

## National Accounts Data Sharing between International Organizations

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### Abstract

International organizations (IOs) have regularly been encouraged by Member States to investigate how to streamline existing data exchanges in order to reduce the reporting burden of national statistical authorities and to ensure the consistency of the macro-economic statistics necessary to support multilateral surveillance exercises. Against the background of two pilot projects that were recently launched by the Inter-Agency Group of Economic and Financial Statistics (IAG) to test the sharing of institutional sector accounts for G-20 economies as well as GDP main aggregates and population data for a wider representation of global economies, this paper reports on planned enhancements for the exchange of data between Eurostat and the OECD. They can be seen as a concrete example of how international data sharing can improve the arrangements for the data collection, validation and dissemination in the area of national accounts and feed into the broader initiative to exchange data between IOs through the on-going work in the IAG pilot projects.

Keywords: Eurostat, IAG, macro-economic statistics, OECD, SDMX, validation

### 1. Introduction

During 2012 the Inter-Agency Group on Economic and Financial Statistics (IAG) discussed several times the key elements for a successful global data sharing and charged a task force with the development of two pilot projects for data sharing (1) one for a detailed dataset of institutional sector accounts for G-20 economies; and (2) another one covering GDP, expenditure components and population for a wider representation of national economies. The purpose of these pilots is to define and test an efficient framework for collecting, disseminating and, where necessary, validating economic and financial statistics amongst IOs. This framework should ensure that data shown in the databases of the IOs are consistent and of the highest quality, hence improving communication towards users and the public at large. Moreover, such data would also permit the compilation of global aggregates.

Against this background, this paper reports on planned enhancements for the exchange of data between Eurostat and OECD, which will be reflected in a protocol between both institutions (Eurostat DMES/2013/03/6.2). Work on this agreement can be seen as a concrete example on how international data sharing can improve arrangements for data collection, validation and dissemination in the area of national accounts and deliver more consistent, high quality data to the users. As the cooperation between Eurostat and the OECD also aims to avoid duplication of statistical work, this initiative illustrates possible efficiency gains from a clearer division of work in collecting and processing national accounts data and feeds into the broader initiative to exchange data between IOs through the on-going work in the IAG pilot projects.

## **2. Recent cooperation on SDMX and improved data exchange procedures**

A growing willingness for intensified international cooperation to address existing and new data requests is not only a response to national and international resource constraints, but also enabled by technical progress and increasing emphasis on statistical business process integration, both between international institutions and with national authorities.

In this context, the ECB, Eurostat and the OECD assumed responsibility to develop and implement Data Structure Definitions (DSDs) for global use in the area of national accounts and ensure that it is closely coordinated with other IOs and with similar developments in the area of balance of payments (Eurostat C2/NAWG/764). Indeed, the use of the SDMX (Statistical Data and Metadata eXchange) data model is not only a strategy to improve the exchange of data between IOs, but also expected to play a key role as a driver of vertical and horizontal integration for the statistical production process as a whole, at national and international level.

A streamlined data exchange between IOs requires appropriate nomenclature and technical standards, as well as clear rules to ensure the quality of data. For this reason, activities of the SDMX technical working group on national accounts (according to the 2008 SNA and the 2010 ESA) were therefore complemented by an ECB, Eurostat and OECD working group (WG) on validation and data exchange procedures. The mandate of this group was to analyze and improve the exchange of data in the area of national accounts, where Eurostat and the OECD currently perform some parallel work on the validation and dissemination of data. At a later stage, the ECB joined in relation to its responsibility to compile quarterly financial accounts and balance sheets. To ensure that national accounts in public databases are not only of high quality, but also consistent with each other, the primary task of the WG was notably to propose practical improvements for current data validation and exchange procedures.

Following a preparatory meeting devoted to discuss current practices, problems and the scope of the project at the beginning of 2012, the WG exchanged information on current validation routines in specific domains and set up a stocktaking of validation checks that are currently applied to national accounts data. In a second physical meeting in September 2012, the working group agreed on minimum checks for national accounts and discussed general principles to further improve the exchange of data between Eurostat and the OECD. This was the basis to draft a protocol for co-operation between Eurostat and the OECD in the area of national accounts that will soon be signed and progressively phased in with a one year testing period.

## **3. Stocktaking of current responsibilities and division of work**

In practical terms, the WG started with a stocktaking of current responsibilities and the division of work between and within the institutions (Eurostat C2/NAWG/765).

- The ESA95 “Transmission Programme” (ESA TP) specifies in detail which data have to be transmitted to Eurostat within certain delays (as well as agreed derogations) and constitutes the legal basis for the bulk of national accounts data transmitted by European countries. In order to limit the burden on national authorities, it already was established practice that Eurostat, with agreement of Member States, sends most national accounts data received to OECD.
- While this practice avoids that the OECD requests again data from EU countries, the OECD uses similar questionnaires to collect data from its other members.

- The general principles for the exchange of statistical data between Eurostat and the OECD specified in a Memorandum of Understanding signed in 2000 stress the importance of cost effectiveness and minimization of the burden on respondents and postulate that "all statistical data will be verified and documented either by Eurostat or OECD, prior to its release, so as to comply with the characteristics and equality requirements of official statistics".
- So far, the OECD and Eurostat generally proceeded with parallel validation and dissemination processes of data transmitted under the ESA95 TP, related legislation and gentlemen's agreements but for some datasets, the OECD already used to publish validated data from Eurostat, which has freed resources in the OECD for other purposes.
- The latter practice has also been established with the ECB, which receives validated national accounts data from Eurostat. Furthermore, the ECB compiles quarterly financial accounts and balance sheets based on the Monetary Union Financial Accounts (MUFA) Guideline that National Central Banks (NCBs) transmit to the ECB, which subsequently validates the national data and exchanges them with the other IOs.

It was thus apparent, that efficiency gains could be achieved, if the cooperation between Eurostat and the OECD would be further enhanced, with the objective that the OECD publishes national accounts data from the ESA95 TP and the MUFA Guideline that have been validated by Eurostat and the ECB, respectively, and vice versa Eurostat and the ECB receive and publish national and financial accounts data of the EU main economic partners, e.g. for Japan and USA, that have been validated by the OECD. The resulting efficiency gains could then be used to address other users' demands. Moreover, the streamlined international validation procedure and the subsequent exchange of validated data would reduce improve the consistency between published data in databases of IOs thus addressing the need of users for comparable and consistent information.

#### **4. Specification of related quality requirements**

As quality assurance is an important precondition for a more streamlined exchange of data between IOs, an important part of the WG mandate was a stock taking and peer review of current data validation routines, which usually encompass:

- (1) the definition of a consistent system of requirements (checking rules),
- (2) their verification on a given dataset (data validation or data checking),
- (3) possible further requests to national authorities regarding problematic data,
- (4) the possible subsequent adjustment and retransmission of data and/or the provision of metadata by the national compiler, and
- (5) the re-processing of data and metadata by the validating organization.

Despite some variations, e.g. regarding the order of checks applied, the validation process typically begins with basic format, structure, encoding and content tests, which are essential for automatic processing, followed by revision checks and consistency checks within and between transmitted national accounts datasets, which are essential for users' perception of the quality of national accounts data. Further checks (e.g. statistical and economic plausibility checks or cross-checks against related data) are also considered useful for detecting problems in the transmission or comparability of data and are run occasionally or systematically depending on the dataset in question.

While some checks seem more important than others, e.g. with respect to the type of error or the degree of certainty with which a “real error” is detected, the decision if the dataset seems acceptable for loading and dissemination is often not straightforward. Taking into account time and resources needed to follow up the result of error checks in the transmitted dataset there clearly is a trade-off between timeliness and quality of published data.

Accordingly, the agreed set of minimum checking rules for national accounts data emphasizes the importance of checks that can be processed and interpreted in a relatively automatized way to ensure that data fulfilling minimum quality requirements can be published in a timely way. However, it was also considered that the type of checks and the time used for checking data may vary across datasets. For example, timeliness is clearly more important for main quarterly aggregates, among which GDP, which are widely used for monetary and fiscal policy purposes, than for annual national accounts data or detailed breakdowns by purpose or industry that are mainly used for structural analysis. In any case, specificities which affect validation checks or require particular interpretation should be clarified with national authorities and documented as metadata.

## **5. Improved data sharing arrangements between Eurostat and OECD**

Following the identification of possible synergies and the agreement on minimum validation checks, the WG proposed the following general principles for the collection, validation and dissemination of national accounts data, in order to improve the division of work between the ECB, Eurostat and the OECD in the area of national and financial accounts:

- As a general principle, only one IO should dedicate resources to check and validate a specific dataset, so that it can focus on the collection, validation and dissemination of data for countries under its constituency (primary international validator). In the area of national accounts, this would be Eurostat for the EU and enlargement countries and OECD for other OECD members and its Key Partners. In principle, Eurostat will also be the primary international validator for EFTA-countries, but a shared responsibility could be put in place, in case data transmissions still needs further improvements.
- Following the validation of these data using agreed and well documented minimum checking rules and procedures within agreed delays, validated data would be transmitted to the other IOs using standard tools and procedures. As more timely transmission of data may be needed, e.g. for internal analytical purposes, non-validated national accounts data would continue to be used (respecting agreed confidentiality requirements and after agreement by countries). However, organizations should ensure that data that have not been published by national authorities or are politically sensitive, are not disseminated before they are officially released by the responsible organization. This is particularly true in the case of government finance statistics and related data.
- Subsequent questions regarding the correctness of national data (e.g. in relation to validation checks) should generally be handled by the same primary international validator, which would investigate the issue or forward the question to its national counterpart for clarification. The primary validating organization would undertake efforts to increase the quality and quantity of published metadata in order to be able to use each other's data and to decrease the response burden on countries. In the meantime, the primary validating organization would keep the receiving organization informed of issues leading to clarifications or data changes with the exception of particularly sensitive or confidential content.

- The above principle does however not prevent specific questions being clarified directly between the IO not being the primary validating organisation (here: OECD) and the national authorities, or the OECD having regular contacts with its delegates. In these cases, the primarily validating organization should be informed of issues that lead to data changes, as it will have to process data adjustments.
- In case of significant delays (beyond the agreed deadlines) in the provision of (validated) data, the other IO will be informed, so that an alternative solution may be agreed.
- While national authorities would predominantly interact with one counterpart (the IO that specializes on its data and metadata transmissions), related information on data specificities, which could enhance the understanding of the data, will be widely shared when available (as far as these are not confidential).

As a final step, the WG drafted concrete arrangements for the co-operation between Eurostat and the OECD which reflect not only the broad principles above, but also work out in detail how they should be applied on different collections of national accounts data, with concrete indications on the foreseen transmission delays, and constraints in relation to the dissemination of data.

Building on this preparatory work and further bilateral discussions and negotiations between the concerned services, Eurostat and the OECD are now about to formalize an agreement on the future division of work and exchange of data in the area of national accounts in a protocol. Following its signature, the new working arrangements will be progressively implemented and tested for one year. After that, the new working procedures will be evaluated to determine whether any adaptations are needed before they can be fully operationalized. Further details and criteria regarding the evaluation will be discussed and agreed upon in the course of 2013.

## **6. Relation to the global IAG international data sharing initiative**

While practicalities of data sharing between Eurostat and the OECD still have to be tested, the reduction of double work and specialization will yield efficiency gains for both organizations. Similarly, both producers and users of national accounts data will profit from the enhanced cooperation between Eurostat and the OECD in terms of lower response burden and increased data consistency.

Moreover, since enhanced data sharing between IOs generally makes sense, work on the enhanced Eurostat and OECD co-operation already feeds into the broader initiative to improve international data sharing under the auspices of the Inter-Agency Group on Economic and Financial Statistics (IAG), which recently charged a working group with the development of two pilot projects to define and test an efficient framework for collecting, disseminating and, where necessary, validating economic and financial statistics amongst IOs in 2013. While the first pilot project will focus on detailed institutional sector accounts for G-20 economies, the second pilot project will cover GDP main aggregates and population figures for a wider representation of economies.

At its meeting on 18 April 2013 at the premises of the OECD in Paris, the technical working group on the two pilot projects consisting of representatives from the BIS, ECB, Eurostat, IMF, OECD, UN and World bank discussed a more concrete setup of the two pilot projects in relation to its proposed mandate and current processes and questionnaires used to collect data by the participating IOs.

While alignments of processes or underlying questionnaires were considered beyond the scope of the pilot projects, the group agreed on taking a pragmatic approach, focusing on the exchange of a selection of available data, and organizing the data exchange based on current technologies. In relation to the latter, for example, data could initially be exchanged via e-mails, using formats appropriate for all IOs, until the SDMX framework is operational and allows for automated procedures.

Building on already agreed responsibilities between the ECB, Eurostat and the OECD, the transmission of data for the euro area, EU and remaining OECD and Key Partner countries to other IOs would be organized by these three organizations, while the IMF, UN and World bank would decide upon their division of work regarding the transmission of data from selected other economies.

The purpose of the exchange of data would be to test the practicability of data exchanges between all participating IOs upon validation by the responsible IO, in order to evaluate whether these data fulfill timeliness and quality requirements of the receiving IOs as well as the scope of efficiency gains. This approach would be in line with the proposed general principles governing the data sharing of official statistics that are already agreed upon between ECB, Eurostat and the OECD.

While the purpose of the pilot projects is to test general principles for data sharing in practice, and the resulting principles should therefore not be pre-empted, an intensified co-operation between IOs would imply efficiency and consistency gains, even if co-operation is only improved for specific countries or datasets. In this respect, the planned protocol for co-operation between Eurostat and the OECD in the area of national accounts already constitutes a major step forward.

Following recent investments on the harmonization of statistical concepts and definitions reflected in international methodological standards (SNA08, BPM6), to ensure that they are comparable across countries and over time and progressing work on harmonized SDMX data exchange formats and codification systems (Data Structure Definitions (DSDs)), agreeing on some organizational and procedural changes to reduce overlaps in statistical data collection, validation and processing seems the logical next step.

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