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Quality and coverage

A consistency unit for a consistent picture of the Italian economy

1 Introduction

The negative impact of globalization in terms of data consistency and comparability across Countries and statistical domains is a phenomenon well known inside the National Statistical Organizations (NSOs) and the International Institutions. In recent year, Eurostat launched projects and initiatives to evaluate and afford the problem and also other institutions as the United Nations and the OECD (Organisation for Economic Co-operation and Development) contributed by creating groups of experts, workshops, manuals and so on.

The evidence is that the phenomenon is a fact: the quality of the statistics are affected by a set of problems including Multinational Enterprise Groups (MNEs) operating worldwide and NSOs have to develop the best strategies to minimize the impact of the inconsistencies collected for the business statistics production.

In a global context, MNEs adopt the organizational structures reputed more useful to successfully compete in the different markets they invest. The characteristics of the LEUs belonging to a group, in terms of statistical classifications and quantitative variables, are affected by decisions taken from the head-offices with targets wide-ranging than the results of the single individual entities.

In addition, business statistics may be produced using different statistical units, classifications and/or definitions applying correctly the different EU regulations but producing some inconsistencies.

Finally, specific problems of classification or measurement arising in a context may be treated differently among the different statistical domains.

The three aspects above mentioned cause an impact on all the statistical production processes: Statistical Business Registers; Structural Business and Short Term Statistics; National Accounts.

Top MNEs incorrect or inconsistent data determine a considerable impact on the economic statistics that it is necessary to reduce to improve the quality of the outputs.

The purpose of this paper is to show the strategy Istat is adopting to afford the problem taking into account the lessons learned from different national and international experiences and the current organizational structure of Istat.

2 Consistency and other NSOs experiences

In the European Countries the issue of consistency was generally faced by setting up specific units inside the organizational chart, the so-called *consistency units*.

The volume “The impact of globalization on National Accounts” (UNECE, 2011) contains a set of interesting Annexes about the strategic decisions adopted by the NSOs of Ireland, Netherlands, Finland and Sweden to afford “the measurement problems associated with the global nature of the production process as exercised by MNEs”. The purpose is generally to ensure the coherence and plausibility of the statistical and administrative micro data collected for the top MNEs.

The main features in terms of internal organization for the four experiences are shown in Tab. 1. Generally, the consistency unit was built as a specific organizational unit even if in different areas: National Accounts for Ireland; Data collection for Sweden; Business Statistics for the Netherlands. The other main aspects concerning the way the units (or working groups) act are the following:

- teams formed by experts with different skills;
- micro-data approach;
- integrated data sets.

As shown in Tab. 1 all the teams were formed by personnel working on different areas: STS, SBS, SBR, administrative data and National Accounts. Generally, a group coordinator manages the activities of the team accordingly to a common strategy based on a micro-data approach. Building integrated data sets considerably facilitates the analyses and the development of check and detect procedures for the treatment of the inconsistencies. That data set could be a key factor for the success of the action. Usually data are taken from yearly surveys results and administrative sources but in some experiences there are also matrices based on the available quarterly or monthly data.

Tab. 1: strategies for the “consistency units”

Treating the inconsistencies	Countries			
	Ireland	Netherlands	Finland	Sweden
Organizational unit	Yes	Yes	No	Yes
in which way	Interactions with a large network of statisticians working both in the survey areas and with administrative records; data analyses; visits with a chartered accountant.	Teams with responsibility for a portfolio of enterprise groups consist of a group coordinator, a group profiler, and experts on statistics. Building a <i>consistency matrix</i> showing how variables provided for or taken from different statistical sources translate into national accounts concepts.	Working group consisting of experts from the main statistical areas (business register, national accounts, short-term business statistics, structural business statistics and price statistics).	Undertaking a broad range of tasks related to large enterprises: monitoring them and understanding the business; ensuring that the various entities in the enterprise group are promptly identified and properly classified in the business register; data collection; coherence analysis.
Scope	Top 100 MNEs	Top 300 MNEs	Top 30 MNEs	Top 50 MNEs

Going further into detail, interesting hints may be taken from the different experiences.

Promoting a good cooperation with the enterprise group

- simplifying data provision;
- providing a single contact point between the enterprise and the NSOs;
- identifying the reporting unit;
- customizing solutions.

Keeping the users informed

- strengthening cooperation across the various areas of economic statistics;
- spreading information of changes;
- creating specific data reporting for single groups.

Timeliness

- developing methods to identify promptly consistency problems;
- standardizing the processing of data on large enterprises in different statistical areas;
- trying to “solve inconsistencies in an earlier stage of the statistical process or even to prevent their occurrence” (Vennix, 2012).

Statistical production

- taking in charge parts of the statistical processes.

3 Multinationals: Istat experiences

Concerning MNEs, Istat produces currently the Foreign affiliates statistic (FATS). Inward and Outward Fats innovated the traditional statistical production mainly for two aspects:

- a single reporting unit for the data collection that

- generally coincides with the UCI (Ultimate Controlling Institution) that is the institutional unit, proceeding up a foreign affiliate's chain of control, which is not controlled by another institutional unit.

During the last years, Istat took also part to some international projects concerning MNEs. First of all SBR experts contributed for the realization of EuroGroups Register (EGR) project. EGR is a Eurostat project with the aim of “creating a network of business registers used for statistical purposes in European Union (EU) Member States, focused on multinational enterprise groups”. In parallel, Istat was involved in various initiatives about the international profiling (ESSnet on Profiling of large and complex MNEs; individual grants with Eurostat) in order to develop a common methodology to delineate the statistical units useful for SBR and statistics.

All the initiatives show as the knowledge of the groups, their organization and localization, is essential to produce better statistics also for the statistical unit “enterprise”.

Finally, Istat took part to the “ESSnet on Consistency of Concepts and Applied Methods of Business and Trade-related Statistics”.

4 Internal context

Istat recently adopted a new organizational structure and two of the main innovations may be considered the following:

- creation of the Directorate for Data Collection outside the Department for Statistical Production;
- business processes based on an integrated system of Statistical Registers.

The statistical registers constitute the bases for the production of the statistical outputs for enterprises, individuals, families and so on. Micro-data from surveys and administrative sources contribute to enlarge the contents of the base registers in order to obtain univocal and common data sets useful for statistical production, analyses and data sharing.

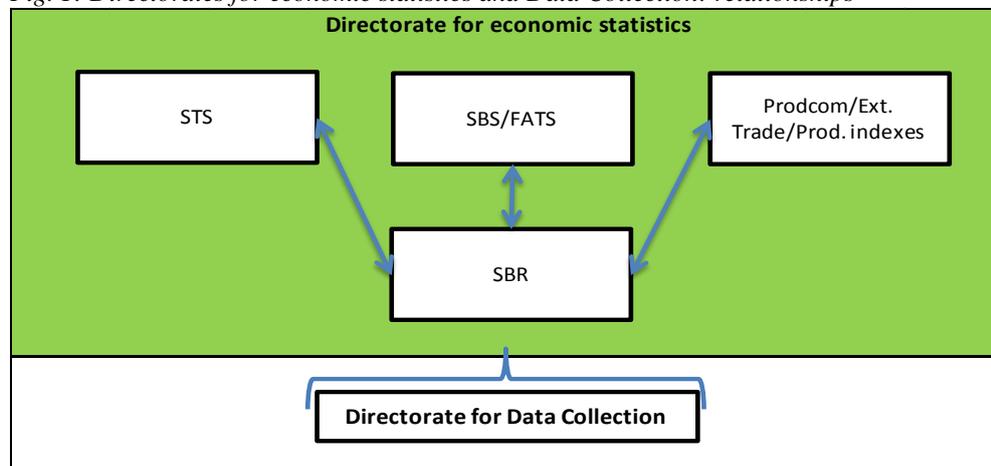
In the field of the economic statistics the main innovation was the creation of a Direction in which the Statistical Business Registers and the economic statistics cohabit. In particular, the Direction contains four sectors:

- Statistical Business Registers;
- Structural Business and FATS statistics;
- Short term statistics;
- External trade, production indexes and Prodcom statistics.

The Statistical Business Registers on Legal Units, Enterprises, Enterprise Groups and Local Units benefit of the information of the business statistics and at the same time contain the populations for the surveys.

Data Collection for the statistical production was created inside the “Directorate for data collection and developments of methods and technologies for the production and dissemination of statistical information”. Among its tasks it has to collect data from surveys and administrative sources. It also manages the development of the integrated system of Statistical Registers (Fig. 1).

Fig. 1: Directorates for economic statistics and Data Collection: relationships



5 How to deal with the problem

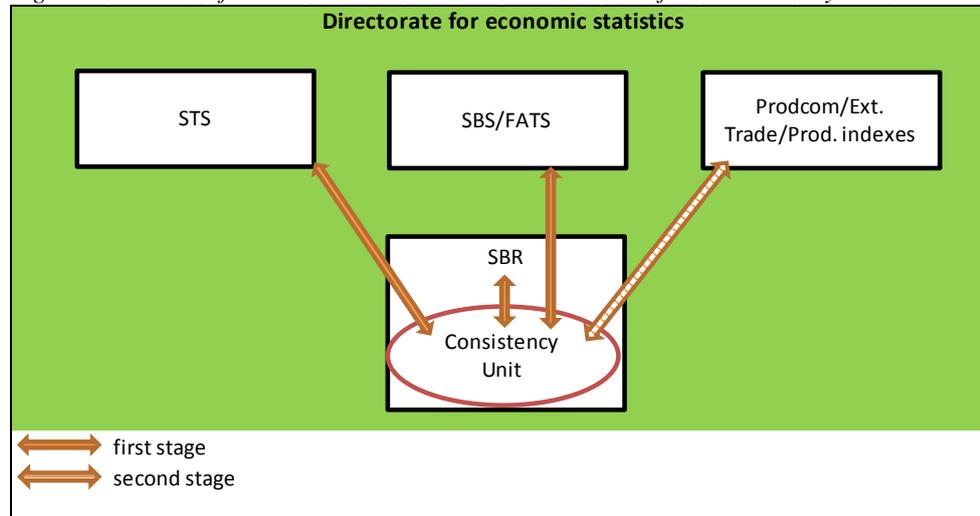
Taking into account the good practices of the other NSOs and the Istat developments in the fields of FATS statistics, EGR and international profiling, we got the following lessons:

- establishing a dedicated team with
 - experts from different statistical domains, using
 - a micro-approach starting from
 - integrated datasets
- in a context where
- it is necessary to reduce (or, at least, not increase) the statistical burden on businesses
 - guarantying quality data for the business statistics.

In the new organizational structure of ISTAT, the team responsible to deal with the inconsistencies of the top MNEs operating in Italy was established in the Division for statistical registers on economic units inside the Directorate for economic statistics. The activity is carried out by a team mainly from SBR sector and the other contributors, at the moment, are from SBS, FATS and STS statistics (an enlargement is forecasted for the next future). All the staff is part-time involved in the project allowing their professional development in their respective areas.

The operational environment in which it acts is shown schematically in Figure 2.

Fig. 2: Directorate for economic statistic: sectors and role of the consistency units



The main ambition of the “coordination of complex units activity” (the so-called *consistency unit*) is to identify the inconsistencies in the early stages of the statistical production process. Mapping the main causes of the inconsistencies will also help to develop methods to avoid the problems in the bud. For these reasons it is crucial for the staff involved to have access to all the microdata useful both from surveys and admin data. The best option would be the creation of an integrated database for the overall evaluation of the available information.

The main tasks for the first stage are listed out below.

- 1- Looking for the best strategies for data collection redefining the relationships with the top MNEs accordingly with the Directorate for Data Collection.

The “consistency unit” has a cross-cutting role inside the Directorate for economic statistics but it has also the task, in cooperation with the Data Collection Directorate to re-think and redefine, if necessary, the relationships with the top MNEs in order to reduce and solve upstream, in the data capture process, the major inconsistencies due for example to the use of different statistical units or definitions. Therefore, one of the objectives of the team is to evaluate the available options or contribute to the design of other ways to collect the data in the best way functionally useful, for both sides, Istat and enterprise groups. It is clear that the solutions proposed should contribute to reduce or, at least, not increase the response burden in compliance with the existing legal aspects (for example, response required by law) but at the same time guarantying data of good quality.

The single entry point from a single reporting unit for the entire group is certainly one of the options to consider but it could be also a winning choice to provide a “tailor-made approach” for the top groups considering both the tools available today and those that could be developed in a near future.

2- Solving the inconsistencies and sharing the results with all the statistics potentially involved. Members of the team have to treat specific cases by adopting a micro-data approach having access to all the data bases useful to manage the specific problem inside the business statistics domain. Problems may affect the statistical units, the stratification variables and the economic values of the units. Data could involve Registers, satellite Registers as the SBS frame developed recently inside Istat, and business statistics.

In a preliminary phase the team could examine the stock of information separately but the most efficient way to act is guaranteeing the staff involved the access to an integrated data base with all the data useful in terms of statistical structure and variables. After a short period dedicated to map the different systems used and the available data stored, data integration process could be obtained quickly enough. Starting from the integrated data base it will be possible to develop consistency checks.

3- Taking charge of some phases of the statistical production for the groups under analyses. It could be possible to increase the tasks and responsibilities of the team in the statistical production processes.

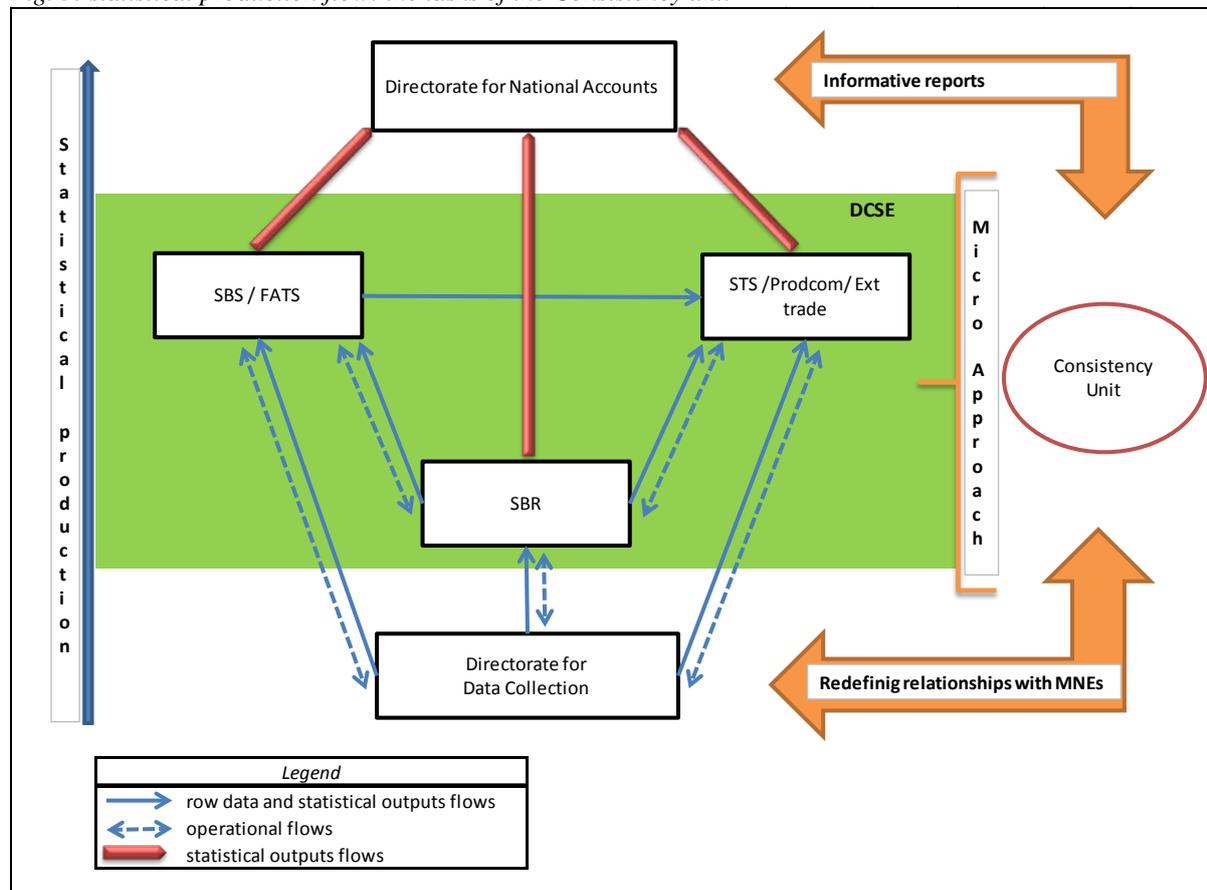
4- Sharing all the issues related to the MNEs investigated.

Having outputs consistent and integrated inside the Directorate for Economic Statistics assures also a significant advantage for the users, for example National Accounts. In practice, the consistency unit will be the single point of contact as regards the information on the main enterprise groups.

It can be also possible to produce informative reports on issues related to the potential impact of MNEs main changes on business statistics also useful for the National Accounts Direction.

The tasks of the Consistency unit inside the statistical production flow are shown in Figure 3.

Fig. 3: statistical production flow: the tasks of the Consistency unit

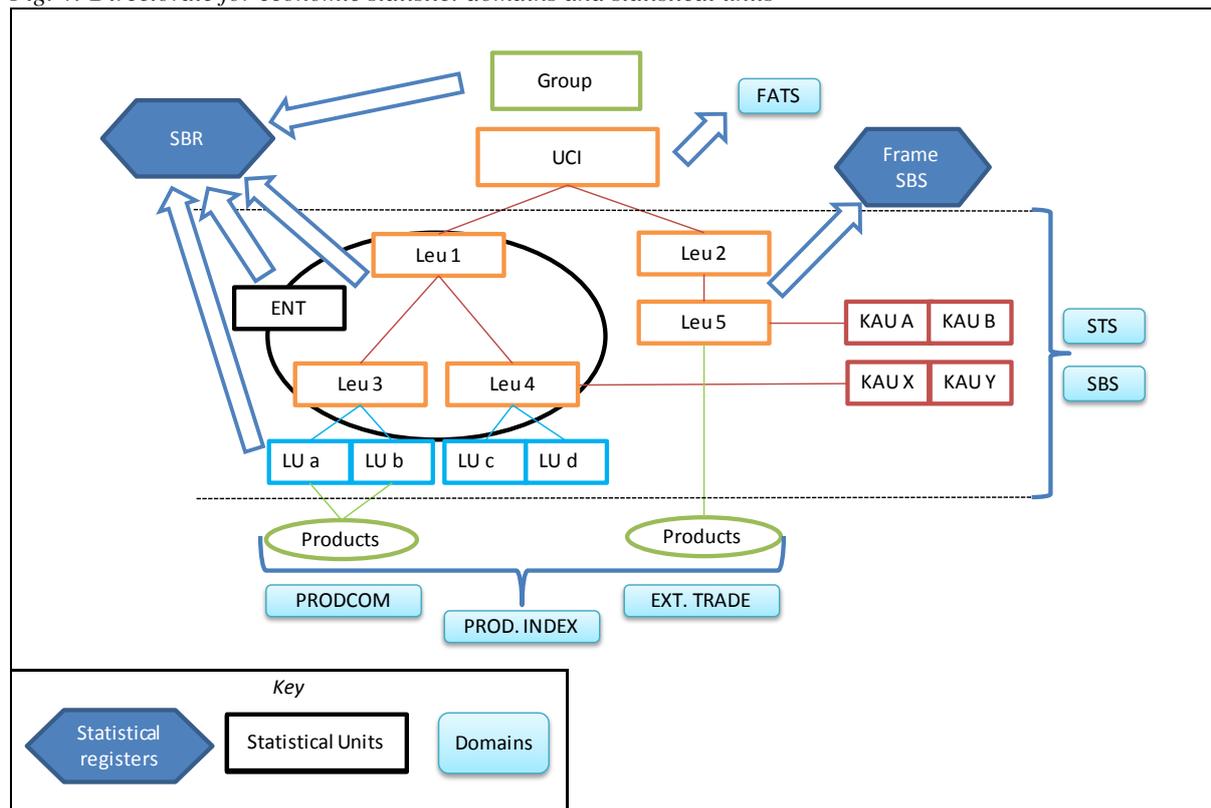


As shown above, the Directorate for economic statistics concerns different domains and covers the statistical production for different statistical units (groups, legal units, enterprises, kind of activity units, local units) and also products (Fig. 4).

For the top MNEs the *consistency activities* should increasingly cover both statistical units and domains. In details, the personnel involved should:

- check the structure of the group in terms of legal units;
- evaluate the consistency of the micro data available for the different statistical units investigated;
- validate or propose or agree with the MNE the way to collect the data even in different ways for different statistical units.

Fig. 4: Directorate for economic statistic: domains and statistical units



6 Keys to success

The presence of a consistency unit will allow Istat to obtain an integrated design for the various initiatives undertaken in recent years regarding top MNEs able to produce process and product innovations. In fact, it is planned that the methodological developments regarding the Italian SBS Action Plan and the global profiling will be contextually taken into account in order to ensure consistency and compliance over time.

The effectiveness of the *consistency activities* will also depend on the following aspects:

- staff should have the access to the data from the different surveys at an early stage;
- proposed changes in the data, once agreed, should be implemented;
- some inconsistencies may reoccur in another reference period (e.g., inconsistencies in the administrative data): if it is not possible to solve definitely the causes, it should be necessary to solve them likewise.

The choice of placing the team inside the SBR sector will guarantee an access to a central business register for groups and enterprise unavoidable for the success of the action. At the same time, the SBR will benefit immediately of the results of the consistency unit gaining quality and increasing its role of backbone for the economic statistics.

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