

Ladies and gentlemen, dear SDMX friends,

On behalf of the seven SDMX Sponsor Organisations, I wish to convey to all of you a warm welcome to the SDMX Global Conference 2015.

First of all and foremost, I would like to express our gratitude to **Mrs Ashkar** for her encouraging remarks, and I would like to thank the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) and the United Nations Statistics Division, in particular **Messrs Shun-Ichi Murata** and **Stefan Schweinfest**, for the hospitality. I also would like to thank my colleagues in the **SDMX Secretariat** and the **conference organisation team** for all the efforts they have put into this event. Following the first four SDMX Global Conferences that alternated between North America and Europe, we took a deliberate choice in selecting **Bangkok** as place for the 5th SDMX Global Conference.

The SDMX Sponsors and SDMX products

In 2001, **seven Sponsor Organisations**, the Bank for International Settlements, the European Central Bank, Eurostat, the International Monetary Fund, the Organization for Economic Cooperation and Development (OECD), the World Bank and the United Nations joined forces to develop more efficient processes for the exchange and sharing of data and metadata within the scope of their activities. This initiative was called **Statistical Data and Metadata eXchange** or SDMX.

Our main goal was and still is to develop and to maintain SDMX as a world-class standard, accepted as the foundation for statistical infrastructures. Very importantly, SDMX follows a **not-for-profit policy**. All the tools we produce are made available publicly for free.

With this mandate, the Sponsor Organisations promoted the usage of SDMX and launched activities aimed at facilitating the SDMX adoption world-wide. SDMX includes technical standards, content-oriented guidelines, implementation tools, and statistical registries. We have also developed

promotional and educational material. Today, we provide a robust standard, supplemented by a set of tools for the implementation of statistical infrastructures.

What is SDMX?

Many of you may still remember that SDMX was originally developed as a tool enabling the **exchange of statistics** in an efficient manner and with the ambition to support fully automated procedures. Building on SDMX as an ISO standard already in 2004, the original idea has become a reality. Today, SDMX powers the data exchange between central banks, statistical offices and international organisations globally. Every day and every hour, SDMX messages are traveling between numerous partner organisations around the world.

SDMX is in the meantime more than just a tool to exchange data, it is an **information model**. SDMX provides a set of building blocks for the management of statistical information. Standards and guidelines in SDMX allow creating structures that are at the basis of the management of statistics: the structures I refer to are called in SDMX terminology **Data and Metadata Structure Definitions - DSDs and MSDs**.

It is through the usage of Data Structure Definitions that we create efficient processes, as those objects maximise the **reusability and interoperability of what we create**. When built to conform to SDMX specifications, the Data Structure Definitions can be re-used to support a broad range of statistical services, for example batch exchange, joint hubs, data sharing, dissemination and existing data collection for one or more subject-matter domains. They also allow computer-to-computer interactions in a fully automatic manner, diminishing the running costs of the statistical production significantly.

SDMX has also the peculiarity of being a **generic model**; that makes SDMX particularly well-suited to represent data for a wide variety of domains and use cases. It also explains why the World Wide Web Consortium (W3C), the body that develops the open standards that power the internet, has based its RDF Data Cube Vocabulary on SDMX. As can be seen in the W3C specification, the model is considered generic enough to handle not only aggregated official statistics but to cover also survey data as well as Online Analytical Processing (OLAP) data cubes.

SDMX is of course just one initiative in the field of standardisation. How does SDMX position itself vis-à-vis other standards in the statistical field such as the Generic Statistical Business Process Model (GSBPM), the Generic Statistical Information Model (GSIM), the Data Documentation Initiative (DDI), and others?

In short, we wish to stress the **complementarity** of standards.

GSBPM can be used to document the set of business processes needed to produce official statistics. This is of course invaluable for streamlining statistical systems. More recently, **GSIM** has been developed, so that inputs and outputs to the GSBPM processes can be clearly defined. In this sense, GSIM and SDMX are complementary rather than competing standards. While GSIM focuses on the conceptual level, SDMX takes care of the system level, for example by making sure that the information is represented and exchanged in an appropriate and standard format. Together, these standards can facilitate the building of highly efficient and fully automated metadata-driven systems.

SDMX is also frequently mentioned together with **XBRL** (eXtensible Business Reporting Language) and its use as a reporting mechanism. There are some overlaps between XBRL and SDMX; they could be considered interchangeable for certain aspects. For example, they are platform independent; they support the exchange and dissemination of business data and both are used to describe the structure and provide the format for the reporting of dimensional data. However, the two standards also have important differences, like in the field of rendering or in the field of historicity or validation. There is also the difference in the operational model. Whereas SDMX is sponsored by a group of major international organisations, XBRL is mainly market-driven and supported by supervisory authorities. While XBRL is a more recent initiative with rather fast adoptions of new specifications to the standard, SDMX has a stronger focus on international harmonisation, with greater re-usability of concepts across domains and actors.

The role of SDMX in the modernisation of official statistics

I would like to take the opportunity to appreciate also the work of the **High Level Group (HLG) on the Modernisation of Statistics**. In their vision, the adoption of standards is essential in creating Common Production

Architectures with a clear benefit of reducing labour costs. SDMX plays a key role in this context.

SDMX is more than a tool for exchanging statistical data. We live in a world that produces data faster and faster. Organisations are facing the so called data “deluge”: advances in technology allow an increasingly cost effective transport and storage of data and as a consequence huge amounts of data are in principle available. SDMX can help by creating an environment that facilitates the reuse and the sharing of methods, components and processes, which in turn enable the delivery of standardised output. The SDMX information model, the availability of high quality SDMX libraries and software, and the definition of standard patterns and best practices, such as the SDMX Components-based architecture, all play a key role in facilitating the modernisation of official statistics in an effective and cost-conscious manner.

These factors also contribute to lowering the barriers to entry for those who would like to use SDMX for the modernisation of their statistical systems. In particular emerging economies may benefit from this development.

Some SDMX history (demonstrating the “in action” motto of the SDMX conference)

A milestone in the acceptance of SDMX was achieved in 2008 when the **United Nations Statistical Commission** and the **Committee for the Coordination of Statistical Activities (CCSA)** adopted SDMX as the standard for data and metadata exchange.

Most progress in applying SDMX was achieved in the European Union by both the **European Statistical System** and the **European System of Central Banks** who apply SDMX on a wide scale in their day-to-day work. There are many further visible outputs. One of them is the **Principal Global Indicator website** hosted by the IMF and sponsored by the Inter-Agency Group on Economic and Financial Statistics composed of the same seven international organisations as the SDMX Sponsors. The PGI Website is providing comparable data mainly for the G-20 economies. Equally, SDMX takes its place in the Data Gaps Initiative endorsed by the G-20 Finance Ministers and Central Bank Governors.

I would like to underline the essential role of **global Data Structure Definitions** and **Metadata Structure Definitions** in pursuing the worldwide interoperability in the field of official statistics. Global DSDs and MSDs are a necessary condition for optimal business processes in a statistical domain such as national accounts or balance of payments statistics. Undoubtedly, this is a major step forward in modernising official statistics. In mid-July 2015 the exchange of national accounts aggregates went live. By adopting the respective global DSD for national accounts, the participating international organisations commence to work much closer together on a day-to-day basis.

Another milestone was reached with the **SDMX Global Registry**, which provides the SDMX community with the authoritative source for SDMX material. Thanks to the Global Registry, national and international agencies that wish to use SDMX as standard for data management or exchanging data, have an easy way to access global DSDs, cross-domain concepts and code lists.

Aspects of the SDMX vision 2020

If we look into the future, which developments may guide our priorities in further developing SDMX?

We may wish to intensify building up a **global information system allowing a real-time and free of charge access to official statistics by 2020**. To this aim, statistical authorities and international organisations should publish in their websites comparable statistics and indicators applying SDMX with harmonised data structures definitions and supported by metadata in English. The IMF Statistical Data Dissemination Standard (SDDS) and its highest tier, the SDDS Plus, are cases in point. The same applies to the United Nations Sustainable Development Goals (SDGs).

Such a system will enable policy makers to take coordinated and evidence-based actions to prevent or correct economic and social imbalances and vulnerabilities. We may achieve this objective by working on four lines of actions.

As a *first* line, **national statistical offices and central banks have to guarantee the availability and overall quality of the statistics and have to implement the international statistical standards**. They are solely responsible to demonstrate to the public, market participants and policy

makers that the published data are of sufficient quality and aligned to the international data standards. In a similar manner, the international organisations are ultimately responsible for the availability and overall quality of the statistics, indicators and metadata of regional and global aggregates.

As a *second* line of action, the **international organisations have the additional task to coordinate and administer this global information system**. To do so, they have to, (i) first, develop the international statistical standards laying down common concepts and methodologies; (ii) second, establish and maintain Data Structure Definitions (DSDs) for the various statistical domains as the “common language” to facilitate the exchange of data as well as to establish and maintain Metadata Structure Definitions (MSDs); and (iii) third, agree on harmonised reporting templates for the dissemination of comparable datasets for the different macroeconomic statistics.

Developing common methodologies and adopting new DSDs is not sufficient. The big challenge for international organisations is to agree on **harmonised reporting templates (sometimes called transmission programmes)** as they are **the link between the international statistical standards, the DSDs and SDMX**. The international statistical standards provide concepts and definitions, but do seldom refer to reporting aspects such as frequency, timeliness, revision status, currency of denomination, seasonal-adjustment, working-day adjustment, etc.

The governance of the development and maintenance of such harmonised reporting templates must be strengthened. This requires a close cooperation among international organisations and a very strong involvement of statistical authorities. The international statistical standards do typically not take into account priorities in the user demand and cost constraints of statistical authorities in providing statistics and indicators. This needs to be balanced in harmonised reporting templates that are translations of international statistical standards into operational reporting forms that are applicable in practice. The Inter-Agency Group on Economic and Financial Statistics was instrumental in recent years in narrowing down the gap in the governance of harmonised reporting templates.

As a *third* line of action, **SDMX is the IT cornerstone to this global information system** and both statistical authorities and international organisations must undertake the necessary steps to adopt it. It allows

establishing an industrial production process on official statistics. When new statistics are available, automatic notifications are transmitted to international organisations who may decide to download the content of the harmonised reporting templates or parts of it at any time, either real-time or later. As the IT systems of every relevant partner use a common language (SDMX with global DSDs), the IT systems directly talk to each other ('machine-to-machine' as in industrial production processes).

As *fourth* and last line of action, the international organisations have to support this global information system through **a major Global Reference Database (GRD)** presenting statistics that are available on the websites of the statistical authorities and international organisations. The Global Reference Database shall provide **comparable statistics, free of charge and in real-time**. The Global Reference Database will facilitate user access to comparable statistics and will be hosted by an international organisation or a group of them. The Principal Global Indicators (PGI) website, which provides core statistics for G-20 economies and is sponsored by the Inter-Agency Group on Economic and Financial Statistics, is a first, currently small-scale, example of such a Global Reference Database.

To sum up, for national **statistical authorities**, **SDMX 2020** will reduce the reporting burden to international organisations, as the statistical authorities will provide the harmonised reporting templates on their websites. In parallel, for **international organisations**, **SDMX 2020** will ensure that they receive more timely and comparable statistics. **For analysts and policy makers** in international organisations **and users** in general, **SDMX 2020** will significantly support establishing undisputed facts and figures about the global development that are the basis for any judgment and evidence-based policy action.

Conclusions

The SDMX Sponsor organisations are looking forward to an interesting conference. We intend to draw conclusions from it for possible future strategies for applying SDMX more widely and deeply for the benefit of modern official statistics.