participation (18 countries currently participate in the manufacturing industry surveys, and 19 in the services surveys).
- Extend the number of variables in the services sector.
- Improve coverage of the activity of parent companies.
- Improve comparability between data on affiliates and the national totals (problems with statistical units).
- Invite more countries to collect data on intra-firm trade.
- Obtain more data on the ultimate beneficiary owners (UBO).

19. A longer-term goal is to develop a consistent time series of this data.

⁶ The variables are the following: number of Enterprises/establishments, number of employees, production, turnover, value added, wages and salaries, R&D expenditure, number of researchers, gross fixed capital formation, total exports, total imports, intra-firm exports, intra-firm imports, gross operating surplus, technological payments, technological receipts, stock of FDI, capital under foreign influence.

⁷ Turnover (sales or production), value added, number of employees, exports and imports.

20. The dissemination of data on the activity of multinationals in Member countries are not widely known in government, academic circles or research centres. Currently, a large portion of the database is published every two years under the title, *Measuring Globalisation: the Role of Multinational Enterprises in OECD Economies, volume 1: Manufacturing Industries, volume 2: Services Sector*. An electronic version (available on CD-ROM or through SourceOECD) is regularly updated and published annually.

Work to resolve outstanding methodological problems

21. A number of methodological problems remain that hinder the international comparability of data at the national and international level for both foreign direct investment and the activity of multinational firms. Given the inherent international nature of this data, resolving these problems are a priority.

Foreign direct investment

22. 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 in 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 three important areas where the majority of countries do not yet follow the international standards.

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

23. 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.

24. 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.

25. 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.

Measurement of direct investment earnings

26. 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.

27. 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.

Valuation of assets and liabilities in FDI position data

28. 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. The SIMSDI results indicate that 21 OECD countries compile inward position data at book values.

Activity of multinational enterprises

29. 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.

Data harmonisation within a country

30. In this part we have identified 5 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.

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

31. 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. Establishments have a greater uniformity of sector activities, while enterprises have a legal autonomy that could encompass a significant number of establishments, where the principal activity of the enterprise 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.

32. 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.

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

33. 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 which can have a significant effect on 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 8).

iii) Identifying the ultimate beneficial owner (UBO)

34. The aim here is to be able to distinguish between the immediate 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. For example, in Figure 9 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 the Netherlands is the location of significant US holdings which fund most American investments (holding companies) throughout 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.

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

35. 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 10), 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.

36. The above figure shows some duplication, because some of the majority-owned foreign affiliates (3) can be regarded both as parents under foreign control and be included in the category of US parents (1). 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.

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

37. 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.

Analysis

38. A number of analytical studies have been pursued over the last ten years by this working party (Annex A provides an illustrative list). Besides providing insight to decision-makers about how the globalisation process functions, these analytical studies make it possible to test and verify the relevance and quality of data collected through the surveys, as well as the indicators constructed from them. A solid understanding of these data and their limits is essential to using and interpreting them correctly. This in turn helps to improve the methodology and adapt the content of the surveys to analytical needs.

39. In the framework of the *Manual*, a significant number of indicators of economic globalisation have been identified. The reference (core) indicators proposed in Chapter 1 of the *Manual* are now available for the majority of OECD countries and many of the supplemental indicators proposed in the thematic chapters are also available but have not been published and analysed together systematically. The Working Group intends to give a concrete vision of the *Manual's* proposals and recommendations through a publication of indicators early in 2004 that are available for most OECD countries covering the activity of multinational firms, the internationalisation of technology and some aspects of the globalisation of trade.

40. In the context of recent work at the OECD on the determinants of growth, a workshop on the contribution of MNEs in productivity growth will be held this autumn. The objectives of this workshop are threefold: 1) to contribute to our understanding of productivity growth and the relative role of foreign affiliates in a host country, parent companies controlled by residents of this country, and firms controlled by the residents of this country; 2) provide a forum where researchers who use MNE activity data can exchange best practices and 3) provide feedback to the compilers of MNE activity data.

IV. MISSING PIECES OF THE PUZZLE

41. The work of the OECD is part of a larger effort to provide a clearer picture of globalisation and as a result methods for developing national economic statistics that account for the influence of foreign firms. By design, the work to date has sought to consolidate and build on the data that currently exists for a critical mass of countries. This was done to both limit the burden on countries as well as to provide better data for analysis in a timely fashion. Nevertheless, a number of missing pieces exist that need to be addressed to fully understand the

implications of globalisation, but for many countries this will entail undertaking new compilations of existing statistical resources (e.g. business registers) or in some cases new surveys and more intensive co-operation internationally to ensure consistency and resolve double-counting problems. This heightened co-operation may require the development of a common survey so as to ensure compatibility and the active involvement of some international organisation to aggregate the data. At least 2 areas need to be addressed: 1) outward investments and 2) a global picture of the parent.

Outward Investment

42. For most compiling countries, it is easier to collect MNE activity data on inward investment and on parent firms that are domestically based (resident direct investors) than on affiliates located abroad, because the entities to be covered are located in the compiling country. Because the data collection authority of a compiling country typically does not extend beyond its national borders, data on affiliates abroad usually must be collected through surveys of resident direct investors, a potentially complicated and expensive process.

43. In some cases, countries are not able for legal reasons to provide data concerning the activity of their affiliates abroad. In these cases, 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.

44. Table 2 presents the number of employees of some foreign affiliates in the United States, revealing 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	1164.0
Japan (1)	835.9	531.4

1) 1997.

Source: OECD, FATS database.

45. In addition to the problem of asymmetry, the lack of a global picture of the MNE prevents the analysis of a number of interesting questions such as the relative impact of activity abroad by a domestically based MNE on activities currently based at home. Is there a relocation of activity? How does this affect trade patterns, employment, output, R&D etc. And what is the impact of “their multinationals’ affiliates” on the economic activity of other countries? Are “good jobs” being created abroad? Has some activity with important domestic spillovers or that has benefited from public funding, like R&D, been based abroad?

46. The measurement of foreign activity abroad as well as the activity of foreign affiliates in host countries allows the identification of truly domestic firms which provide an important reference point in analyses of the impact of globalization.

Parents

47. Related to measuring activities of affiliates located abroad is the issue of identifying the parent, since in most cases those firms with an affiliate abroad will be the parent. Nonetheless, most surveys of either inward or outward investment fail to ask information about the parent firm, even if it is a domestically based parent. This is unfortunate, since parent companies provide a good benchmark, allowing comparisons between domestic MNEs and foreign affiliates of MNEs. (Generally, in the host countries, the performance of foreign affiliates is better than the average of national firms. If the performance of foreign affiliates is compared to that of parent companies of national firms, most differences disappear since both categories of firms have similar profiles in terms of size, economies of scale and type of organisation in the world markets.) Information about the parent also allows a worldwide view of the enterprise and its global production -- one of the most relevant indicators for measuring the extent of globalisation of a particular sector or firm.

48. A partial resolution to the problem of identifying foreign controlled affiliates, controlled affiliates abroad and parents is to identify five target populations that allow a mutually exclusive classification of enterprises:

- Foreign controlled affiliates without controlled affiliates abroad;
- Foreign controlled affiliates with controlled affiliates abroad (or parent enterprise under Foreign control);
- MNE controlled by compiling countries with controlled affiliates abroad: parent companies;
- Enterprises controlled by compiling countries with minority (10-50%) foreign participation without controlled affiliates abroad;
- Enterprises controlled by compiling countries without foreign participation and without controlled affiliates abroad.

49. With this classification, foreign controlled affiliates based analysis would sum up the first two classes; Parents based analysis would aggregate classes 2 and 3; total MNE activities could be derived as the sum of classes 1, 2, 3 and 4 or as the residual between the total population and the non-MNE controlled by the compiling country.

50. Even if information on parents and affiliates abroad could be compiled, it would be limited due to the fact that foreign affiliates can be parents that control affiliates abroad (e.g.

Chrysler is the parent to affiliates in Canada even though Chrysler itself is a foreign affiliate of Daimler-Chrysler, a German firm). The result is a double counting since foreign controlled affiliated could be both in the “foreign controlled affiliate” population and the “parent” populations. The only way to resolve this would be to engage in a co-ordinated survey such as that undertaken by the IMF for portfolio investment that allows an exchange of data and consolidation of MNEs on a global basis. This would allow the formation of global corporate structures with information on their economic activity, but could raise important issues about confidentiality.

V. CONCLUSION

51. Globalisation is a vaguely defined and poorly understood phenomenon, but it is clear to many that it is economically important and as such it is affecting many facets of life, including statistics. To come to grips with its economic implications, the OECD has begun to define economic globalisation and has set forth a set of indicators and corresponding methodological material largely drawn from existing sources that attempt to measure what is an interdependent process that forces a crossing of statistical boundaries. This is only a very partial, initial foray into a vast area and does not pretend to provide answers to all questions but rather seeks to provide an initial foundation from which further work can be done. Given the nature of globalisation, its measurement will require as global a view as possible. This will entail new compilations of existing statistical sources and in some cases new surveys where in either case a high-degree of international comparability and co-operation will be needed.

ANNEX

PRINCIPAL ANALYTICAL STUDIES PREPARED BY THE GROUP

- “The Performance of Foreign Affiliates in OECD countries”, OECD publication, 1994.
- “Globalisation and Competitiveness: Relevant Indicators”, *STI Working Papers* 1996/5.
- “The Links between Foreign Direct Investment and International Trade”, DSTI/EAS/IND/WP9(95)8.
- “An Ownership-based disaggregation of the US current account”, DSTI/EAS/IND/WP9(95)7.
- “Intra-firm Trade: A Comparison between French and American Data”, DSTI/EAS/IND/WP9(95)10.
- “Aspects of the Globalisation of the Information Technology Industries”, DSTI/EAS/IND/WP9(96)4.
- “The Links between Foreign Direct Investment and Trade: Empirical Evidence for US and French industries”, DSTI/EAS/IND/WP9(96)5.
- “Internationalisation of R-D: Patterns and Trends”, OECD publication, 1998.
- “Impact of Japanese Overseas Business Activities on Japan’s Domestic Economy” (Japan-Min), DSTI/EAS/IND/SWP(97)17.
- “The Globalisation of Industry in OECD Countries”, *STI Working Papers* 1999/2.
- “Trade Competition and Foreign Direct Investment: A New Assessment”, DSTI/EAS/IND/SWP(98)9.
- “Links between Direct Investment and Trade: Short- and Long-Term Effects”, DSTI/EAS/IND/SWP(99)15.
- “The Effects of Globalisation on Employment in the Industrialised Countries: A Review of the Existing Literature”, DSTI/EAS/IND/SWP(2001)7.

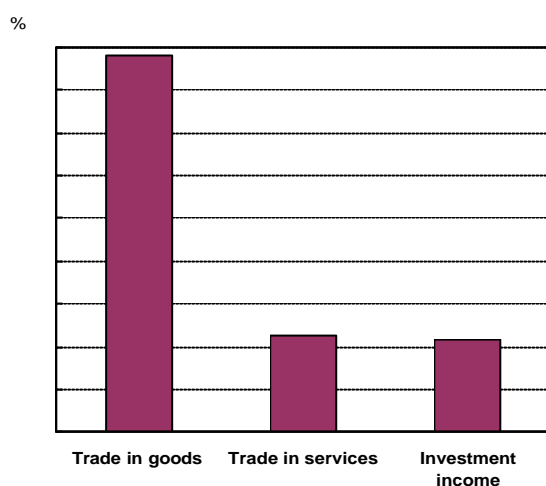
The different chapters of the Manual are classified in the methodological studies.

FIGURES

Figure1.

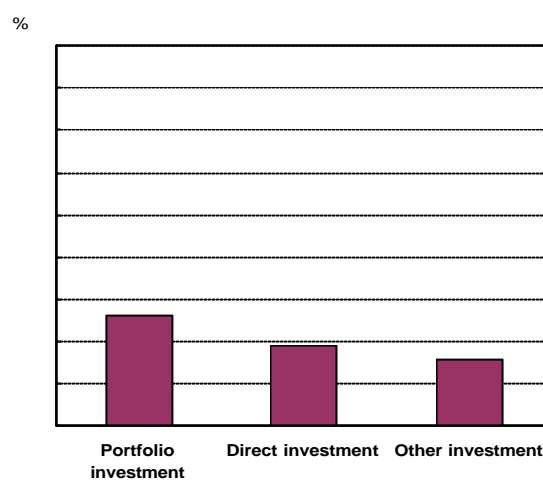
Main components of the current account as a percentage of GDP¹, OECD²

Gross basis, average 1999-2001



Main components of the financial account as a percentage of GDP³, OECD²

Net basis, average 1999-2001



1 Imports + exports divided by 2 and by GDP.

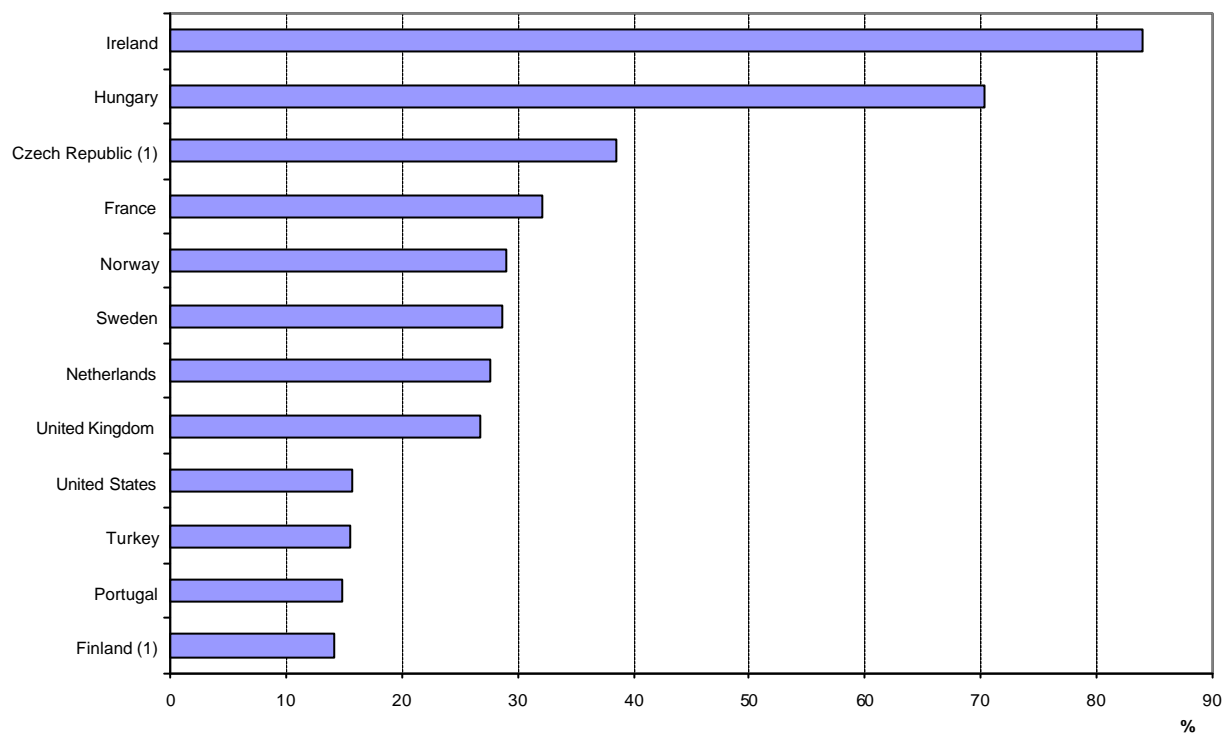
2. OECD excludes Iceland and the Slovak Republic in 2001.

3. Assets + liabilities (in absolute terms) divided by 2 and by GDP.

Source: IMF, Balance of Payments Statistics and OECD, Annual National Accounts database, January 2003.

Figure 2. Share of affiliates under foreign control in manufacturing value added

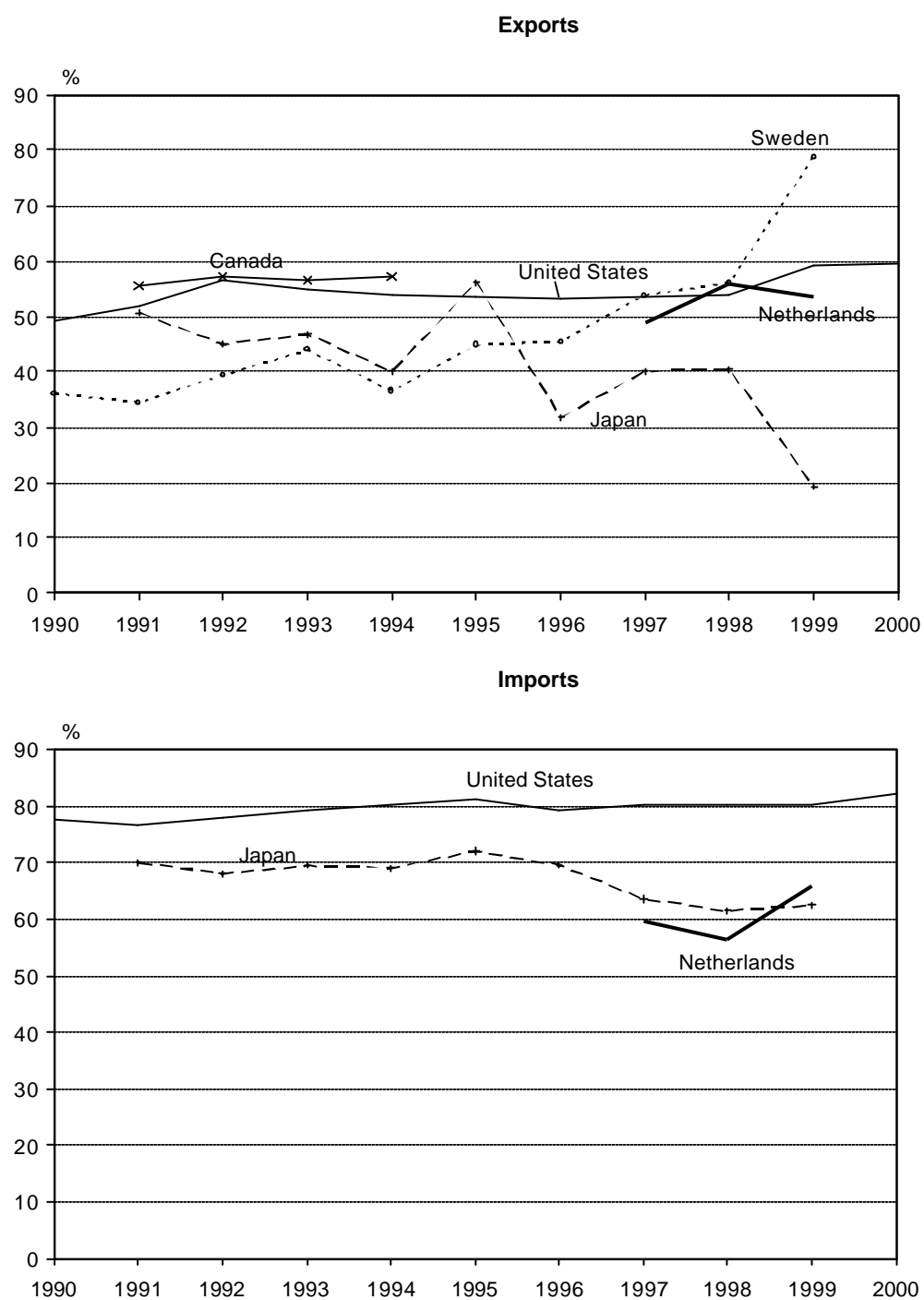
1999 or latest available year



1. 2000.

Source: OECD, AFA database, December 2002.

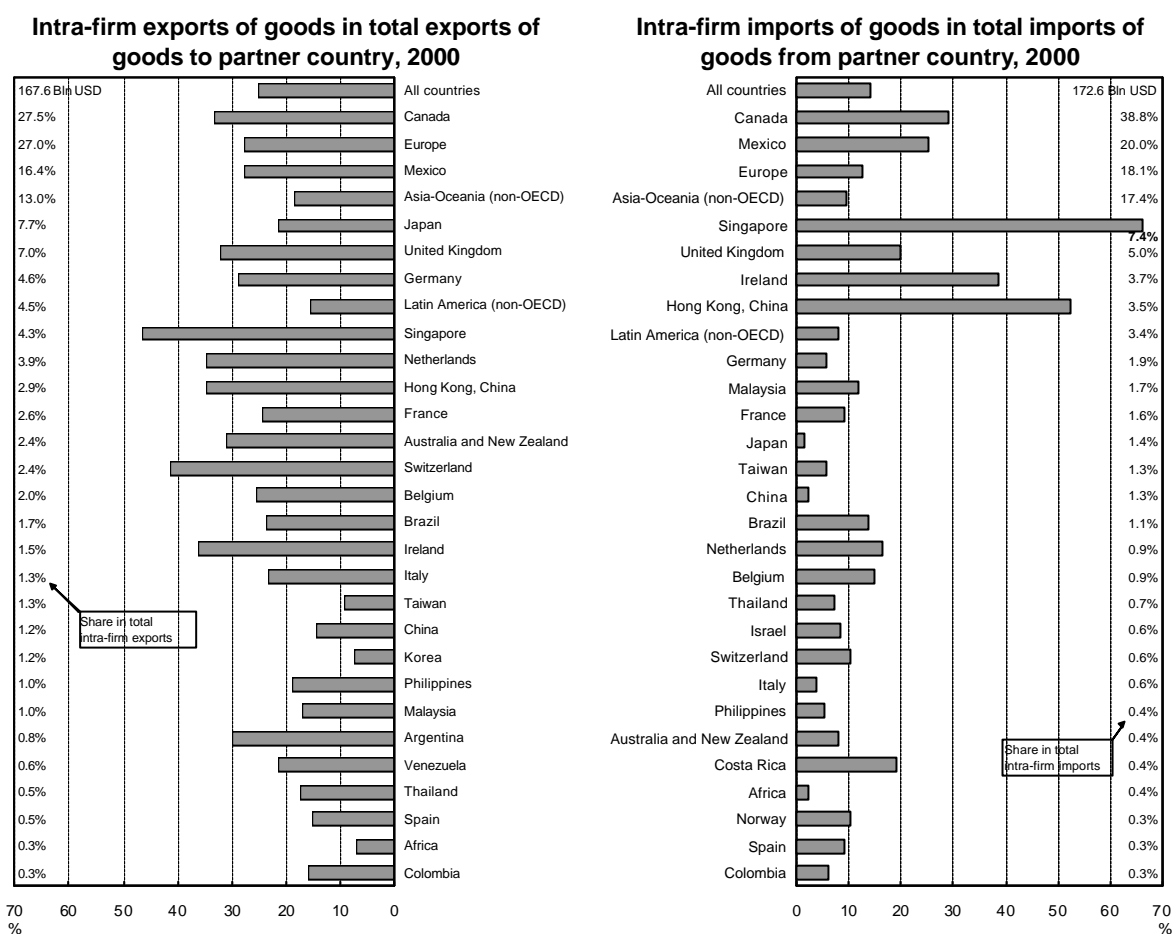
**Figure 3. Share of intra-firm trade in total trade of affiliates under foreign control
(inward investment)**



Note: The United States data also include minority controlled affiliates. For the United States and the Netherlands (from 1998), trade in goods only.

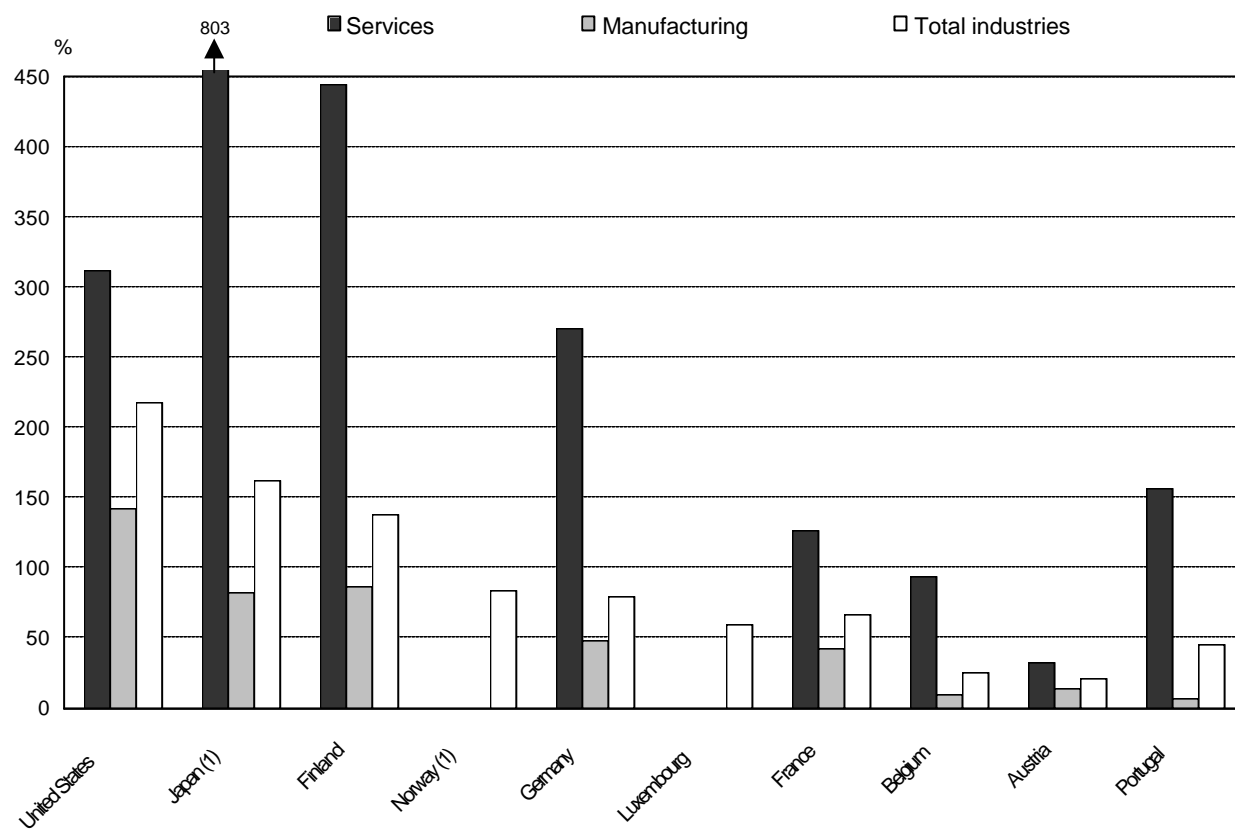
Source: OECD, AFA database, February 2003.

Figure 4. United States intra-firm trade in goods from outward investment



Source: OECD, AFA and ITS databases, February 2003.

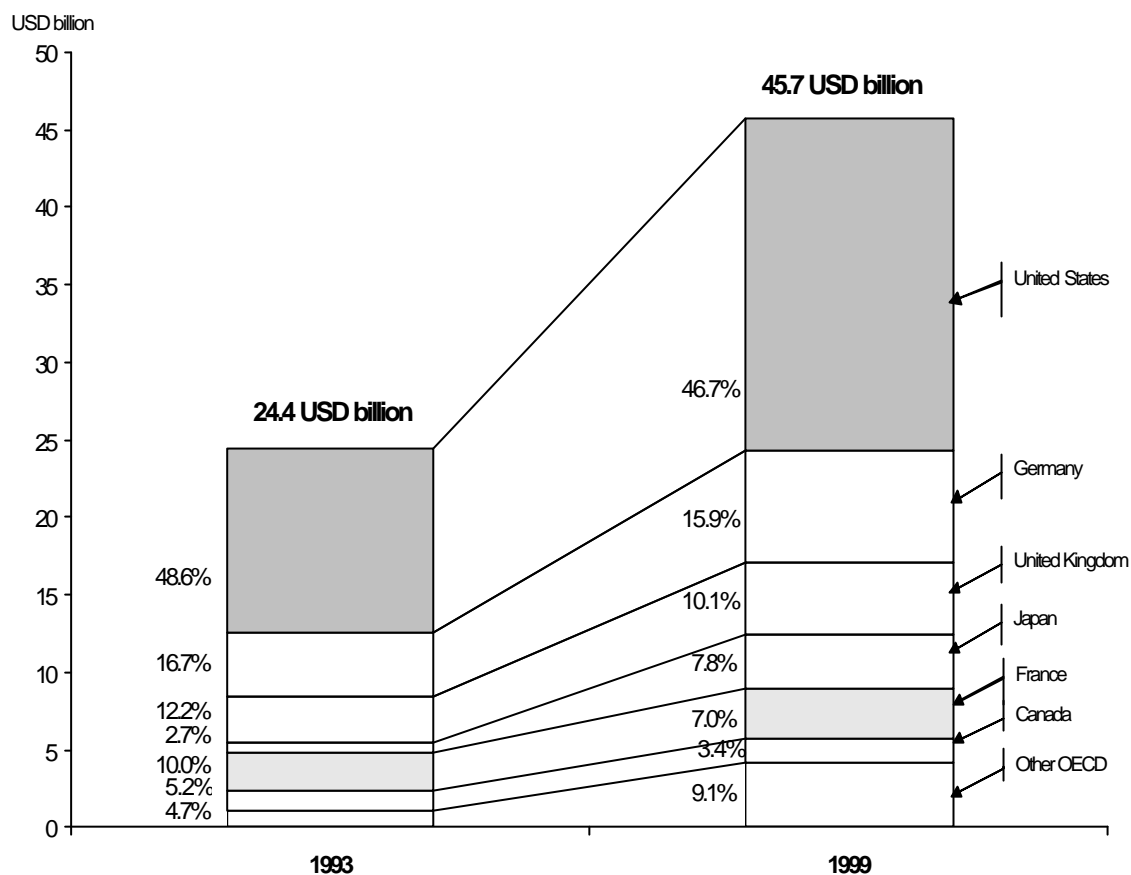
Figure 5. Turnover of affiliates controlled by compiling countries located abroad compared with national total exports, 1998



1. 1997.

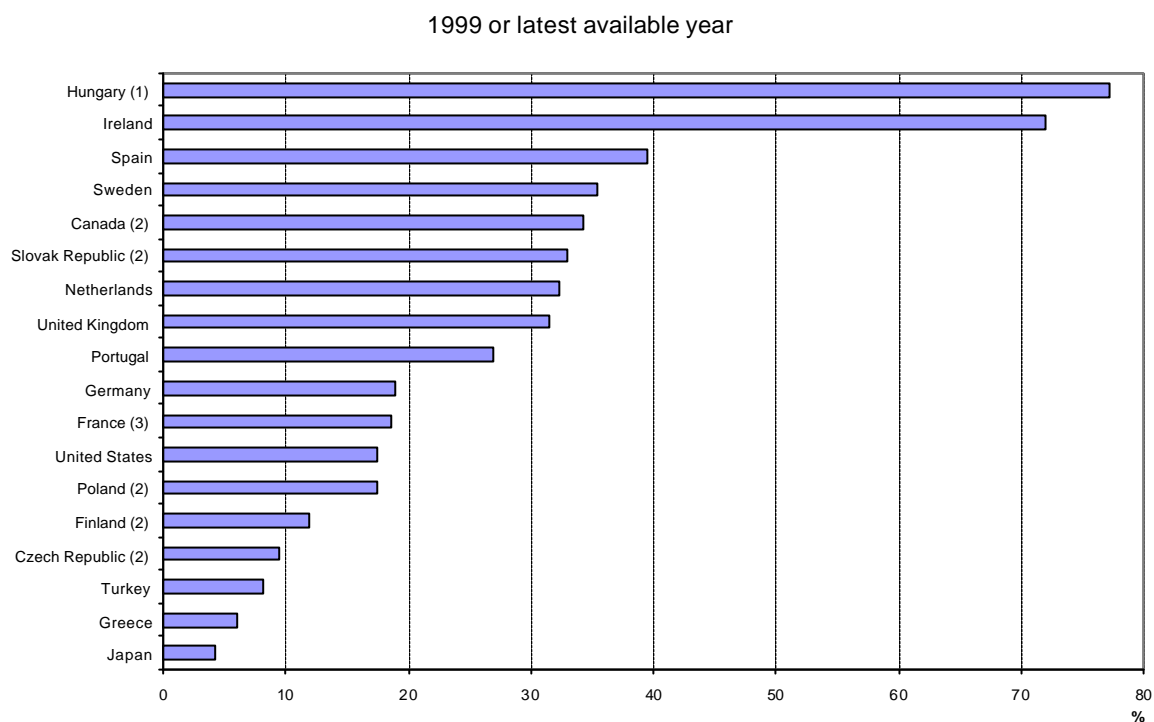
Source: OECD, FATS database, December 2002.

**Figure 6. Trends in the share of R&D expenditure under foreign control
in the manufacturing sector in selected OECD countries**



Source: OECD, AFA database, December 2002.

Figure 7. Share of affiliates under foreign control in manufacturing R&D



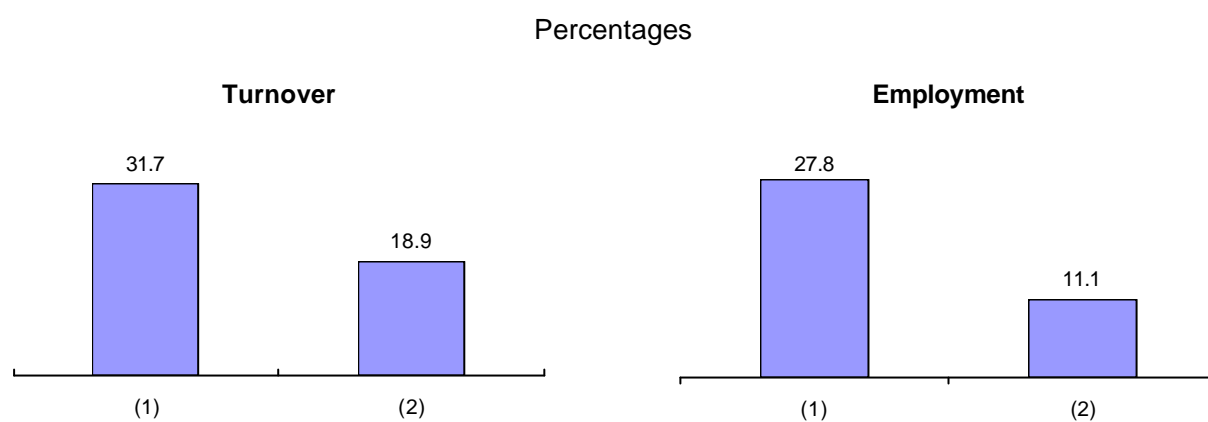
1. 1997.

2. 2000.

3. 1998.

Source: OECD, AFA database, December 2002.

Figure 8. France: Share of turnover and employment under foreign control in the total manufacturing sector, 1998

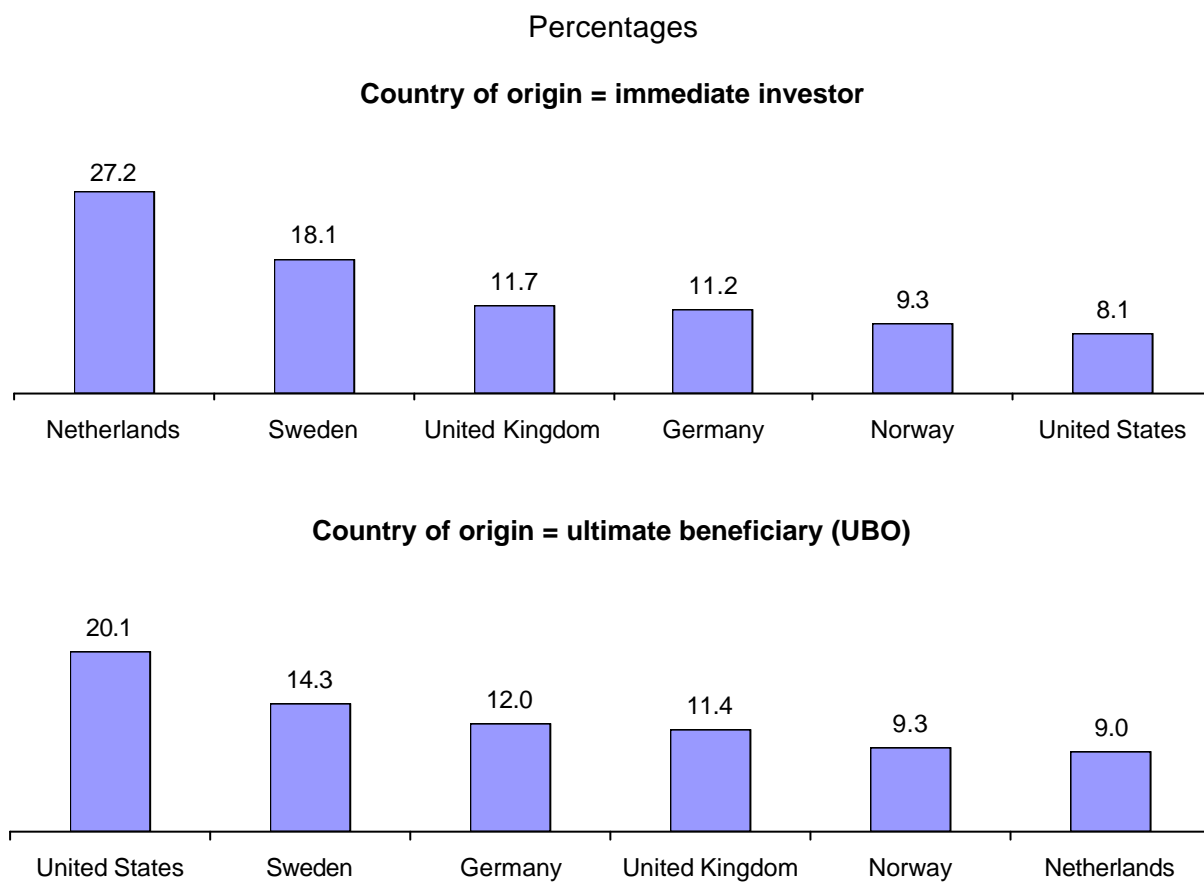


(1) including firms controlled in France by foreign affiliates.

(2) excluding firms controlled in France by foreign affiliates.

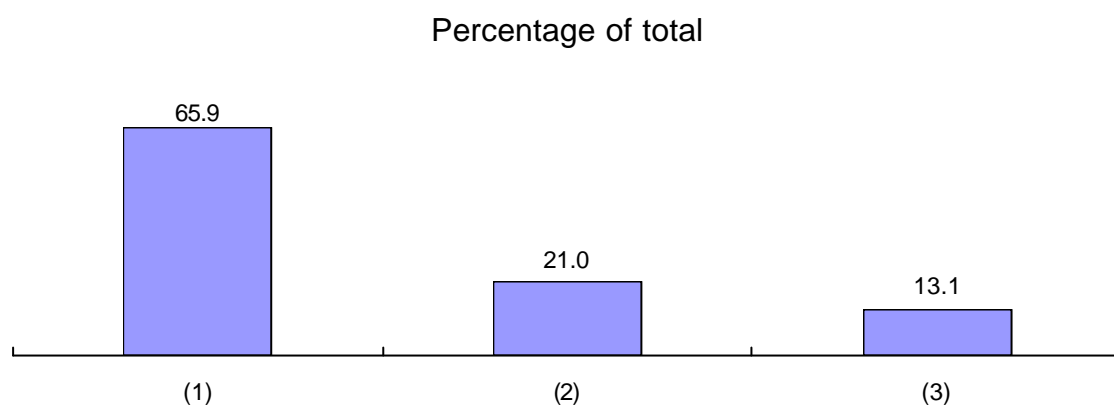
Source: OECD.

Figure 9. Turnover of affiliates under foreign control in Denmark in the services sector broken down by country of origin, 1996



Source : OECD and Eurostat.

**Figure 10. United States: Business 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.