93rd DGINS Conference
20–21 September 2007, Budapest, Hungary

DGINS 2007/93/I/5

The consistency of data for multi-national enterprises

Mr. Bill KEATING

Assistant Director General, Central Statistics Office, Ireland

The consistency of data for multi-national enterprises

Mr. Bill KEATING

Assistant Director General, Central Statistics Office, Ireland

This paper examines some of the problems that arise for compiles of national economic statistics as a result of the way in which multi-national enterprises (MNCs) are organised. Some of the specific measurement problems are outlined and the approach used in Ireland to deal with these issues is explained. This relies, in particular, on ensuring the consistency of data from all statistical and fiscal sources.

1. Introduction

In general terms, economic globalisation is a term that is applied to a range of phenomena centered around level. One of the consequences is that national boundaries have the changes in technology that enable businesses to conduct all aspects of their activities at an international become of secondary importance to enterprises operating internationally. This then presents major challenges to national statistics compilers. It is especially significant for the national accounts, the aim of which is to describe a national economy within a consistent and coherent framework and, of course, for Balance of Payments (BOP) and External Trade statistics.

The aim of this paper is to examine some of the problems that arise for compilers of national economic statistics as a result of the way in which multi-national enterprises (MNCs) are organised and to suggest some possible solutions based on Ireland's experience. A further set of challenges for statisticians that is not addressed in this paper includes matters such as the need for national and international statistics to look more deeply at the impact of globalisation on an economy.

2. Ireland

It is generally accepted that Ireland is an example of a country that is very much at the forefront with regard to economic globalisation. This can be illustrated by a small number of examples. The overall influence of international trade on the Irish economy is shown in Table 1. In 2006, total exports and imports taken together amounted to 149 per cent of GDP.

Table 1: Ireland – International Trade (2006)

	Exports		Imports	
	€ billion	% GDP	€ billion	% GDP
Goods	83.3	47.7	57.9	33.1
Services	56.4	32.2	63.0	36.0
Total	139.7	79.9	120.9	69.1

Even more tellingly, from the perspective of dealing with the influence of MNCs, the ten foreign direct investment enterprises with the greatest value of exports accounted for 31.6 % of all exports of goods and services in 2006. These ten enterprises also accounted for 22.6 % of all imports of goods and services in that year.

The extent of foreign ownership in the manufacturing sector is also striking as can be seen from Table 2 which is based on data from the Structural Business Survey.

Table 2: Irish and Foreign Manufacturing Firms 2004

Nationality of Ownership	Number of Local Units	Gross Output € billion	Exports € billion
Irish	4137	18.5	6.2
Foreign	642	79.4	74.6
Total	4779	97.9	80.8

This clearly shows the open nature of Irish manufacturing. Out of a total gross output of € 97.9 billion in 2004, €80.8bn. (82.5 per cent) was exported. In the case of foreign owned firms, some 94 per cent was exported.

The scale and nature of Ireland's stock of foreign assets and liabilities also demonstrates the openness of the Irish economy as can be seen from Table 3. The total of foreign assets and liabilities stood at € 3240.3bn. at end 2005, some 20 times GDP.

The role of the International Financial Services Centre (IFSC) is particularly important in this regard. In 2005, IFSC entities accounted for almost 80% of the total foreign financial assets and 75% of total foreign liabilities.

Table 3: Ireland's International Balance Sheet, end 2005

	Foreign Assets € billion	Foreign Liabilities € billion	Net IIP € billion
FDI	87.2	140.9	-53.7
Portfolio	999.6	947.9	51.7
Other Investment	510.4	553.6	-43.2
Reserves	0.7	n.a.	0.7
Total	1597.9	1642.4	-44.5

The Irish CSO, therefore, has developed considerable experience of the problems that can be encountered in integrating the activities of MNCs in its national statistics.

3. Measurement Issues

3.1 General

In the context of Balance of Payments and National Accounts compilation, there are a number of issues that create particular problems in ensuring the consistency of data received from MNCs. In general terms, it is becoming more difficult to monitor and classify flows of goods, services and capital across national boundaries. This arises primarily because the national boundaries are of limited importance to MNCs and the valuation of flows between their branches in different countries is not always readily obtainable in an individual country. The fact that all administration for an MNC may be carried out in one country can mean that national respondents do not always have the required detail and indeed that the central unit does not attribute all costs to individual branches. Frequent changes in the structure of these enterprises adds to the problem and there is also some evidence that MNCs are very sensitive about the confidentiality of their data and about attempts to reconcile their reporting to different statistical agencies. This then creates difficulties in apportioning value added, the cornerstone of the GDP calculation, to a particular country. An added difficulty is that revisions to data can come at a late stage as enterprises reassess the valuations attributed to different parts of their operations; changes in accounting practices can have similar effects.

3.2 Specific Issues

The major issues that can cause inconsistency in reported data are reasonably well known at this stage and are just listed here with a brief description. Some of the principal situations are:

Goods for processing

In this case, goods do not change ownership as they cross a national border for further processing and are later returned to the owner. The important valuation issue is to ensure the fee for services, as recorded in the BOP, is approximately equal to the net difference in the values recorded for export and re-import.

Toll Manufacturing

This is similar to processing. An enterprise in country A sends goods to country B for further processing without changing ownership. The goods are then often delivered from B to a third country C having been sold by the enterprise in A; the latter includes the final value in its turnover. However, the exports from A are valued initially only at standard cost price (as the final selling price may not be known at the time of export from A to B) leading to a difference between turnover and export values. The trade statistics export value must be replaced in BOP with the final sales value when the change of ownership is known.

Triangular Trade

An enterprise in country A sells goods to a distributor in B that then sells on to a customer in C. However, the goods are shipped directly from A to C and the accompanying invoices show the final price charged to the customer. The company in B should record part of that fee as a service export to country C while country A must ensure that the export value accords with the turnover recorded. This should be the sale price to B.

Consignment Goods

Goods are exported to be stored and finished as required. In practice, these are recorded as merchandise exports when they cross the border but should only be recorded for BOP purposes when ownership changes.

Commissionaire Trading

Enterprises can sell to a foreign distribution affiliate that then sells to a final customer. Alternatively, enterprises may sell directly to the final customer who has been identified by the local distribution company; the latter receives a sales commission fee. A change from the former to the latter type of arrangement causes overnight increases in exports that should be balanced by service imports (the service fees). This is an example of a change in operating structure that affects national statistics even though there has been no real change in the national operation.

Rebates

Exports are valued correctly but rebates may be given at a later stage. This results in the value of turnover being less than the value of exports. This is mainly a timing issue that can distort quarterly aggregates.

4. Consistency Unit

It was evident in the mid-1990s that these issues were causing major problems in compiling Ireland's macro economic statistics. One particularly important step to deal with this issue was the establishment of a Consistency Unit.

This unit was set up at that time to examine the consistency of the various statistical returns made by major enterprises. There are some important features in the Irish statistical system that facilitate the consistency analysis:

- The CSO publishes the merchandise trade and BOP data (based on statistical surveys) which means that, when adjustments are required, they can be applied at the most appropriate source;

- The CSO's unique access to company accounting records held by the Revenue Commissioners (tax authorities) allows a detailed comparison of the operating surplus calculations for large companies with their profits data from the BOP source. This allows for a reconciliation of operating surplus and primary income outflows at a very detailed level, so that GDP and GNI calculations for 'consistency' companies can be balanced.

The Consistency Unit brings together a wide range of data for the top individual exporters, including monthly turnovers, annual turnovers, purchases, stocks, imports, exports, value added, service imports and exports and Balance of Payments profit variables. A limited number of variables are compared each quarter but the more detailed examinations are only possible on an annual basis since the detailed Structural Business Survey results and tax accounts for each company are only available annually. This work is greatly facilitated by the use of the Intrastat system that provides access to the imports and exports of individual enterprises. Provision for continued access to such information must be a feature of any new single flow system. If compilers are going to rely on exports as recorded by other countries as the basis for their statistics on imports, then they must have information on the transactions of individual enterprises. Otherwise, the basis for this type of analysis will not exist.

The majority of the large companies export all of their outputs and also import most of their raw materials. It is therefore possible to build up a coherent picture of each company, comparing turnover with exports, purchases with imports, research and development costs, royalties and other large service payments with Balance of Payments service imports. Ultimately value added from statistical sources can be compared with operating surplus based on tax returns.

Where the data appear to be inconsistent, the company is contacted and very often visited by CSO staff to identify reasons for possible problems. These visits usually take the form of lengthy and detailed discussions with senior financial personnel covering all aspects of the company from legal structure through to complex trading arrangements and pricing policy, including issues concerned with inter-affiliate activity. There are usually several follow-on contacts to establish precisely what is being recorded in the various statistical returns.

Varying reasons for inconsistencies in the data have been found, ranging from simple errors or timing effects to misinterpretation of statistical returns or, in the most detailed cases, to some of the complex trading arrangements mentioned earlier that result in the data being recorded differently on different returns. Each issue is dealt with on a case by case basis and adjustments made accordingly to either the trade statistics or to the other statistical returns.

5. Overall Objective

The overall objective in all cases is to compile the national statistics using the full range of data returned by the enterprise. This is examined closely to ensure consistency of reporting across both statistical surveys and administrative sources. It is considered important that we do not deviate from observed prices and values as recorded in the companies' own accounts except for clear, well defined reasons. This is the best means of ensuring consistency of data. It is also the best means of ensuring international comparability of data.

This approach also means that Ireland places special reliance on its GNI estimate as the best measure for international comparability. Any problems that may exist with the GDP estimate because of the valuation of output are offset by the corresponding income flow for foreign direct investment enterprises.

Other approaches to dealing with the problems outlined here are also being developed. Statistics Netherlands, for example, has set up a major project to devise tailor-made solutions at individual company level. These solutions rely heavily on discussions with the companies involved and on the application of standard margins or employment shares. In the case of the Netherlands, the cases are likely to involve both branches set up elsewhere by Dutch multinationals and branches in the Netherlands of foreign companies; in Ireland, the latter are the predominant issue CSO has to deal with.

This is a laudable effort that will also ensure consistency in the accounts provided the solution is applied across all relevant indicators. However, it could be inappropriate in certain situations (e.g., the use of employment shares may not recognise differences in productivity levels) and may add to international asymmetries. These could only be overcome by international agreement on the recording of the transactions involved. This will require provision for exchanges of data. The project itself is also likely to need significant resources for implementation.

In summary, Ireland has adopted an approach to statistics from multi national companies aimed at ensuring the consistency of all reported data. It also tries, as far as possible, to remain consistent with the statistical and fiscal returns from major enterprises and to minimise international asymmetries. However, it is clear that this is by no means the only feasible solution and much work remains to be done at an international level on agreed solutions.