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**GLOBALISATION AND OFFICIAL STATISTICS**

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**ABSTRACT**

1. Globalisation is the shrinking of distance and the reduction of trade boundaries in the world economy. Companies operate across national boundaries and consumers purchase from suppliers half-way across the world. Sometimes the purchaser will have no clear idea of the supplying country if the product is supplied via the internet. Statistical measurement systems are national in arrangement. Their purpose is to serve national governments, by measuring the national economy and interactions between it and the rest of the world. Economic unions of countries such as the European Union and the Eurozone at present compile statistical pictures of their economies by aggregating member state pictures. This means that seeing the whole picture through these fragmented measurement systems can be difficult. This paper sets out some of the issues involved, and describes some recent initiatives of national statistical offices to work together to establish the extent and nature of the statistical issues. The paper concludes by making some observations on the implications for future collection and recording systems.

## INTRODUCTION

### Globalisation - a set of related effects

1. 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 intellectual property 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.

2. 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).

3. 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.

4. 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.

5. 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.

6. 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).

8. 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).

9. 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.

10. 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 has been explored by economists (Feenstra 1998).

11. 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.

12. 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.

13. 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)

### **Why do we need to measure globalisation?**

14. 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.

15. 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.

16. The switch from 'horizontal' to 'vertical' structures for globalisation by multinationals also has welfare implications which policy-makers 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.

17. 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 policy-makers to understand competitiveness in a global context.

### **Does globalisation change what we need to measure, and the way we measure it?**

18. 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.

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

- (a) 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

- (b) measurement issues associated with national units in multinationals;
- (c) the role of intellectual property, especially those which can be transferred within and between firms, or sold to consumers electronically without requiring any physical transfer;
- (d) financial flows of capital, or payments for goods and services by multinationals.

20. 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.

## **I. THE 'VERTICAL DISINTEGRATION' OF VALUE CHAINS**

### **Evidence that change is underway**

21. 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.

22. 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 Research & Development and marketing communication (Clayton 1999).

23. 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.

24. 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.

25. 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 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. This assumption also feeds through to short-term indicators on output, where a constant ratio between gross output and value added is assumed. If sustained changes are under way affecting globalising sectors, the methodology of measurement may need to change.

26. 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.

27. 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 is 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.

28. 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.

29. 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.

30. However, current 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.

31. Work is underway in ONS to improve compliance with the official guidance. However, it is 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 Foreign Direct Investment / 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.

32. If policy-makers 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.

## **II. NATIONAL UNITS IN MULTINATIONAL ENTERPRISES**

### **Looking at the elephant**

33. 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.

34. 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.

35. 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.

36. 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.

37. There have been recent initiatives to examine the statistical recording of the activities of Multi National Enterprises (MNEs) – one in particular was initiated by Statistics Canada and endorsed by the Bureau of European Statisticians (CES). France, Italy, the Netherlands and the United Kingdom also took part. The project was part of the work programme of the Roundtable on Business Survey Frames. The objective was to identify areas where more standardised and coordinated approaches in measuring the activities of MNEs could contribute to improved national and international economic statistics. In order to achieve this objective, a first stage was to gain insights into the forms of organisation and ownership and control of multinational enterprises. The aim was to assess the view selected global enterprises have of themselves in each of the participating countries compared with the view gathered by each national statistical agency. Although valuable knowledge was gained in this project, companies that at first indicated their willingness to collaborate, often subsequently did not cooperate as fully as was hoped, and it may be that issues of company confidentiality have prevented a more positive outcome.



## Understanding the parts of the elephant

38. R&D is just one example of 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.

39. 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?

40. 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.

41. 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.

42. 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.

43. 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.

### **III. ELECTRONIC TRADE IN INTELLECTUAL PROPERTY IN A BORDERLESS WORLD**

44. 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.

#### **Classification issues**

45. 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.

46. 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.

47. 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.

48. 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.

49. 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.

### **Current international position**

50. 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.

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

### **Coverage issues**

52. 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.

53. 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;

54. 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.

### **Implications for UK data collections**

55. 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.

56. 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.

57. 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.

## **IV. BALANCE OF PAYMENTS AND INTERNATIONAL INVESTMENT ISSUES**

58. 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 is a helpful step.

### **International work**

59. 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.

60. 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.

61. 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.

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

- (i) 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.
- (ii) 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.
- (iii) 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.
- (iv) 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.
- (v) For reporting on services, the degree of detail asked under the EBOPS (Extended Balance of Payments Services) classification was reported as unduly burdensome and

not consistent with the level of detail held by the companies.

- (vi) 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.
- (vii) 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.

### **Some provisional comments**

63. 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.

64. 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 to the CMFB.

### **CONCLUDING REMARKS**

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

- 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.

66. First steps in this process are under way, but most National Statistics Offices still have a long way to go. The Bureau of Economic Analysis of the United States has put significant resources into

the topic, and has useful statistics on the business of foreign affiliates to show for its investment.

67. 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.

### **The future**

68. Presenting a picture of business in the world economy should be tackled from a global perspective. This implies global collection systems, and business structures presented irrespective of national boundaries. It implies that the flow of capital services from assets, both tangible and intangible must be measured and shown in business production accounts. This will help explain the relationships of companies across national boundaries, and better determine where value added is created by business processes.

69. The key to a better picture of the world economy is to capture the flows between parent companies and foreign affiliates. This can only be achieved through an expanded collection of foreign direct investment and associated financing arrangements. This must be carried out in a manner which avoids the asymmetries generated at present with respect to trade in goods and services between countries.

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