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Globalisation : A Challenge for National Statistics

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1. Introduction

1. In relation to globalisation or internationalisation, statistics are confronted with a number of challenges. These challenges can be grouped into four broad categories:

- The measurement of the phenomenon itself. How can we measure (the further development of) globalisation and internationalisation? Which indicators capture the further growth of the international interdependencies of national economies?
- The description of the behaviour of multinational enterprises (MNEs). The driving forces behind globalisation are of course the MNEs. Question is how and why MNEs act and behave as they do? What are the reasons behind the division of activities and the subsequent allocation of these activities to countries? What are the comparative advantages of national economies?
- The impact of globalisation on traditional indicators. Globalisation can have a significant impact on all aspects of societal progress: economically, socially as well as environmentally. Especially in the domains of significant impact, it is important to have available more (detailed) information to support further analysis and research.
- The impact of globalisation on the compilation of traditional indicators. The increasing share of enterprises running affairs on an international scale poses specific problems when compiling national statistics. In addition, there are other measurement issues related to the further growth of international flows. These problem need to be addressed.

2. This paper will mainly discuss the latter issue. More specifically, attention is paid to problems related to the compilation of national accounts data. Section 2 provides a more detailed description of the main problems related to the measurement of national statistics in a globalised world. Here, attention is also paid to the work of the UNECE/OECD/Eurostat Working Group on the Impact of Globalisation on National Accounts (WGGNA). Subsequently, section 3 deals with what I consider the main conceptual issue in relation to globalisation and internationalisation: the allocation of output and value added of MNEs to national territories. Section 4 finalises this paper with a summary and some provisional conclusions.

¹ This paper heavily draws on the work of many others. Especially the input of the Leadership Subgroup of the UNECE/OECD/Eurostat Working Group on the Impact of Globalisation on National Accounts (WGGNA) and the input of several people from Statistics Netherlands should be mentioned here. Parts of this paper have been copied from documents and papers of the relevant people without adequately quoting their contributions.

2. Issues in relation to globalisation and the measurement of the national economy

3. Globalisation or internationalisation can be described as the increasing “easiness” of economic transactions occurring across national boundaries. Globalisation is not a phenomenon of the last couple of decades. The phenomenon as such has been there for many centuries. Several factors such as the growing speed and efficiency of transport and the lowering of trade barriers have contributed to its growth since a long time. In the last couple of decades, the easiness of international communication has given a new momentum to the growth of globalisation. Nowadays, computers, internet and mobile telephones facilitate the possibilities to operate business abroad, facilitate the sharing of intellectual property worldwide. Furthermore, the collapse of the communist world and the entrance of new member states into the European Union have created major changes predominantly within Europe. In this section, some of the obvious phenomena of globalisation will be shortly introduced.

4. The increase of globalisation and internationalisation has made it much more difficult to measure economic transactions from a national viewpoint. The first and most obvious issue is related to the measurement of the (national) activities of multinational enterprises (MNEs). Here, one can observe an increasing specialisation of supply chains both within vertically integrated MNEs and across companies without ownership links. National boundaries are of limited importance for the relevant companies. Based on comparative advantages, production facilities, R&D-units, financing, logistics, marketing and sales may be centralised in a particular country. In other cases, MNEs act as global manufacturers subcontracting their production related processes and only taking full responsibility for product development, marketing and sales worldwide. Doing so, intra-company transactions are valued at transfer prices, often with the sole purpose of minimising the worldwide tax burden. The resulting allocation of operating surplus and profits to countries directly affects the allocation of value added as reported by companies. As a consequence, a proper measurement of GDP is becoming more and more complicated.

5. In relation to transfer pricing, one may have some idea of the “true market prices” of transactions in goods, although this valuation gets more difficult as well because of the different stages of completion of the relevant goods when crossing the national borders. In the case of services, however, it may be nearly impossible to get a good grip on the use and the concomitant valuation of these services. Take, for example, the production for own use, or alternatively the purchases, of software, R&D and other intellectual property. It may be relatively easy to allocate the legal ownership to the parent company. However, when it comes to the economic ownership or the use of the underlying capital services by the affiliates of the parent company, it may be nearly impossible to determine the exact location. This is all the more true, because practice shows that companies often do not record any intra-company transactions in these services at all. At the minimum, it shows that companies have very different ways of recording the financing of e.g. R&D, as became apparent from a discussion by Statistics Netherlands with five major

multinationals with their headquarters in the Netherlands². And to be honest, apart from reasons related to avoidance of taxes, one can imagine that the exact allocation of the use of these services is an irrelevant question for a company operating globally.

6. A related issue which is particularly relevant for some countries like, within the European Union, the Netherlands, Ireland and Luxembourg is the existence of Special Purpose Entities (SPEs). In the Netherlands, we distinguish three types of SPEs. The first and most important category consists of financing and holding companies that act as a financing chain on behalf of the non-resident parent company. This type of SPE is characterized by large cross-border financial transactions. The second category of SPEs consists of royalty and licence companies. These companies collect income on royalties and (sub)licences on behalf of their parent company. These flows are recorded as exports of services. The revenues are transmitted to the parent company in the form of exports of royalty and licence fees or in the form of dividends. The third group of SPEs are factoring corporations that conduct the invoice of sales of the worldwide company on behalf of the parent company. These SPEs do not relate to the domestic economy, but only conduct the settlement of international payments for the sales of the worldwide company. Most SPEs are financing vehicles for non-resident mother-companies. They own foreign daughter companies and facilitate financial flows for the worldwide company. Usually, they do not have any real substantial economic relations with the domestic economy and almost entirely engage in cross-border transactions. These entities of which the existence for the major part can be explained by reasons of tax avoidance raise several conceptual issues like what criteria to use to determine the residency of the relevant unit, how to record the relevant monetary flows (services, capital formation, income or financial transactions), etc. It is important to realise that we are not dealing with a minor issue here. In the Netherlands, for example, the total balance sheet value of SPEs accounts for two times GDP. Related incoming and outgoing income flows (including reinvested earnings) equal 10% of GDP³.

7. Other important issues which may be performed within MNEs or at arm's length between different non-related companies are goods for processing, merchanting including triangular trade, transit trade and re-exports. Apart from goods for processing, these issues do not raise specific conceptual questions. The main problem concerns the collection of adequate source data and the proper measurement of the transactions involved. In the case of processing, the recording has been changed in the update of the 1993 SNA. In the updated SNA, processing has to be recorded according to the principle of change in ownership. In general, this means that goods sent abroad for processing are to be recorded on a "net basis", as an import of processing services. The consequence of this recording may be that the input structure of the production of the relevant goods changes dramatically, from an input of materials to an input of services. In some extreme cases, this may result in a production of, for example, trucks with inputs of services predominantly. For more

² More information can be found in the paper "Problems related to the Measurement of International R&D Flows (by: Mark de Haan, Andries Kuipers, Myriam van Rooijen-Horsten and Murat Tanriseven).

³ More information can be found in the paper "Recording of Special Purpose Entities in the Dutch National Accounts (by: Jorrit Zwijnenburg).

traditional types of input-output analysis or for questions related to environmental accounting, the consequence may be a less appropriate analytical framework.

8. Finally, there are several measurement problems that are more linked to transactions of persons and households. Here, one can think of the widespread use of internet enabling consumers to purchase goods and services worldwide, remittances of resident households to former countries of residence and international labour migration. Especially the proper measurement of the latter issue has become very relevant in the European Union, as a consequence of the entrance of new Eastern European member states. It shows to be particularly difficult to make a proper distinction between direct flows of labour income and the imports of services by employing labour hired from non-resident temporary employment agencies.

9. To get a better understanding of these issues related to globalisation and internationalisation, an international working group has been established: the UNECE/OECD/Eurostat Working Group on the Impact of Globalisation on National Accounts (WGGNA). The objective of this working group is “to review the main distortions in the compilation of NA and related source statistics, as caused by globalisation”⁴. The final outcome, to be presented to the CES-meeting of June 2010, is a report with recommendations and best practices on the following points:

- To identify the areas most affected by globalisation;
- Proposals to improve surveying, processing and integration of data;
- Proposals to arrive at international consistency;
- Proposals to improve international guidelines;
- Proposals to create medium for exchange of best practices.

A definite list of issues to be looked into will be finalised in the coming weeks. Actually, the above description of problem areas is almost entirely derived from the provisional list⁵. In the first meeting of the working group (Geneva, April 2008), attention has been paid to goods for processing, merchanting and the allocation of output and value added to national economies. In the next meeting of the WGGNA (April/May 2009), discussion will focus on the issues of remittances, Foreign Direct Investment and Special Purpose Entities.

10. At the national level, at Statistics Netherlands, in 2003 a project group comprising specialists in the area of measurement coordination, the compilation of source statistics on enterprises and national accountants was charged with solving problems related to globalisation: the working group “Mothers & Daughters”. The central objective was to design and elaborate a theoretical framework, develop a database and a procedure to chart the possible distortions in the source statistics and in national accounts, and subsequently to come up with solutions and implement these at the beginning of the statistical process⁶. The main impetus for the creation of this internal working group came from the substantial inconsistencies in source statistics for (daughters of) internationally operating companies. It showed, for

⁴ See “Terms of Reference of the Working Group on the Impact of Globalisation on National Accounts” as approved by the CES Bureau through electronic consultation in April 2007.

1.1 ⁵ See “Consolidated list of problems area (second draft)” as prepared by the UNECE on the basis of contributions by members of the Leadership Subgroup of the WGGNA.

⁶ More information can be found in the paper “Globalisation and the Effect on National Accounts: Practical Examples” (by: Nico van Stokrom, Frank Bongers, Leslie Nootenboom and Wim Tebbens).

example, that there were significant differences in the recording of transactions, especially between structural business statistics, statistics on foreign trade and statistics on the finances of corporations. At the moment, we are in the middle of a process of stepping up the efforts for a consistent recording of large and “difficult” corporations. The intermediate goal of the new project is to have a consistent recording in all relevant source statistics, for short term statistics as well as structural statistics, for the 150 largest companies. In the long term, this may be broadened to include 500-1000 companies.

3. The allocation of output and value added of MNEs to national economies

11. One of the more fundamental questions in relation to globalisation relates to the allocation of output and value added of multinational enterprises (MNEs) to national economies. There is ample evidence that the allocation of profits, and as a consequence the allocation of output and value added, is governed by minimisation of the total worldwide tax burden. The Special Purpose Entities (SPEs) mentioned in the previous section is one example. Other evidence can be derived from an article of Robert E. Lipsey presented at the 2008 World Congress on National Accounts and Economic Performance Measures for Nations (Washington DC, May 2008)⁷. If one looks, for example, at the “profit-type return” relative to labour compensation for non-bank affiliates that were majority-owned by US parent enterprises in 2005, it shows that “while the worldwide ratio was 84 percent (in 2005), the ratio for Switzerland was 160 percent and in Ireland, over 660 percent. Those profitability numbers, large as they are, pale beside those of ‘Other Western Hemisphere’, averaging 1000 percent, including over 3000 percent in Barbados and Bermuda”. Although maybe caused by other reasons than tax avoidance, one can also observe examples like a MNE having its central sales office located in the Netherlands, while assembly plants are located abroad. In this case, according to the survey received by Statistics Netherlands, total worldwide operating surplus is allocated to the unit resident in the Netherlands, giving rise to a very high ratio of value added relative to the number of employees.

12. Question is what to do about it? There seem to be two basic options:

- Follow the institutional reality and use the administrative data as provided by the MNE, accepting the consequences for value added and GDP being governed by tax avoidance and other “non-economic” reasons.
- Adjust the administrative data to arrive at more “economically meaningful” figures for value added and GDP. “Economically meaningful” should be interpreted here from a perspective of data that appropriately reflect a valuation of transactions according to market-equivalent prices, that give a proper representation of the income generated on the economic territory as a result of domestic production activities.

It should be noted here that this question only relates to the measurement of output, value added and GDP. The two alternatives do not affect the results for GNI, because an alternative recording of operating surplus and value added will be counterbalanced by an adjusted figure for reinvested earnings on direct foreign investment.

⁷ Robert E. Lipsey, Measuring the Location of Production in a World of Intangible Productive Assets, FDI, and Intrafirm Trade.

13. Actually, the same question can also be posed in relation to the recording of goods for processing. Here, one can observe examples of institutional rearrangements (e.g. the take-over of a resident enterprise producing trucks by a non-resident MNE) having consequences for the final responsibility related to purchases of materials and sales of the final products. Although this change-over had no impact at all for the production process as such, the statistical data provided by the resident company changed dramatically overnight, from being a producer of trucks with the inputs needed to produce trucks, to a company providing processing services to the non-resident owner. This being a rather extreme case, such an example also raises questions in relation to the recording of the more classical examples of processing. The “net” recording according to the principle of change in ownership, as approved during the update of the 1993 SNA, more closely follows the administrative practice. From a more analytical point of view, however, one may prefer a “gross” recording. In the case of processing, one could consider having a net recording in the core set of national accounts tables, and having in addition a more analytical set of supply and use tables reflecting the gross recording (including alternative recordings of e.g. temporary employment agencies, operational lease, etc.).

14. In the case of processing, one can reflect on the possibility of having alternative presentations, because it does not have an impact on core indicators such as GDP and economic growth. However, when it comes to the allocation of output and value added to national economies, such alternative options are not available in practice. The two options presented directly affect GDP and economic growth, and it seems incomprehensible to have two sets of figures here. One simply has to make a choice!

15. The update of the 1993 SNA does not give clear guidance on the issue of transfer pricing. In paragraph 3.128, the following is stated: “Prices may be under- or over-invoiced, in which case an assessment of a market-equivalent price needs to be made. Although adjustment should be made when actual exchange values do not represent market prices, this may not be practical in many cases”. More or less, the same is stated in paragraph 3.129: “Replacing book values (transfer prices) with market-value equivalents is desirable in principle, when the distortions are large and when availability of data (such as adjustments by customs or tax officials or from partner economies) makes it feasible to do so”. In paragraph 3.130, there also seems to be reluctance to adjust prices in the case of services, although the door is left open to use actual costs incurred in valuing intra-company transactions: “Thus, for transactions between affiliated parties, the determination of values comparable to market values may be difficult, and compilers may have no choice other than to accept valuations based on explicit costs incurred in production or any other values assigned by the enterprise”. All in all, the updated SNA favours a valuation according to market-equivalent prices from a conceptual point of view. On the other hand, the practical problems involved in adjusting transfer prices to market-equivalent prices are clearly recognised, leaving room to deviate from the conceptually preferable solution. Both options are acceptable.

16. In practice, there seems to be a growing consensus that we do not have an alternative but to follow the administrative data of enterprises. First of all, the

information needed to make the necessary adjustments, i.e. changing the transfer prices for international intra-company transactions to “true market prices”, is simply not available. Can we really do better than tax authorities? In most cases, one can only apply yardsticks such as allocating output and value added proportional to compensation of employees or proportional to the number of employees. That is, if information on the allocation of these indicators to national economies is actually available. And even if we make such adjustments, the resulting data will only have a limited analytical usefulness.

17. Another argument against adjusting administrative records is related to the international consistency of data for MNEs. If one country makes an adjustment, the same adjustment should of course be made by the counterpart country. Otherwise, flows of international trade will become inconsistent. Furthermore, output, value added and related transactions of MNEs may not be accounted for, or alternatively, may be double-counted. Adjusting administrative data therefore requires an enormous international co-ordination, including the possibility to exchange confidential data at a micro-level.

18. So, where does this leave us? Should we indeed accept the administrative reality for the above-mentioned reasons? If we do accept this reality, we should realise that, as a consequence of the growing globalisation and internationalisation, GDP and economic growth will become of more limited importance. Growth and productivity measurement will become meaningless for affiliates of MNEs, as we do not have the proper knowledge of the actual value added and we do not have available data on inputs of e.g. the use of intangibles related to intellectual property. To put it more dramatically: Is this the end of national figures for GDP and economic growth?

19. Furthermore, we will have to accept that output, value added and related transactions may change considerably over time, because of (institutional) re-arrangements. If this is caused by real economic phenomena, such as a take-over in the above-mentioned example of a trucks producer, this may be looked upon as a change that should be reflected in our data. However, I think that we all become slightly more hesitant, if such a change is the mere consequence of internal re-arrangements within MNEs. Finally, we have to realise that, most probably, administrative data will also lack international consistency, will also show inconsistencies between the different source statistics that are used to compile national accounts. The former issue of international consistency calls for an increased international co-operation in relation to the recording of transactions for MNEs. Indeed, in future, we may need an international register of MNEs, which takes responsibility for an internationally consistent recording. Within a national statistical office, the latter issue of a consistent recording in national accounts and related source statistics calls for special attention in the processing of data for (affiliates of) MNEs.

4. Summary and conclusions

20. In recent decades, globalisation has gained a new momentum with the ICT-revolution. Everything indicates that interdependencies between national economies

will grow in future as well. As a consequence, the compilation of data on national economic developments will become more and more challenging. In many cases, the problems concern the proper observation and collection of data on (newly developing) international transactions. However, when it comes to the activities of multinational enterprises (MNEs), the problems clearly go beyond the mere issue of measurement. The growing worldwide specialisation of supply chains and the resulting increase of transactions between affiliated enterprises, combined with transfer prices governed by reasons of tax avoidance, raises questions in relation to the valuation of transactions and the allocation of output and value added to national economies.

21. So, what to do? Should we follow business accounting practices or should we try to adjust the data in order to arrive at a more “appropriate” measurement of GDP? And what is to be understood under “appropriate” here? What is the true market-equivalent price? Although the updated SNA favours an adjustment of transfer prices from a conceptual point of view, there seems to be a lot of reluctance to adjust the value of the relevant transactions. Whatever one prefers, it is clear that the continuing growth of globalisation and internationalisation calls for a more thorough re-thinking of the problems involved. It also calls for a better co-operation between national statistical offices to arrive at an internationally consistent recording. As such, the establishment of supranational registers of MNEs (like the EuroGroups Register) and the exchange of statistical data and practices can only be supported. Also initiatives like the creation of the Working Group on the Impact of Globalisation on National Accounts (WGGNA) can help us to move forward.