

## **A measurement framework and a narrative on global value chains and economic globalization**

Merja Hult and Pekka Alajääskö

Eurostat, Luxembourg

[merja.Hult@ec.europa.eu](mailto:merja.Hult@ec.europa.eu) and [Pekka.alajaasko@ec.europa.eu](mailto:Pekka.alajaasko@ec.europa.eu)

Timothy J. Sturgeon

Massachusetts Institute of Technology, USA

[sturgeon@MIT.EDU](mailto:sturgeon@MIT.EDU)

Economic globalization is a dynamic, long-term historical process which changes its character and extent over time, with profound effects on countries in the trading system. Advances in information technology, better codification schemes, and improvements in transport and logistics increase the potential for the geographical fragmentation of work. Because of this, the potential for economic globalization appears to be increasing rapidly.

As it becomes more likely that value chains in large, economically important enterprises and industries will be spread across multiple countries, it is more difficult to conceive of national industries as self-contained systems and national economic performance as endogenous. The measurement and policy challenges posed by these changes are non-trivial. Thus, it is essential that the statistical resources to fully characterize and better respond to the process of economic globalization be put in place as soon as possible. This document provides a short background discussion, then proposes a conceptual framework for determining the data sources required for better measurement, finally identifies data gaps and provides a vision for moving forward and a list of priorities to be addressed for providing a more comprehensive narrative to policy makers.

**Key words:** *Global value chains, economic globalization, business functions, international sourcing*

### **1. Background**

International trade and foreign direct investment (FDI) have long been important features of the world economy, and both have grown steadily since the end of World War Two. Peter Dicken (2011 p. 5) has referred to this process as *internationalization*, defined as the “simple extension of economic activities across national boundaries.”

Today the picture has grown more complex, with multilayered international sourcing networks and new technology-enabled business models that better integrate and accelerate cross-border economic activity. Even as most economic activity remains nationally-, and even locally-bounded, the enterprises driving economic globalization tend to be the most economically potent: large, fast growing, dynamic, and innovative. Furthermore, the concept of global economic integration, by definition, includes an assumption that cross-border business linkages will continue to connect more places. Peter Dicken (2011, p. 5) argues that the combination of quantitative and qualitative changes requires a different term: globalization, defined as “the functional integration of internationally dispersed activities.”

Because economic activity is increasingly linked across national jurisdictions it is essential, for all producers of economic statistics — within Europe and beyond — to respond in coordinated fashion. Since regional economic integration has proceeded the farthest in Europe, Eurostat, the statistical office of the European Union, is well positioned to make progress on developing a new framework for economic statistics that takes the emerging realities of economic globalization more fully into account. In order to progress on this front, Eurostat commissioned a report by

*Timothy J. Sturgeon on Global Value Chains and Economic Globalization* (later referred to as the Sturgeon Report). The report's goal was to develop a measurement framework and to identify data gaps and issues arising from economic globalization and to recommend solutions.

This document presents the definition and conceptual framework for economic globalization statistics developed in the Sturgeon Report and proposes a way forward in filling the gaps for better measurement and narrative on global value chains.

## **2. Data gaps lead to policy gaps**

The implications of economic globalization for policy are far reaching. How can workers, enterprises, and industries be provided with the best environment for engaging with the global economy? How can we be sure that enough wealth, employment, and innovative capacity are generated at home as economic globalization proceeds? How much of the rewards of innovation and new industry creation can be captured domestically, and for how long? What are the motivations for investing in domestic innovation if the bulk of the jobs and value will likely be created in other countries? How much national specialization – and by extension, interdependence with other societies – is too much? These are open questions and policy-makers' interventions can make the process of economic adjustment more difficult because economic globalization accelerates the pace of change.

With stakes this high, there is broad interest in finding mechanisms to ensure that MNEs and external international sourcing networks not only thrive but also work to elevate, rather than depress, the welfare of societies in which they are embedded. But with multiple externalities, high complexity, and mixed outcomes, the challenge at hand is to understand the effects of economic globalization more precisely, and for this there is an urgent need to develop better statistical resources.

The most pressing need is to make full use of existing data resources, for a system that ties data from business surveys to the wealth of information from administrative sources. Of course, new data also needs to be collected, but the additional information needed is actually quite modest. The most important, and more challenging step, is to develop an International Integrated Data Platform (IIDP) to link existing and new data in an easy-to-use statistical product that can rapidly deliver useful analysis in ways that protect confidentiality. A vision and list of priorities for the steps to take are laid out in chapter 4 of this document. Before recommendations for improvement can be made, however, a clear conceptual framework and evaluation of the current situation is required.

## **3. Definition of economic globalization and a measurement framework**

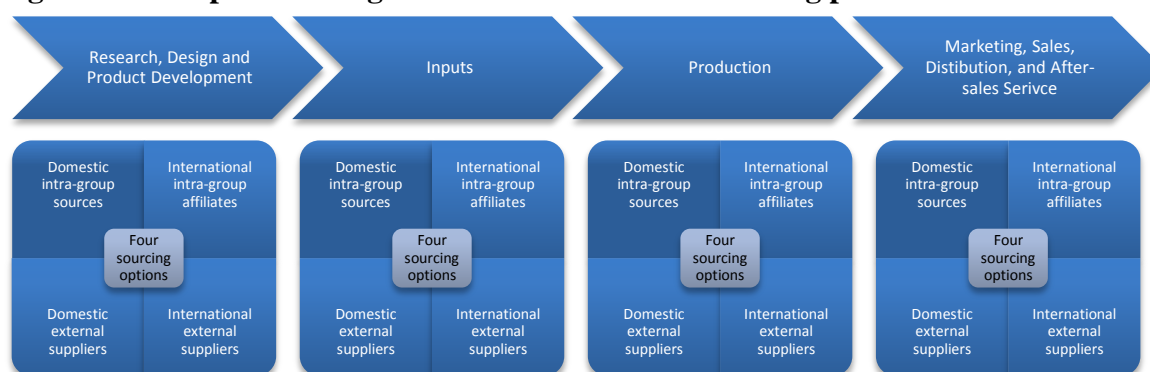
How do we define economic globalization for statistical purposes? The definition proposed is *the cross-border activities of for-profit enterprises and other organizations, specifically investment, production, trade, sales, and international sourcing of intermediate goods and services* (Sturgeon, 2013).

The concept of global value chains (GVCs) provides a basic conceptual framework for economic globalization statistics. It is useful to think of economic activity as a series of value added stages, or steps. Following Kaplinsky and Morris (2001) a value chain can be defined as follows: *The value chain describes the full range of activities required to bring a product or service from conception through the different phases of production, delivery to final consumers, and final disposal after use.*

By adding four sourcing options (domestic intra-group vs external and international intra-group vs. external), to a very simplified value chain, Figure 1 concisely illustrates the range of GVC

activity realms where statistics need to be produced to create a fuller picture of economic globalization.

**Figure 1. A simple four-stage value chain with four sourcing possibilities**



Even in this simplified model, it becomes clear that economic globalization is a very complex process, with the sixteen sourcing options depicted in Figure 1 multiplied in bi-lateral and multi-lateral networks of international trade, investment and sourcing. The importance of multinational enterprises in these networks, as investors and suppliers, underscores the need for international standardization and cooperation in the effort to create and maintain cross-border business registers. Compiling full statistics on trade, investment, and sourcing practices for all sixteen quadrants in Figure 1 for all enterprises in the EU will never be enough if they cannot be linked to compatible statistics on enterprises based outside of the EU.

#### 4. Recommendations and priorities

The Sturgeon Report identified a host of data gaps and issues related to economic globalization, and set out a clear yet ambitious set of recommendations. The reader is referred to the report for full details.<sup>1</sup> Action on both the technical and methodological level is needed, but also on the legal level, as the production of harmonized statistics in the EU are governed by legal texts. At present, a new Framework Regulation Integrating Business Statistics (FRIBS) is being drafted with the objective of streamlining and increasing the consistency of all EU Regulations governing statistical requirements on business statistics. The FRIBS will specify and integrate many of the elements needed to improve the production of statistics on economic globalization. The recommendations of Sturgeon report are addressed below in terms of their priority as seen by Eurostat.

##### A. High-priority issues for the short and medium term

###### i) Infrastructure related issues: Business registers, enterprise unique identifier statistical units, and product and economic activity classifications

The business registers are recognized as the backbone of statistical production. Work is underway in the framework of the European Statistical System on creating interlinked Business Registers within the EU and on completing the Register of Enterprise Groups operating in the EU, known as the Euro-Group Register, or EGR. Effective and efficient micro data linking requires Europe-wide unique identifiers for enterprises, and work on establishing this is well advanced. A number of activities to link data — for example from business organization/sourcing surveys and trade

<sup>1</sup> See [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/Global\\_value\\_chains](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Global_value_chains)

statistics — to information on enterprise characteristics contained business registers have been ongoing for several years. These efforts will be enlarged in the coming years because linked micro data provides a cost-effective way of providing new statistics to policy makers without a cost to enterprises. The Sturgeon Report further recommends moving to a consistent use of statistical units (namely the enterprise) to better respond to economic globalization and the influence of multinationals on the business statistics data collections. Redefining the statistical units is also one of the most important actions being addressed within the FRIBS.

The Sturgeon Report has also recommended that all business related statistics refer to the same economic activity (NACE/ISIC) as well as product classifications (CPA/CPC), or that the detailed level can at least be aggregated into an already existing classification (e.g. CN). In addition, current efforts led by the UN to revise the BEC (broad economic categories) framework to include categories relevant for global value chains (e.g., customized vs. generic intermediates) as well as services will provide a useful international classification for trade statistics.

It will be important to agree, at a global level, on definitions for business functions used in international sourcing surveys, such as those spearheaded by Eurostat in several recent surveys.<sup>2</sup> This work is on-going. Preferably, it should be possible to express the business functions as an aggregate of existing data.

## ii) Statistical domain related issues:

### **International trade statistics**

The Sturgeon Report has identified the lack of statistics on intra-group trade as one of the most glaring data gaps in the European Statistical System (ESS). Filling this gap is the highest priority and also feasible in the near future. For intra-EU trade, there is currently a proposal to collect the identification number of trading counterparts, which, combined with the EGR, will enable the calculation of intra-EU intra-group trade within the ESS.

Improved data availability on international trade in services, which can be achieved in the short to medium term, relates to the work on services trade by enterprise characteristics (STEC), where service trade flows are broken down by enterprise characteristics information gleaned from business registers. More detailed data on services trade is also recommended, but for the time being, it seems very challenging to extend beyond the EBOPS classification.

### **Foreign Direct Investment statistics**

In the medium term, it could be worth considering the collection of FDI by ultimate investing country, i.e. by country where the ultimate controlling parent (UCP) is located. There is an increasing political demand for this kind of information, which is already collected by a few EU Member States.

### **Structural Business Statistics (SBS)**

A very important recommendation concerns afore-mentioned surveys on international organization and sourcing by business functions. The proposal is to carry out these surveys multi-annually (every 3-5 years) within the EU, and to collect information on payments to domestic and international (sub)contractors annually. It would be very useful if these survey results could be compared to similar results across the world. As a leader in the field, Eurostat could play an important role in any efforts towards this goal.

### **Foreign AffiliaTe Statistics (FATS)**

Inward and Outward Foreign AffiliaTe Statistics (FATS) currently produce important information on equity investments made by MNEs as Inward and Outward FDIs. The Sturgeon Report recommended extending the current Outward FATS data collection in line with Inwards FATS to

<sup>2</sup> See: [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php/International\\_sourcing\\_statistics](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/International_sourcing_statistics)

cover also intra-EU affiliates. Further it is proposed to produce statistics on the activities of the parent enterprises with investments within and outside the EU, similarly to the Activity of Multinational Enterprises (AMNE) statistics developed by the OECD.<sup>3</sup> Finally, some additional variables are proposed, including valued added and the underlying variables to calculate it. Alignment of FATS and FDI statistics would provide a better analytical basis, but is considered feasible only in the medium-term.

### iii) Enhanced international cooperation

The Sturgeon Report stresses that any effort to improve data on international transactions will require strong international cooperation, and include international bodies such as the UNSD, OECD, WTO, IMF, and Eurostat. Eurostat is clearly committed to this kind of international cooperation, and has contributed to the joint Vision 2020 paper on international trade information systems along with the OECD, UNSD, WTO, UNCTAD). Another example of enhanced international cooperation in the realm of globalization statistics is the forthcoming UN concept paper on the measurement of international trade and economic globalization, to which also Eurostat will also be contributing.

Eurostat, in collaboration with the JRC-IPTS (European Commission) has developed a framework for consolidating European Input-Output tables. Eurostat plans to develop European Input-Output tables in ways that are compatible with techniques for estimating Trade in Value-Added (TiVA) in close cooperation with the international organizations that have led this work so far (e.g., OECD and WTO).<sup>4</sup>

In most countries, data on international transactions are produced by different institutions, for example by Customs authorities or National Statistical Offices for international trade in goods, and Central Banks for international trade in services. There is a strong need for better inter-institutional cooperation in the context of an internationally coordinated work program.

## B. Priority issues to be achieved in the long term

### i) Development of an integrated international data platform (IIDP) that fully responds to the challenges of economic globalization

The Sturgeon Report recommends the development of an integrated international data platform (IIDP), a fully inter-linked data system at the European level that includes a European business register, information on ownership from the EGR, and a full suite of traditional (trade and FDI) and new (international sourcing) statistics related to economic globalization. This is viewed as the guiding principle for Eurostat's long-term vision, and work on an integrated system of business registers within Europe is already underway (timeframe 2013-2017). While integration of countries outside the EU or even the whole world may be unrealistic in view of confidentiality constraints, Eurostat is in close contact with UN to develop the concepts that could underpin interoperability. Additional concrete steps towards the IIDP include the on-going and planned work on micro data linking, data warehousing, and globalization indicators.

### ii) International trade statistics

Identifying intra-group trade both in services and goods is a high priority. For goods this would require that a unique enterprise identifier be included in each Customs declaration. Because trade policy is globalized, intra-group trade in *extra*-EU trade is more important than in *intra*-EU trade. More work is needed to identify the most efficient way to collect *extra*-EU intra-group trade data on goods and in particular in services. While it will not be possible to put international trade in services on equal footing with trade in goods (i.e. 8-digit level in terms of detail), the target could

<sup>3</sup> See: <http://www.oecd.org/sti/ind/amne.htm>

<sup>4</sup> See: <http://www.oecd.org/industry/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm>

be to have equivalence to structural business statistics, i.e. on 4-digit level of NACE (ISIC), while international trade in services should preferably be expressed in terms of CPA (CPC).

## 5. Concluding remarks

The activities of the vast majority of enterprises continue to be domestic. But this does not mean we can be complacent or that economic globalization is insignificant from a quantitative perspective. Globally engaged enterprises tend to be largest and most technologically advanced. Hence it is the duty of statisticians to provide the policy makers and analysts with better tools for evidence-based policy making. The Sturgeon Report provides guidance for a comprehensive narrative on economic globalization, identifies numerous data gaps, provides recommendations, suggests priorities, and illustrates the complexity of the task. It is Eurostat's mission to evaluate the priorities and strive to address them in a coordinated manner in cooperation with international stakeholders.

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