Irving Fisher Committee on Central Bank Statistics | **◆BIS**

Ensuring Quality of Statistical Data

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1. Introduction

- IFC and the International Statistical Institute (ISI) organised a High-Level Meeting on Data Governance in Tunisia in November 2019.

- The proceedings including national cases studies were published in the IFC Bulletin No 54, available at https://www.bis.org/ifc/publ/ifcb54.htm

- Ensuring quality of statistical data is a central part of data governance and key for maintaining well founded trust in official statistics.

2. International Definitions of Data Quality (1/2)

- For the **International Organization for Standardization**, quality is the degree to which a set of inherent characteristics fulfils requirements *(ISO 9000:2015-11)*

- In the international statistical community, there is a whole set of definitions of data quality:

  - **IMF:** Data quality assessment framework *(IMF, 2018)*

  - **European Statistics Code of Practice** *(Eurostat, 2017)*

  - **Quality Framework for OECD Statistics** *(OECD, 2002)*

  - **Public Commitment on European Statistics by the European System of Central Banks** *(ECB, 2008)*

- Effectively, all of those definitions include relevance, accuracy, reliability, timeliness, accessibility and coherence in official statistics

2. International Definitions of Data Quality (2/2)

- The **United Nation's** *Fundamental Principles of Official Statistics* pay particular attention to the importance of public confidence and fundamental values to govern statistical work:

    - 2. Retaining trust in official statistics / following strict professional considerations.
    - 4. Commenting on erroneous interpretation and misuse of statistics.
    - 7. Making public the laws and rules under which the statistical system operates.

- The **ISI** adopted a definition of professional ethics reflecting fundamental principles of being a statistician such as:

    - *Pursuing objectivity, clarifying obligations and roles, exhibiting professional competence, communicating ethical principles, protecting the interests of subjects, …*

3. Ensuring Quality: Good Examples by Central Banks and Statistcal Offices

- Creating a professional environment
  - Best practices and procedural rules are …
    - part of the institutional culture
    - prominently published and available to everyone
    - anchored in day-to-day work life
  - Essential: Support through the institution's leadership board
- Controls and auditing are in place
  - Mechanisms of control and enforcement by a separate entity or independent department within the institution
- External transparency with respect to methodology and publication procedures

4. One aspect of quality: Promoting efficiency by fostering the only once principle

- Within an institution or between different national or international institutions, efficiency of a system for official (administrative and statistical) data benefits from enhanced implementation of the only once principle:

  Data shall be collected only once but used for various purposes,

  based on a need-to know principle and secure data access / delivery / sharing.

- Two ways data flow:
  - Administrative data can be an important source for better statistics.
  - In Europe: Well legally defined micro data sets can be shared with selected administrative users (macro- and microprudential supervision)

- Appropriate solutions need to be in place / developed: adequate legal framework, Big Data IT tools, skilled employers

- G20 Data Gaps Initiative phase II and phase III: Promotion of data sharing and access

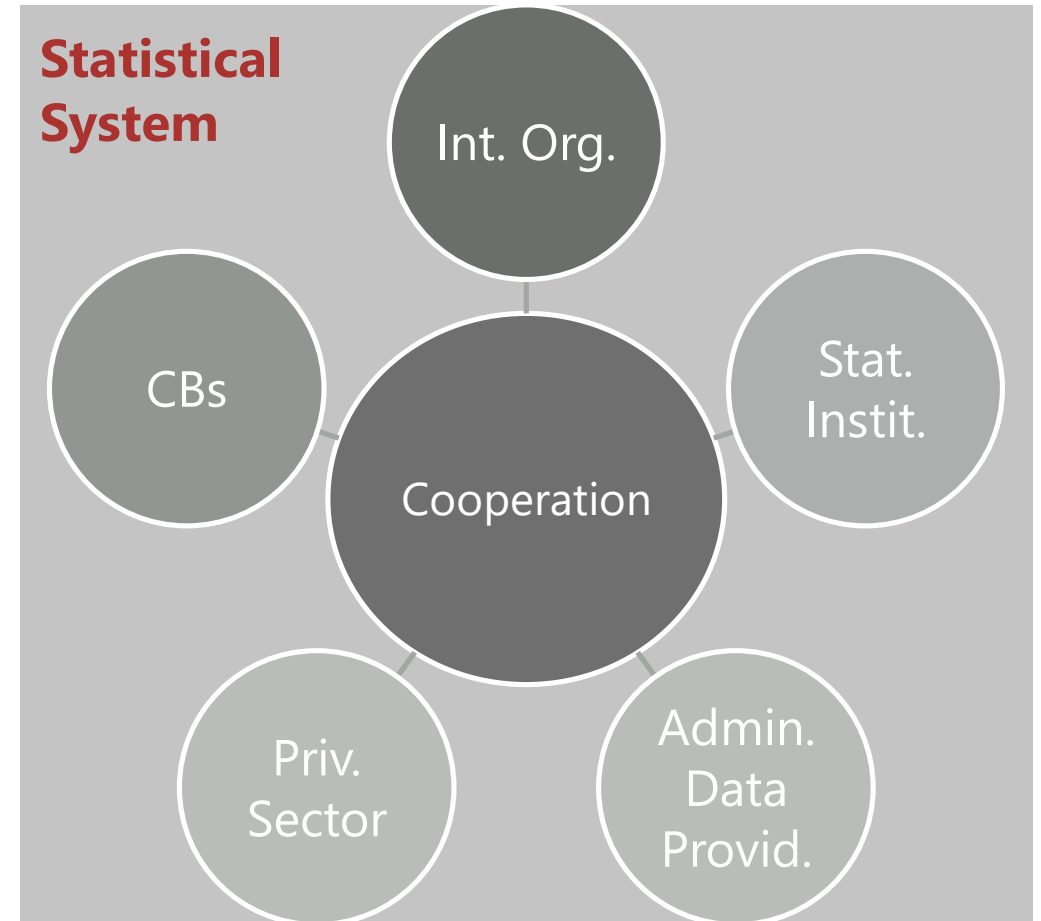# 5. New Environment: Growing importance of private sector data (1/2)

- Private sector data offers benefits and risks:
  - On the one hand, privately held data can offer new insights and be faster available than official statistics.
  - On the other hand, privately produced datasets
    - may not fulfill the quality characteristics laid out before and
    - blindly relying on private institutions may create the risk that this kind of data can be manipulated easier in order to influence policy and decision making.
- This highlights the importance of methodological and data transparency and a set of commonly shared standards within the statistical system in a broad sense.

5. New Environment: Growing importance on private sector data (2/2)

- A number of private data providers have already taken up steps to establish "principles" that govern their activities with the objective of ensuring trust in the data they provide. For example:

  - Apple has set up four key privacy principles (Apple, 2021)

  - The US online real estate company Zillow, whose data are being used by the Board of Governors of the US Federal Reserve System for official statistical purposes, states that its research "aims to be most open, authoritative source for timely and accurate housing data and unbiased insight" (see Hume McIntosh, 2021).

6. Need of cooperation in the Statistical System

- Statistical Systems are a network of a potentially large number of institutions.
- All players should find the right balance
  - to comprehensively and timely inform users
  - to ensure quality of statistical data for decision making
- The principles for ensuring statistical data quality should be published, implemented and monitored.

Statistical System

Int. Org.

Stat. Instit.

CBs

Cooperation

Priv. Sector

Admin. Data Provid.

7. At the end …

"It is essential to consolidate and make sure that agreed figures only are used. The utmost confusion is caused when people argue on different statistical data."

– Winston Churchill (as quoted by Krizman, I., & Tissot, B. (2021))

Appendix: Selected References

1. Apple (2021): *A day in the life of our data*, April

2. European Central Bank (ECB) (2008): *ECB Statistics Quality Framework (SQF)*, April.

3. Eurostat (2017): *European statistics code of practice*, November.

4. Hume McIntosh, S (2021): *Measuring aggregate housing wealth: new insights from automated valuation models*, IFC Bulletin, no 53, April

5. International Monetary Fund (IMF) (2018): *Overarching strategy on data and statistics at the Fund in the digital age*, IMF Policy Paper, March.

6. ISO 9000:2015-11.

7. Krizman, I., & Tissot, B. (2021): *Data Governance: issues for the National Statistical System*. Bank for International Settlements. IFC Bulletin (Vol. 54)

8. Organisation for Economic Co-operation and Development (OECD) (2002): *Quality Framework for OECD Statistics*, Paris, June.

9. United Nations (UN) (2013): *Fundamental Principles of Official Statistics*, resolution adopted by the Economic and Social Council, E/RES/2013/21, 28 October.