SDMX, a key element supporting official statistics

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Overview

I. **The Statistical Data and Metadata Exchange (SDMX) standard - Introduction**

II. **A key element supporting official statistics**

III. **Priorities looking forward**

IV. **The new 3.0 SDMX standard**

V. **SDMX as part of a new international framework for statistical cooperation**

VI. **Work in Basel**

I. The SDMX standard - Introduction

- **Strategic Vision of SDMX**
  - ➤ A public statistician / economist perspective
  - ➤ Support production of relevant statistics for public good & policy

- **Many achievements in the past 2 decades**
  - ➤ ISO standard, role of metadata, free / open-source tools
  - ➤ Increased number of Data Structure Definition (DSDs)
  - ➤ International cooperation & data exchanges…
  - ➤ Governance & trust vs "fake news" & "alternative" sources

- **Still important challenges**
  - ➤ Complexity, costs, outreach…
  - ➤ Interaction IT – Statistics – Analysis – Policy-making…
  - ➤ Useful perspective from central banks as data producers & users

II. A key element supporting Official Statistics

- **2013 Fundamental Principles of Official Statistics**

- **Main considerations**
  - ➤ Critical role of high-quality official statistics in analysis & policy decision-making
  - ➤ Essential public confidence in statistics
  - ➤ Need for effective fundamental values to govern statistical work

- **10 Principles** (excerpts)

II. A key element supporting Official Statistics (cont'd)

- **1. To compile and make available statistics of practical utility**
  - ➤ SDMX standard for data compilation & dissemination

- **2. Strict professional considerations to decide for the collection, processing, storage and presentation of statistical data**
  - ➤ SDMX ISO standard

- **3. Present information according to scientific standards on the sources, methods and procedures**
  - ➤ SDMX standard for metadata

- **4. Statistical agencies to comment on misuse of statistics**
  - ➤ SDMX to support the dissemination of reference information
  - ➤ Building trust

II. A key element supporting Official Statistics (cont'd)

- **5. Data from all sources eg surveys, administrative records**
  - ➢ SDMX to deal with all types of data
  - ➢ Backbone for developing big data platforms

- **6. Individual data confidential & used for statistical purposes**
  - ➢ Address data sharing needs
  - ➢ Ability to deal with confidential granular data

- **7. The laws, regulations and measures under which the statistical systems operate are to be made public**
  - ➢ ISO standard
  - ➢ SDMX.org public website
  - ➢ Development of the standard is public information (on GitHub)

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II. A key element supporting Official Statistics (cont'd)

- **8. Essential coordination among statistical agencies in countries**
  - ➤ Data sharing, common statistical concepts, etc

- **9. Use of international concepts, classifications and methods to promote the consistency and efficiency of statistical systems**
  - ➤ Global DSDs, registries, tools etc

- **10. International cooperation in statistics**
  - ➤ IOs' cooperation
  - ➤ Capacity building, knowledge-sharing, use cases
  - ➤ Access to mirror data, nationality-based statistics...

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III. Priorities looking forward (i) Communication

- **Training**
  - ➢ Already a lot is going on
  - ➢ Post Covid-19 opportunity to speed up web-based outreach

- **SDMX still seen as a topic for specialists – need to engage with other stakeholders**
  - ➢ Public image (open data eg)
  - ➢ Private sector
  - ➢ Policy level

- **Simplification**
  - ➢ Interaction IT – statisticians – users
  - ➢ (technical) Tools available in a free-to-use, production-ready & user-friendly way

III. Priorities looking forward (ii) Micro data

- **Several needs**
  - ➢ Reconcile different types of data collections (eg supervisory data point model)
  - ➢ Micro-macro reconciliation (eg needs post-GFC, Covid-19)
  - ➢ Evidence-based policy needs access to granular information (eg distribution, inequalities)

- **Expected benefits**
  - ➢ Contained reporting burden despite more data needs
  - ➢ Enhanced statistical production chain as highlighted by Covid-19
  - ➢ Interoperability with other standards used for micro-data, such as XBRL eXtensible Business Reporting Language)

III. Priorities looking forward (iii) Big data

- **New information sources**
  - ➢ New formats eg geospatial
  - ➢ Micro data: «financial big data»

- **Backbone for developing Big Data platforms**
  - ➢ Key building block of ongoing projects in central banks, BIS
  - ➢ Facilitates the development of capabilities in advanced analytics

III. Priorities looking forward (iv) Data sharing

- **Data sharing**
  - ➤ Reduced reporting cost
  - ➤ From the "push" to the "pull" mode using web services

- **Not enough: dealing with confidential data**
  - ➤ Micro exchange
  - ➤ Make use of (newly developed) global identifiers
  - ➤ Confidentiality preservation tools

IV. The new 3.0 SDMX standard

- **Large undertaking – up to almost half a million USD**
  - ➤ Strong international cooperation
  - ➤ Common financing by IOs' sponsors
  - ➤ Plus significant internal resources

- **Many improvements**
  - ➤ Simplification
  - ➤ Micro data
  - ➤ Multiple values per attributes & bi-temporality (key for nationality-based statistics developed at the BIS)
  - ➤ New data sources

V. SDMX part of a new international framework for statistical cooperation

- **Need for a revised international framework for cooperation to:**
  - ➢ Enhancing existing core official statistics information, especially as regards timeliness, frequency and international comparability
  - ➢ Addressing newly emerging data needs in view of Covid-19

- **Building upon the infrastructure already put in place by the G-20 DGI so as to take advantage of its three key success factors:**
  - ➢ Structured collaboration between IOs & statistical systems
  - ➢ Connection to authorities' priorities, with effective reporting
  - ➢ Effective peer pressure mechanisms

V. SDMX part of a new international framework for statistical cooperation (cont'd)

- **SDMX already key in DGI work**
  - ➢ Rec 19 (International Data Cooperation and Communication)
  - ➢ Timely standardised transmission of data through agreed formats
  - ➢ DSDs established for several recommendations

- **Revamped SDMX could support the following goals:**
  - ➢ Collecting more granular information on financial markets
  - ➢ Better tapping into big, "alternative" data
  - ➢ Enhancing the global statistical infrastructure eg data-sharing, LEI
  - ➢ Better measuring non "traditional" statistical new topics underscored by Covid-19 (eg distribution issues, environment)
  - ➢ Towards timely, more "automatised" production of official statistics

VI. Conclusion: SDMX work in Basel

Building up substantial SDMX expertise to support IT projets at BIS Statistics

Rafael   Lorenzo   Emre   Xavier   Hubert   Boris

SDMX is the backbone of BIS statistical processing systems being developed

Thank you!!

Selected references

➢ [2020 Annual Report of the Irving Fisher Committee on Central Bank Statistics](#)

➢ [The Business Case for SDMX](#)

➢ [Progress Report of the SDMX sponsors on SDMX for the 52th session of the Statistical Commission, UN Economic and Social Council, December 2020](#)

➢ [Central banks' use of the SDMX standard](#), [IFC Report, no 4](#)

➢ [Fundamental Principles of Official Statistics 2013/21](#)

Questions?

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