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**The impact of globalisation in Statistical Processes:  
Opportunities for the ESS**

Joint paper of Eurostat directorates B and D

# The impact of globalisation in Statistical Processes: Opportunities for the ESS

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This paper looks at the way globalisation may impact on statistical processes, from conceptualisation to data compilation, and the challenges faced by the ESS. The ESS is regarded as statistical information space, taking into account the content and the technological dimensions of information. The double role of information technology as dimension of globalisation and strengthening of other globalisation effects is highlighted, as well as its beneficial impact in the statistical processes in a global context.

## 1. Introduction

Globalisation is the shrinking distance and the reduction of boundaries in the world economy. Globalisation means increasing interdependence, integration and interaction between institutions, people and companies in disparate locations. It has a lot of different aspects and dimensions concerning manufacturing and service industries, finance, politics, environment and even culture. An important additional dimension is informational globalisation, which, apart from boosting and supporting the other ones, has a large impact through easy and widespread access to information, knowledge and also certain types of education. This latter aspect of globalisation, which has seen a very large growth with the expansion of information technology, has two features very relevant to official statistics: *the growth of cross border data flows and the increase of the number of standards applied globally.*

In this paper we will develop two ideas closely linked with the globalisation phenomena. The first one refers to user needs in a global context. Besides the need of new statistics, which will be the object of other sessions in this conference, the global user wants to

have existing statistics for countries in the whole world or in large regions. For them to be useful these statistics should be comparable in concepts, with sufficient and known quality and easily and simultaneously available. The second one refers to the fact that globalisation permits to develop synergies in the statistical production processes by the use of common standards and procedures and by the increasing flow of information between the statistical organisations. All these synergies will permit, on the one hand, to reduce costs and, on the other hand, to provide users with more up to date and comparable information.

This paper will deal with these two aspects. Specifically it will discuss:

- The impact to the process of definition, conceptualisation and comparable establishment of statistics is described in chapter 2. Here the ESS is seen as integral part of a global statistical network;
- The positive impact on the convergence of the statistical process and especially the effect of information technology is looked at in chapter 3. The role of the ESS in driving this global convergence will be analysed.

## **2. Statistical Challenges to the ESS in a global world**

### ***2.1 Globalisation dimensions in EU policies***

The EU and its Member States are global economic and political actors. Globalisation is therefore a subject of importance in many, if not most EU and national policies. The Commission itself, by the spirit of the Treaties and the dominating self-understanding of Member States as open market economies, follows in general in its policies principles which are favourable to promote globalisation: liberalisation, mobility of factors, openness of markets, competitiveness.

The statistical support of EU policies is a foremost role and task of Eurostat. Until now Eurostat has mainly focussed on this and accompanied successfully the creation of an Internal Market and a Monetary Union with appropriate statistical measures. On the global scene Eurostat has always had a role as provider of statistical support to acceding

or developing countries, time may have come now to strengthen the role of Eurostat as global actor in the statistical world.

## **2.2 *European Integration and Globalisation of Europe***

The EU is not a nation and Eurostat is not a NSO. In fact the European integration process can be looked at as an intermediary step between the national and global economies. The relation of globalisation with European integration, i.e. the Internal Market is described in Speech/07/145 held by Commissioner Almunia in London on 14.03.2007.

Eurostat has a main focus (in fact its core business) exactly in measuring the extent of the European integration process, requiring it to have a certain “introspective” attitude. On the other side the EU is a global world player too, which puts a special challenge to Eurostat: on the one hand to distinguish between the “Europeanisation” and the “real” globalisation process of MS; on the other hand to identify the degree of globalisation of the EU as a whole.

As a consequence it may be of benefit to check the relevance and pertinence of our statistics, in view of serving correctly user needs at both the European and global level, and to identify possible holes in the existing statistics system. The process may also lead to evaluate differently the relative importance of national statistics compared to EU/EA aggregates.

As an example of the difficult but necessary delimitation of the two different types of “internationalisation”, it is interesting to look at the new Services Directive in the Internal Market, adopted after long discussions in the Council late 2006. The purpose of this directive is clearly to create an internal market within the EU for services and to enable cross-border flows of services. Some noteworthy points are:

- Cross-border services can be provided through establishment in another Member State or through free movement with a temporary presence (or even not) of “workers” (of course also high-qualified persons delivering their input possible through information flow only);

- Through the temporary presence in another Member State social and labour law are also affected, see also the provisions in the Posting of Workers Directive. This may of course concern not only nationals of other MS but those from third countries;
- There are numerous exceptions and limitations built into the Directive which restrict the free movement;
- Member States will be obliged to cooperate administratively, to register and exchange information. This may be a future potential administrative source for statistics.

Adding the fact that companies may also have financial links inside and outside the EU at the same time, any of the phenomena we wish to observe from a statistical point of view will have to be divided into intra- and extra-Community nature, which is probably not always easy.

### ***2.3 Challenges and opportunities***

Globalisation creates numerous challenges for official statistics; in particular *globalisation changes what we need to measure and the way we measure it.*

*What do we need to measure?* Economic and social analysis of the effects of globalisation generates demand for indicators of globalisation. Most of the conceptual work in economic domain is done by the OECD. The “Handbook on Economic Globalisation Indicators” (OECD, 2005) constitutes a conceptual and methodological framework for constructing a comprehensive set of quantitative globalisation indicators. The Handbook:

- identifies a set of relevant indicators to enable policy makers and other users to assess how globalisation evolves over time;
- provides methodological and statistical guidance on how to construct the globalisation indicators in compliance with international standards.

The Handbook covers the following domains: foreign direct investment, economic activity of multinational enterprises, the internationalisation of technology, and international trade.

The experience of implementing the OECD Handbook in the national statistical offices in gathering data and compiling statistics shows that measuring globalisation requires:

- not only a close look at existing data and questionnaires but also identification of linkages between various micro-data sets;
- cooperation with other data gatherers;
- change of traditional role of statistics from pure technical (basic data production) to more explanatory (“metadata” production).

How can Eurostat further support the measurement of globalisation effects, what is the task of the ESS in this? We would argue that Eurostat should identify, compile and disseminate a coherent set of policy relevant indicators (extend the OECD set), broken down by country and comprising also non-EU countries. An effort should be undertaken to compile available statistics from outside the EU, possibly in a joint venture of Eurostat with International Institutions (OECD, IMF, etc.). In addition, Eurostat is considering the creation of a “Tableau de Bord” of key globalisation indicators, which should be consistent with and serve as an input for ongoing ECFIN exercise on globalisation modelling. It corresponds to the role of Eurostat to also clearly distinguish, in such a key indicator set, the (growing) European integration from real third country globalisation effects.

How to measure globalisation? Globalisation imposes two main challenges for statistics:

- compiling national accounts in globalised national economies (macro level), and
- measuring globalisation effects on economic growth and welfare (micro level).

These and other related challenges are various and growing, and statisticians must devote time and resource to preserve the high quality of the national economic statistics.

On the conceptual side, there are two important issues to be thoroughly analysed:

- What is the possible impact globalisation can have on the pertinence and completeness of our statistics?
- Is it a contradiction that while many effects are global, decision making and practical implementation are still national, at best European? In this context, what are the new requirements for statistical data and policy relevant indicators which should be delivered at national and European level?

There are also many others open conceptual issues. At this stage, however, ongoing conceptual discussions should be combined with pragmatic approach, which means that some issues have to be addressed in Eurostat and NSIs immediately in order to establish a consistent and coherent system of measuring globalisation. In particular, it is important that the multi-dimensional aspects of globalisation are properly identified within the statistical programmes. In addition, discovering and disclosing new sources for statistical research on globalisation issues should be better coordinated within the ESS. Finally, better coordination of the ESS with the statistical systems of non-European countries on globalisation issues should be further developed.

#### ***2.4. The role of the ESS in the world:***

The role of the ESS as a global partner in shaping statistical processes worldwide cannot be overestimated. This role can be put in evidence by the fact that the ESS has in its core a binding set of statistical collections which follow standard concepts and classifications. This is the legal framework which will be further developed in the next chapter. Such a situation is unique in the world and gives a qualitative strength to the ESS in the global context. In what concerns the observance of this regulatory ensemble we have to add to the 31 countries that are compulsorily committed (27 MS plus 3 EFTA plus Switzerland), the several countries which are more or less advanced in the process of becoming members of the European Union plus those that under the neighbourhood policy are sharing some of the processes with the EU. The enlarged ESS consists of 55 countries – over one quarter of the total membership of the United Nations. This set of 55 countries duplicates the actual EU membership.

Furthermore, the ESS actively collaborates and benefits from international initiatives globally enriching the statistical systems specifically (New SNA, Tourism Satellite Accounts, Guidelines for disclosure control, Handbook of data presentation, UN statistical principles, SDMX initiative, are several examples of the many which could be given).

It is finally worth mentioning in this context, the cooperation activities in which the ESS is highly committed and that underlying the important role of the system for helping developing countries to improve the statistical capacity. This is an important vehicle to promote the more global adoption of standards and methods which are based on the ESS.

Nowadays, the ESS acts as a catalyser for the statistical convergence, at a global level. In the future, the role of the ESS in the world could and should be further strengthened and adjusted to the new globalisation challenges.

### **3. The role of the ESS in the convergence of the statistical activities**

One of the most relevant aspects of globalisation is the fact that it promotes a convergence of patterns of production and consumption and therefore results in the standardisation around the world due to the two features mentioned in chapter 1: the increase of the international information flows and the growth of the number of standards applied globally. In the next paragraphs we will describe how this convergence trend applies to statistical processes and how the ESS could profit from it to develop improvements in the efficiency of its processes and in the utility of the information. Furthermore, we will study how the ESS can act as a catalyser for the statistical convergence, at a global level.

The first parts of this section will concentrate on the ESS which already benefits from many features of a convergent statistical system. Its strengths are based on the binding rules, the large amount of standards, the sharing of knowledge and on the common concerns of the EU society about a solid institutional framework. However these elements are not homogeneously deployed, neither fully exploited. Some ideas are presented for a more harmonised implementation of these strengths.



**3.1. Forces that push the ESS to work together:**

There are forces in place that push the ESS to work together. They are there since a long time ago; but they are not sufficiently exploited. Some of them are unique to this system and represent a comparative advantage that should lead to global leadership.

*A regulatory framework that underpins statistical activities.* The European statistical legal framework is composed at present of by more than 60 active basic regulations. It provides the backbone of a coherent set of statistical data for all European Union Member States. Moreover, the Community work programs spell out the future common plans for developing new statistics. All these elements integrate the actual basis for the European data and fix its future evolution. They also ensure the harmonisation of the concepts and classifications used and of other attributes such as production delays, data frequency and quality characteristics.

<i>Box 1. Legal acts in the pipeline in July 2007</i>		
<ul style="list-style-type: none"> <li>• CPA 2008</li> <li>• 5 Year Programme</li> <li>• CEIES Reform</li> <li>• ESGAB</li> <li>• National Accounts Data Transmission</li> <li>• Purchasing Power Parities</li> <li>• NUTS (BG, RO)</li> <li>• FATS</li> <li>• Business Registers</li> </ul>	<ul style="list-style-type: none"> <li>• SBS Recast</li> <li>• Tourism</li> <li>• Extrastat</li> <li>• Energy</li> <li>• MEETS</li> <li>• Migration and Asylum</li> <li>• Lifelong Learning</li> <li>• Public Health</li> <li>• ESSPROS</li> </ul>	<ul style="list-style-type: none"> <li>• Housing Census</li> <li>• Labour Force Sample Survey</li> <li>• Job Vacancies</li> <li>• Meat and Livestock</li> <li>• Aquaculture production</li> <li>• Farm Registers</li> <li>• Pesticide</li> <li>• Farm Structure Survey</li> </ul>

*A common code for improving our processes and our outputs.* The European Statistics Code of Practice presents a set of principles and indicators that shape in a homogeneous way the institutional environment, the processes and the outputs of the National Statistical Organisations of the EU. This Code of Practice promotes the benchmarking of organisations and communicates a message to the national authorities about the need to support sound institutional frameworks and to facilitate the development of improvement actions.

*Guidelines for convergent outputs and processes.* In many areas specific guidelines have been developed providing a very useful framework for the convergence of statistical processes. As recent examples still to be completed, we can refer to the current guidelines on seasonal adjustment or the handbook for statistical disclosure control. In a global context, the ESS has also been a key actor in the preparation of international guidelines such as the Oslo Manual, the OECD manual on the presentation of statistical information or the manual on statistical confidentiality, issued under the sponsorship of the UN/ECE, and the revision of the SNA.

The SDMX initiative, sponsored by IMF, BIS, OECD, ECB, WB, UN/SD and Eurostat is a recent example of the opportunities offered for the development of global standards. SDMX provides standards for data models and formats, as well as guidelines for metadata structure and content (The Content Oriented Guidelines). These will permit the global exchange of data and metadata without human intervention.

*A set of standards to enhance the comparability of the data.* These are sometimes inserted to the statistical legislation while in other cases they are just based in non-binding agreements. These refer to classifications or concept definitions (some general ones such as NACE/CPA, NUTS, ISCO, turnover; others specific to a statistical domain).

*Box 2. The Metadata Server RAMON. A repository of standard metadata.*

RAMON is the metadata server of the Eurostat Portal. It contains:

- About 6,000 Definitions of concepts.
- 72 Classifications with their correspondence tables.
- 250 Methodological manuals.
- An important set of National methodologies.
- All current statistical legislation

<i>Box 3. Statistical Classifications under the authority of the EU</i>	
<ul style="list-style-type: none"> <li>• NC (Combined Nomenclature)</li> <li>• PRODCOM</li> <li>• GEONOM</li> <li>• NUTS</li> <li>• COICOP / HICP</li> <li>• COICOP / HPS</li> </ul>	<ul style="list-style-type: none"> <li>• ISCO / COM</li> <li>• NACE</li> <li>• CPA</li> <li>• MIGS (Main Industrial Groupings)</li> <li>• NST</li> <li>• NABS</li> </ul>

*A general concern for reducing the burden on respondents.* This has been made evident mainly in the recent years and has resulted in particular to pressure to measure response burden of different statistical processes; to promote the use of administrative sources whenever possible and to the development of tools for facilitating the responses of respondents and for streamlining the use of business reporting languages.

<i>Box 4. Communication on Simplification, Priority setting and Response burden (Nov 2007)</i>
<p><b>Common approaches to burden reduction</b></p> <ul style="list-style-type: none"> <li>• <i>IT Technologies.</i> Develop tools for the use of business reporting data (XBRL) and for other means of electronic data collection</li> <li>• <i>Methodological Innovation.</i> Reducing sample size, linking survey and administrative data</li> <li>• <i>Use of administrative and accounting data.</i> Best practices on use of register data. Use of International Accounting Standard for statistical purposes</li> <li>• <i>Direct production European Aggregates by means of EU surveys</i></li> <li>• <i>Cost/Benefit analysis of projects.</i></li> </ul>

*A pressure to reduce the cost of the process (to do more with fewer resources).* As the statistical needs grow and the resources available in the statistical organisations remain stable or are even reduced, the need to increase the efficiency of the processes becomes more important. Productivity gains can be achieved by analysing internally the processes and also by sharing methods and tools that have been developed by others and that entail efficiency gains or at least economise development of effort. Amongst the instruments to achieve synergies in the ESS it is worth mentioning the ESS collaborative activities (ESSnet).

*Box 5. ESSnet. What is it?*

**An ESSnet is:**

"A network of several ESS organisations aimed at providing results that will be beneficial to the whole ESS".

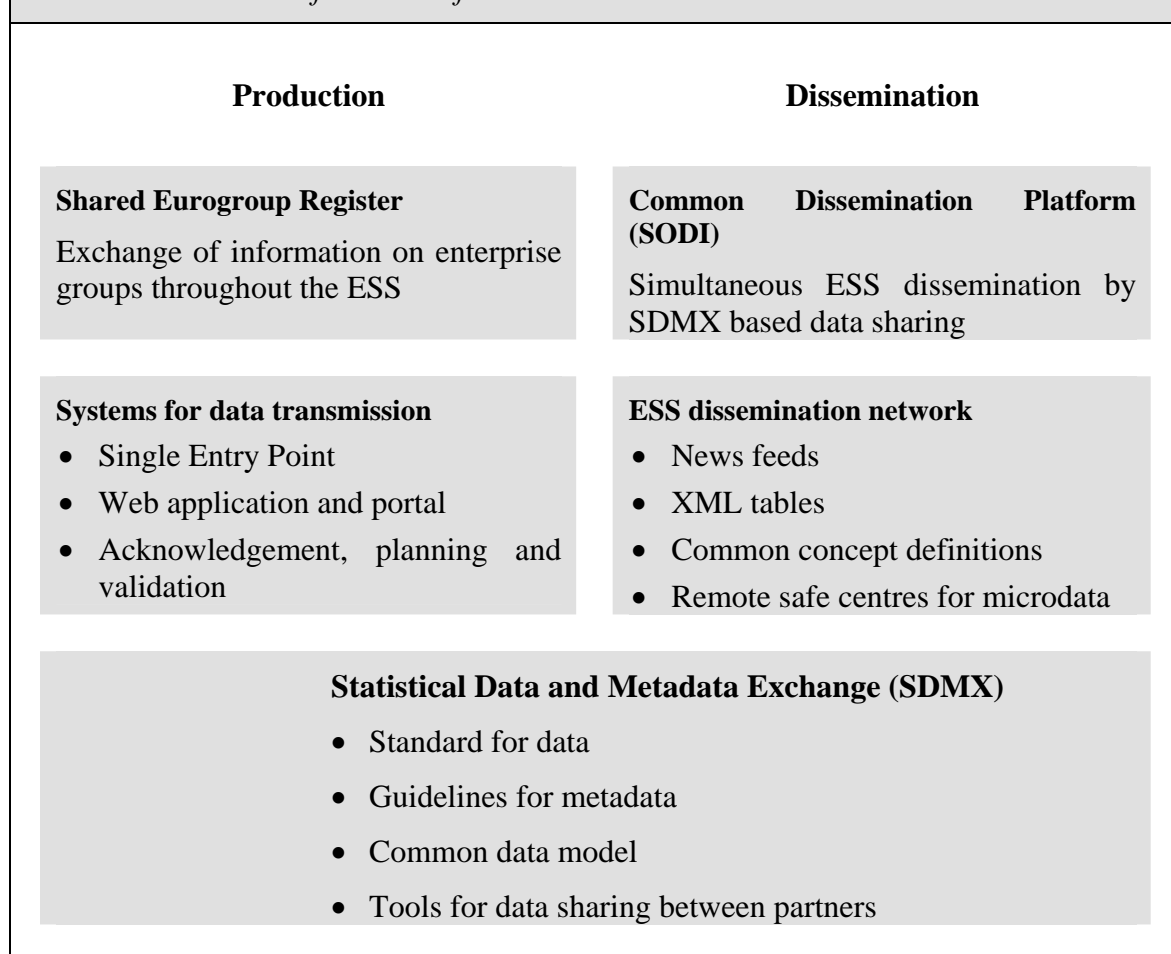
**Criteria for an ESSnet:**

- ① Involves several partners and results diffused to non participating NSIs.
- ② Focus on issues that answer to a European interest.
- ③ Compatible with the 5 year programme.
- ④ Cost effective.
- ⑤ Knowledge sharing, innovation and harmonisation.
- ⑥ Sustainable. The project should be sustainable beyond its duration.
- ⑦ Actions can only be carried out by ESS organisations.

*The increasing importance of the user of global statistics.* The more global interaction of economies, financial markets and societies results in stronger demands from a growing community of users of comparable data from a diversity of countries. This is put in evidence by the growth of the use of Eurostat internet site (50% increase in the last two years) and the high number of contracts signed with researchers for comparative analysis projects (100 in the last 12 months from research institutions from all over Europe).

*A more connected statistical system.* From networks for data transmission to dissemination platforms, the flow of information throughout the ESS has increased substantially.

*Box 6. The elements of an ESS Information Network*



**3.2. *But we are still not there:***

The previous section gave an idea of what could be done to use the benefits of globalisation in order to enhance the statistical processes. The optimistic overview presented there is unfortunately mitigated by the present reality. We refer now to some of the main drawbacks that hamper the progress.

*The ESS statistical production chain should improve its efficiency.* This production chain is based in the principle that all countries produce national data and transmits it to obtain the European aggregate and disseminate the whole ensemble. The efficiency of this chain is hampered by many elements: different timeliness of the data produced by Member States; important gaps of information that force the estimation and reduce the quality of European totals; existence of revisions without a proper revision policy; and

defective data transmissions which result in the need to resend the data in a large proportion of cases.

*The implementation of standards is not homogeneous.* We can give as examples the diversified adoption of the standard base year for economic indicators and also the implementation of the latest revision of NACE. It is to be hoped as mentioned earlier that the targeted harmonised implementation of NACE 2007 will be achieved.

*The compliance with the legal framework is not complete.* The different derogation periods requested for implementing legal acts results in a disperse availability of data which extends to several years; but even when this transition period is over, complete compliance is not achieved until several additional years pass. This results in a low availability of data which draws a bad image for the global users.

*National practices hamper the offering to the global users a complete set of statistical information.* These practices maintain national concepts, national publication and revision policies and national production methods. They also delay the harmonisation required by the legal framework.

*Collaboration within the ESS is more the exception than the rule.* If one tries, for example, to find the tools which are currently shared within ESS the picture is quite scarce. We can take examples such as PC-AXIS, BLAISE, DEMETRA, GENEDI; but it is evident that this covers only a small part of what could be done to achieve substantial economies in development and sharing of expertise.

### ***3.3 Towards the future. Facilitating the development of these forces and promoting the equal distribution of their benefits:***

Quoting William Gibson, who coined the term Cyberspace: *'The future exists today. It is just unevenly distributed'*. Indeed, all the forces mentioned in 3.1, if well developed, can create a beneficial environment for the development of statistics in a global context. However, although all of them are already in place, their respective strengths could be better coordinated and improved. These are some ideas of progress in that sense.

*Regulate with the aim of creating a solid statistical framework.* The coordination between the basic legal framework, the statistical programmes and evolution of the set of basic legal acts should be enhanced so that a regulatory backbone underpins the statistical activity including the information covered, the standards used, the quality requirements and the methods applied.

*Use the CoP as a driver of the pressure for improvement actions.* The Code of Practice can provide awareness of the strength and weaknesses of the organisations; can make publicity of good practices; and can promote the support from public authorities of the improvement actions identified. The power of this tool for harmonisation of processes and outputs as well as for maintaining sound institutional arrangements should be enhanced.

*Enhance the development and the coordinated implementation of standards for classifications and concepts.* The current example of NACE 2007 shows the importance of a coordinated work for developing and implementing a classification. This example should be followed in order to avoid situations in which the non-homogeneous implementation of specific standards has led to lack of comparability and painful interpretation of the statistical data.

In this context, the SDMX initiative will permit the global dissemination of standards for data and metadata exchange. The wide implementation of SDMX will be a vehicle for the adoption of data structures worldwide.

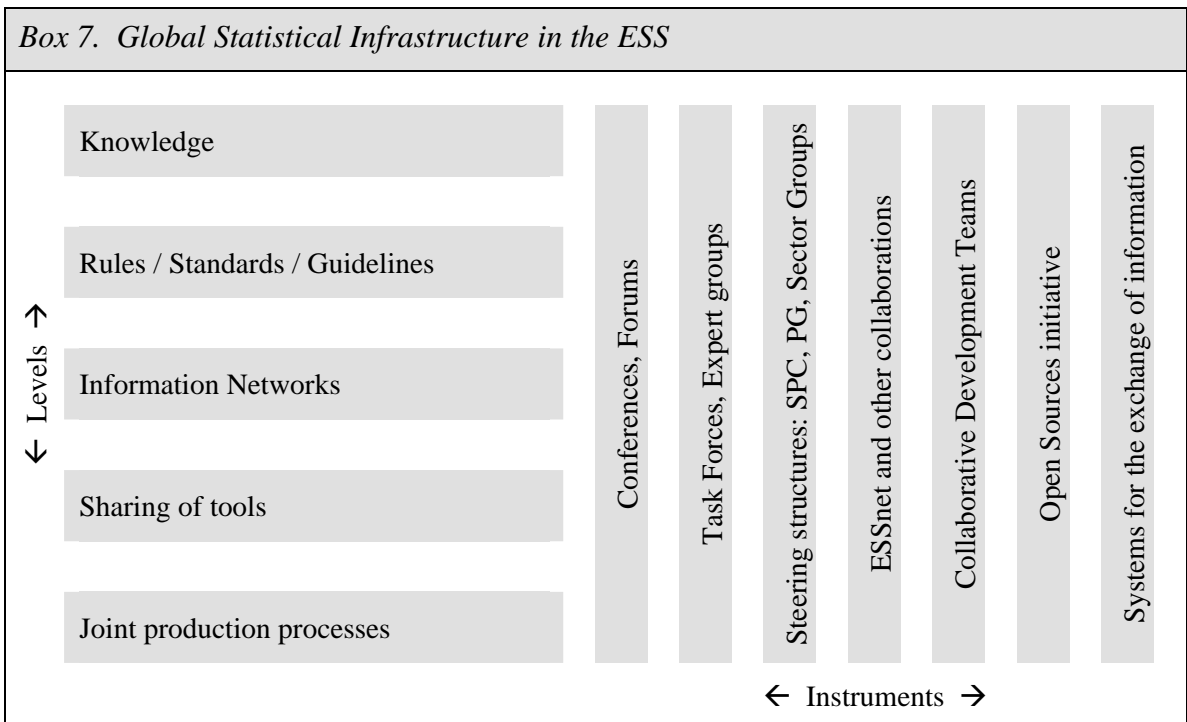
*Promote the sharing of knowledge throughout the system.* In a context of reduction of costs while improving efficiency and quality, sharing the knowledge is the only way out. This could take many different forms: Research projects, ESSnet activities, LEGs on tasks forces for specific methodological tasks.

*Develop ESS networks.* Users of data should have the possibility of having the set of data that they need quickly and with good quality. This doesn't only mean to achieve comparability of the data but also to permit the access to these data with similar structure and format for its automatic treatment. For this purpose, networks that connect different

databases and permit to share the information and to present it with a common structure and coherent image should be developed.

*Foster the collaborative development of tools.* An important means for the reduction of costs will be the sharing of tools and methods. This can have several forms from the distribution of tools developed by one member of the network for the benefit of the others to the joint development on a collaborative environment in which each partner contributes to the final product. Due to the convergence of the statistical production processes in all statistical organisations and emergence of open source developments the potential of this as a cost saving instrument is worth considering. Note that the next meeting of the IT Directors Group will devote a session to this.

*Foster the collaborative execution of processes.* A further means of collaboration could be that those partners that specialise in the execution of a specific process could do it on behalf of all the others. Examples can already be found in cooperation activities and also in specific projects as the PPP and the Eurogroup register.





#### 4. Conclusions

- Globalisation creates numerous challenges for official statistics. Specifically, globalisation has an impact on definition, conceptualisation and comparable establishment of statistics.
- Globalisation changes what we need to measure and the way we measure it. Multidimensional analysis of the effects of globalisation generates demand for policy relevant indicators. Eurostat should play a proactive role in the measurement of globalisation effects. In particular, Eurostat in cooperation with NSIs and International Institutions should contribute to identification and dissemination of a coherent set of indicators (extend the OECD set). Including the creation of “Tableau de Bord” of the key globalisation indicators.
- Conceptual questions on how to measure globalisation need to be further analysed, and therefore disclosing new sources for statistical research on globalisation should be better coordinated within the ESS. Some pragmatic issues have to be identified and addressed within the multi-annual statistical programmes.
- As a key global player, the ESS should further project all its strengths in the international arena. To this end, it could use to its advantage the critical mass of countries that follow its standards and benefit from synergies found in the system

And to finalise, we pick up two basic conceptual points that emerge from this paper:

- The ESS has to be more aware of its strengths due to the unique advantages of the European Union as a supranational entity and the influence that we can project worldwide to meet better the challenges of official statistics in a new environment characterised by global users and growing concerns about cost and response burden.

- But the ESS needs to be aware as well of the weaknesses derived from its construction from different national realities and historical differences which make the convergence of concepts and methods difficult.

To be able to build up our strengths while limiting our weaknesses will be the real challenge that the ESS will have to face in order to play the role that it deserves in the global ground.