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Organization of data collection and sharing, and the management challenges for the implementation of Statistical Data and Metadata eXchange

Report on the Statistical Data and Metadata eXchange Global Conference 2011

Note by the International Monetary Fund and the World Bank

Summary

The third Statistical Data and Metadata eXchange (SDMX) Global Conference took place from 2 to 4 May, 2011 in Washington D.C., bringing together around 280 participants from 90 countries. The conference was co-hosted by the International Monetary Fund (IMF) and the World Bank and organized by the SDMX sponsoring organizations. This paper summarises the outcomes of that conference.

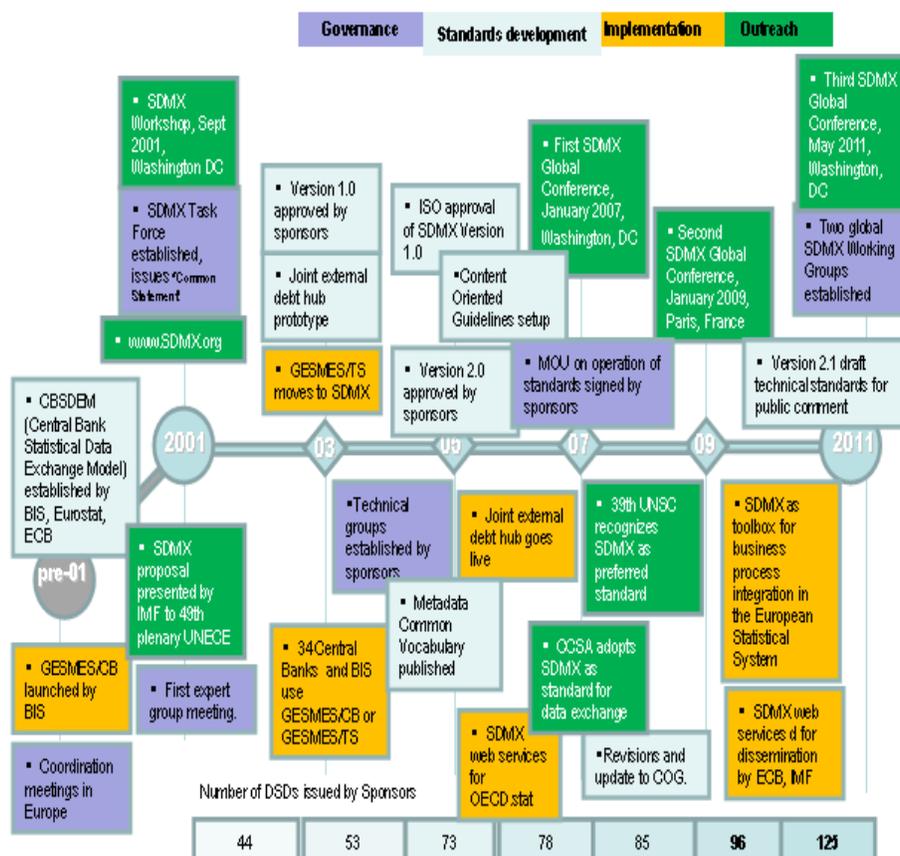
I. A growing Statistical Data and Metadata eXchange Community

1. The third Statistical Data and Metadata eXchange (SDMX) Global Conference took place from 2 to 4 May, 2011 in Washington D.C., bringing together around 280 participants from 90 countries. The conference was co-hosted by the International Monetary Fund (IMF) and the World Bank and organized by the SDMX sponsoring organizations.
2. The Conference covered all aspects of SDMX, including a review of SDMX activities over the past ten years, the business case for adopting SDMX, showcasing SDMX implementations in national and international organisations, examples of how to get started with SDMX, an interactive discussion on the future of SDMX and capacity building workshops on the technical standards and content guidelines.
3. The SDMX user survey results (see below) show that more and more statistical organisations are embarking on SDMX initiatives, as they see clear advantages of more efficient data and metadata exchanges, now that the SDMX Technical and Content Standards are mature.
4. Overall, SDMX technical standards and content guidelines have been well received as mature and ready for adoption by statistical agencies. The business case for using and implementing SDMX is further supported by national and international statistical business process integration: broader adoption is now a priority.
5. Conference presentations and the list of participants are accessible at www.sdmx.org.

II. Statistical Data and Metadata eXchange — 10 years of progress

Figure 1

Statistical Data and Metadata eXchange progress since 2001



6. Ten years of SDMX...much has been achieved in this period in the areas of governance, standards development, implementation and outreach. Some highlights are described below.

(a) Governance: Initial agreement between seven sponsoring organisations in 2001; Memorandum of Understanding issued in 2007; creation of two SDMX Working Groups with global participation established in 2011 (i.e. the SDMX Technical Standards Working Group and the SDMX Statistical Working Group);

(b) Standards Development: SDMX Technical 2.0 Standards approved in 2005; SDMX Content-oriented Guidelines updated in 2009; SDMX Technical Standards version 2.1 released in 2011;

(c) Implementation: Transition from GESMES/TS to SDMX in 2003; SDMX web services adopted by growing numbers of statistical organisations; continuous increase in the number of statistical domains creating SDMX-compliant data structure and metadata structure definitions;

(d) Outreach: Creation of the SDMX website in 2001; recognition of SDMX as the preferred standard for data and metadata exchange by the UNSC in 2008; creation of broad capacity-building and training programs by many SDMX sponsors and the organisation of regular SDMX meetings; and three Global Conferences organized to support growing SDMX community.

III. Statistical Data and Metadata eXchange Global Conference

A. Plenary sessions

7. The Global Conference Plenary Sessions on days 1 and 2 pooled contributions from regional, international and national statistical organisations and central banks from all over the world.

8. SDMX in Action illustrated the business case for SDMX for international and national organisations, SDMX implementation actions on metadata and the use of SDMX for data applications.

9. SDMX Ready for Implementation showed the use of large-scale SDMX in two national statistical organisations to improve and integrate their statistical business processes, the use of SDMX in a particular reporting system to an international organisation and the creation of new data structure definition in balance-of-payment statistics.

10. Getting Started with SDMX went more into depth on how to create and use SDMX-compliant data structure definitions. It illustrated the impact of SDMX on national statistical business processes and presented a SDMX-based time series repository.

11. Showcasing SDMX and Showcasing SDMX IT tools illustrated the use of SDMX for principal global indicators and the European census. Many SDMX IT tools were presented, including the SDMX reader, SDMX Reference Infrastructure and SDMX based web services.

12. SDMX Latest News presented the results of the SDMX 2011 Global survey (see below), together with some ideas on the relationship between DDI and SDMX. It gave an overview of SDMX Technical Standards 2.1 and the two newly established SDMX working groups.

B. Capacity-building sessions

13. On 4 May 2011, two capacity-building sessions were held on SDMX technical aspects and content-oriented aspects. More than 70 persons participated in each of these two sessions, led by SDMX experts and members of the SDMX Secretariat.

14. The technical session provided an overview of the SDMX Information Model and Web Services, together with the basic elements of a Data Structure Definition. In the afternoon, the session focused on how an SDMX IT architecture with common components, version independent and syntax neutral, can support the SDMX implementation. In addition, the need of migrating from one version to another of the SDMX standard was discussed.

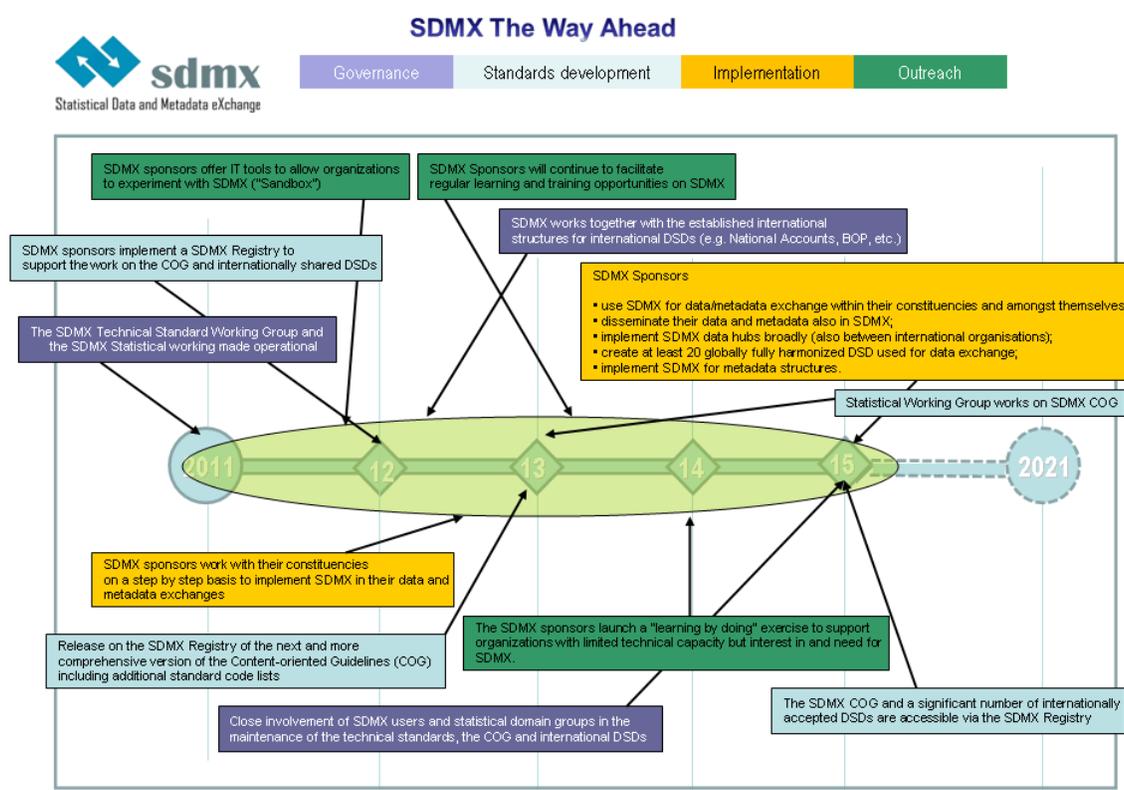
15. The content-oriented session explained the SDMX Content-oriented guidelines (COG) with emphasis on the use and implementation of cross-domain concepts and code-lists. A step-by-step tutorial was given on how to build data or metadata structure definitions. The session also discussed about the role of domain groups in developing

Metadata Structure Definitions and DSDs, and highlighted the scope for the next revision of the COG issued in 2009.

IV. Statistical Data and Metadata eXchange — the way ahead

Figure 2

Statistical Data and Metadata eXchange — The way ahead



16. The SDMX sponsors also provided their views on the future work for global SDMX adoption.

(a) **SDMX Governance:** the two newly established SDMX Working Groups (i.e. the SDMX Technical Standards Working Group and the SDMX Statistical Working Group) are operational and will promote a global participation in the further development of the SDMX standards and guidelines. Sponsors stressed the need to intensify progress on the definition of global data structure definitions for specific statistical domains, building on established international working groups;

(b) **Further development of SDMX Standards:** In collaboration with the SDMX Statistical Working Group, the SDMX will work on providing an update to the Content-oriented Guidelines, including more harmonised code lists. Sponsors noted the need to facilitate the sharing of global data and metadata structure definitions through one or more Global SDMX Registries, to expand the number of freely available SDMX IT tools and further explore linking SDMX to other statistical standards.;

(c) The implementation of SDMX: Sponsors expressed their strong commitment to use SDMX within their constituencies, to disseminate data and metadata in SDMX, to implement data hubs more broadly and to create global data structure definitions;

(d) SDMX outreach: Sponsors will continue to provide training and learning opportunities, which are a key aspect of SDMX outreach. Sponsors will also provide support for SDMX implementers that have limited technical capability to experiment with SDMX by launching a “learning by doing” exercise to promote adoption of the standards and guidelines.

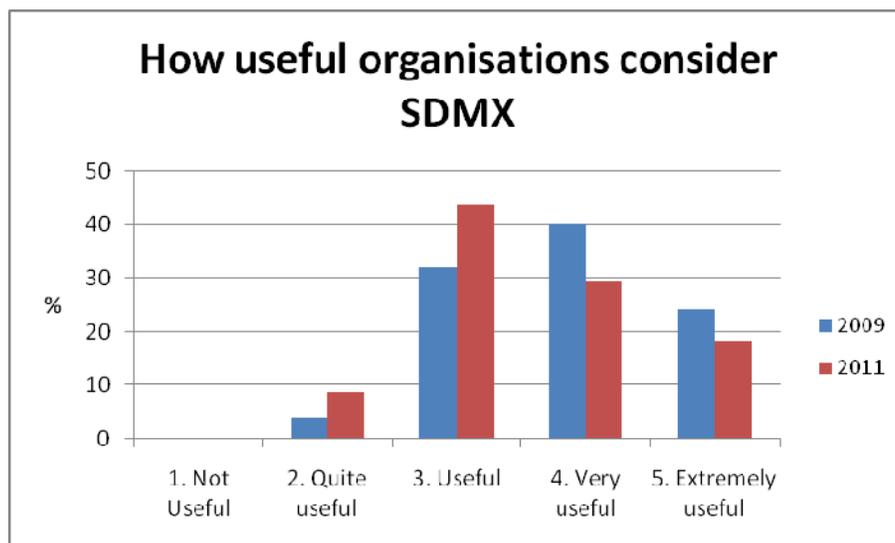
17. The SDMX Sponsors also agreed to draw up a more formal action plan for SDMX in the months to come and to make this action plan available at www.sdmx.org.

V. The main findings from the Statistical Data and Metadata eXchange Global Survey 2011

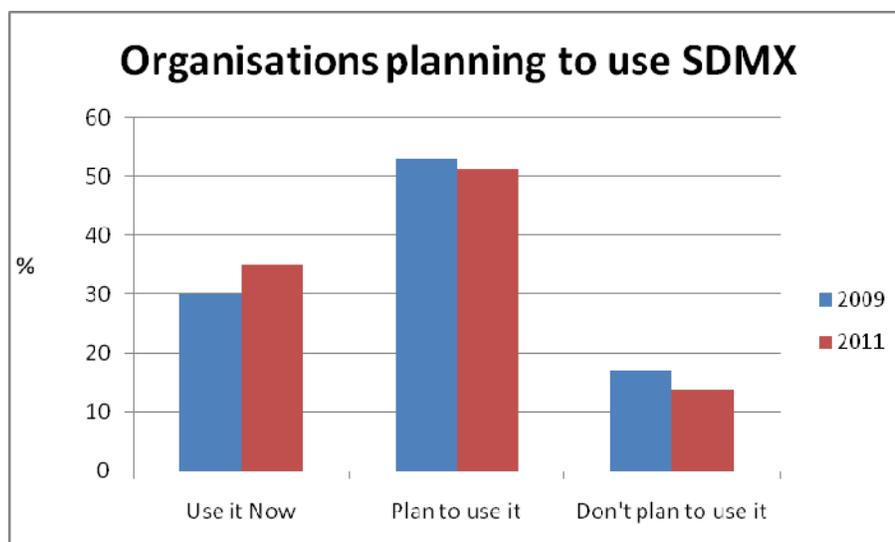
18. The 2011 SDMX Global Survey aimed to measure acceptance level, challenges and implementation plans of SDMX in official statistics. Results were compared with the 2009 survey.

19. 124 organisations across 6 continents responded. NSO response increased from 41% in 2009 to 58% in 2011. There was a corresponding decrease in Central Bank responses from 39% to 33%.

20. There was a shift in perception of SDMX from 2009 to 2011 as being “Useful” rather than “Very useful”.

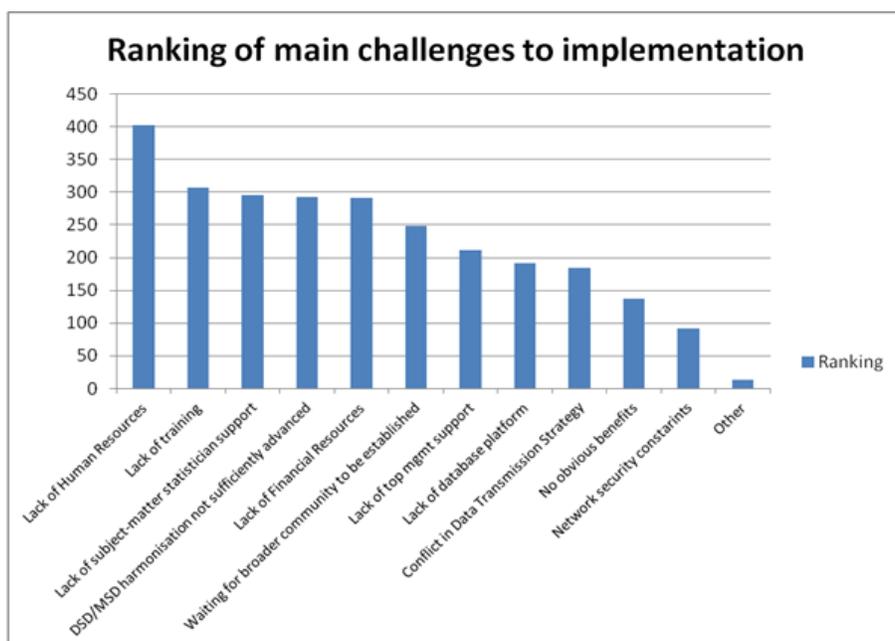


21. At the same time there was an increase in the number of organisations using SDMX and a decrease in the number that do not plan to use SDMX.



22. This was seen as being typical of the classic stages of software implementation life-cycle as initial hype fades and organisations adopt SDMX.

23. The main challenges to implementation were overwhelmingly related to lack for resources (both human and financial) as organisations face budgetary pressures due to the global financial crisis. Lack of training, subject-matter support and a need for data and metadata definitions (DSDs and MSDs) were also seen as important hampering factors.



24. It was felt that further marketing of SDMX is required to increase the rate of implementation and that a global DSD registry will be a key factor in moving forward.

VI. About Statistical Data and Metadata eXchange

Statistical Data and Metadata eXchange, or SDMX, addresses one of the key problems facing public administrations: the standardisation, efficient exchange and sharing of statistical data and metadata. SDMX consists of technical standards and statistical guidelines, together with an IT service infrastructure and IT tools. Seven regional and international organisations sponsor SDMX: the Bank for International Settlements (BIS), the European Central Bank (ECB), Eurostat, the International Monetary Fund (IMF), the Organisation for Economic Cooperation and Development (OECD), the United Nations Statistical Division, and the World Bank.

The purpose of SDMX is to reduce development and maintenance costs, eliminate human error and allow faster, more reliable and simpler data and metadata processing. SDMX allows greater harmonisation of statistical business processes reduces manual intervention and ensures the standardisation of statistical metadata, IT applications and IT infrastructure. This paves the way for the interoperability and for automated production, processing and exchange of SDMX data and metadata files between national and international statistical organisations.