



EUROPEAN CENTRAL BANK

EUROSYSTEM

Helmut Wacket

Head of Market Integration Division
European Central Bank

Data quality and data gaps from a central bank perspective

IOSCO workshop

Lima, 10 May 2016

Overview

- 1 The importance of data quality and aggregation and its relevance for the ECB
- 2 The road to here – Pittsburgh and the progress made since
- 3 The importance of standardisation, harmonisation and appropriate governance
- 4 Outlook and potential impact of DLT

- 1 The importance of data quality and aggregation and its relevance for the ECB
- 2 The road to here – Pittsburgh and the progress made since
- 3 The importance of standardisation, harmonisation and appropriate governance
- 4 Outlook and potential impact of DLT

The importance of data quality and its significance

The ECB and central banks in general use a very wide set of data on economic and financial activity to perform their tasks:

- monetary policy formulation and implementation
- financial stability (macro-prudential and micro-prudential supervision)
- oversight of payment and securities clearing / settlement systems

For this central banks need to rely on a wide range of consistent and high-quality datasets originating not only from their own jurisdiction but covering global developments and players

The ECB's achievements and ongoing efforts in improving data quality in the euro area

Recent achievements

- new ECB statistics on securities holdings (SHS)
- publication (jointly with the BIS and the IMF) of a new Handbook on Securities Statistics
- new framework for supervisory financial information (under the European Single Supervisory Mechanism)

Main on-going projects:

- securitisation data: efforts to ensure greater transparency of securitisation structures
- SME credit information: standardisation of basic data on SME finances, in particular on SME credit
- Anacredit project: central dataset on individual bank loans given to financial and non-financial companies and households.

- 1 The importance of data quality and aggregation and its relevance for the ECB
- 2 The road to here – Pittsburgh and the progress made since
- 3 The importance of standardisation, harmonisation and appropriate governance
- 4 Outlook and potential impact of DLT

Lessons learned in the 2007-2008 financial crisis

- The financial crises revealed significant information gaps and that good and timely data is essential to detect vulnerabilities
- In particular it highlighted the lack of a global approach to regulatory data in global money and capital markets

G20 leaders agreed to take steps to close these data gaps and agreed on the 20 recommendations (DGI) put forward by the FSB and the IMF:

- **Close monitoring of financial sector risks** – OTC derivatives, securities statistics, leverage and maturity mismatches and the financial soundness indicator
- **Monitoring of global network connections** – systemically important financial institutions, cross-border interdependencies and exposures, important non-bank institutions and supervisory cooperation
- **Improve and harmonise key sectoral (macro) data-sets** – public sector data-sets, national accounts, real-estate prices
- **Improve communication of official statistics** – Principal Global Indicators website

Progress made in closing the data gaps

- **Significant progress has been made on the original G20 recommendations (DGI) to close data gaps – follow-up on most of the recommendations is close to completion**
- **Second phase (DGI-II) launched in 2015 shifting the focus on consistency and sharing of datasets**
- **DGI-II recommendations reinforced the importance of having consistent and high-quality data on derivatives and securities markets at global level (DGI-II recommendations II.6 and II.7)**
- **For derivatives the follow-up is built on the work of the BIS (semi-annual OTC derivatives statistics) and the FSB (introducing the LEI and harmonisation, aggregation and sharing of data reported to TRs)**

Key remaining challenges related to data gaps at global level

- **Availability and granularity of credit register information – important to assess concentration and perform stress test**
- **Timely and comprehensive overview of data on sources of bank funding**
- **Shadow banking sector and new entrants**
- **OTC derivatives – quality and consistency of TR data**
- **The elimination of barriers to data sharing and data transparency**

- 1 The importance of data quality and aggregation and its relevance for the ECB
- 2 The road to here – Pittsburgh and the progress made since
- 3 The importance of standardisation, harmonisation and appropriate governance**
- 4 Outlook and potential impact of DLT

Standardisation, harmonisation and efficiency of data reporting

- **Public good in the broad sense**
 - **Data reporting regimes mandated by authorities also have to take into account costs of reporting agents**
 - **Data elements need to be defined in such a way that their use could go beyond regulatory reporting (e.g. a UTI to be used for counterparty confirmations, a UPI to be used by internal risk management, etc.)**

- **Building on previous efforts and existing (on-going) private sector initiatives**
 - **Any new initiatives should be conscious of previous / on-going industry efforts and take account of their achievements and their lessons learned**

Standardisation, harmonisation and efficiency of data reporting

- **Building on existing standards and finding synergies**
 - **To maximise efficiency standards / requirements for data reporting should - to the extent possible - rely on existing more general standards (e.g. technical standards on transaction reporting should be as close as possible to transaction message standards e.g. ISO20022 XML) – E.g. the ECB applied this in the euro area money market statistical reporting (MMSR) – where reporting standards are fully built on ISO20022 messages**
 - **Reporting standards should support automation of reporting processes (STP) as much as possible**

Standardisation, harmonisation and efficiency of data reporting

- **Improving data quality at the global level and closing the global data gaps require a global approach to governance of reporting requirements and standards**
- **Need for harmonisation at global level: CPMI-IOSCO work on unique transaction identifier (UTI), unique product identifier (UPI) and other key data elements (ODE)**
- **The high number of stakeholders and global nature of the business require enhanced coordination and cooperation**
- **Governance of data standards is key in ensuring data quality and meeting the requirements outlined above**
- **Need to facilitate data sharing between authorities and aggregation of data**

- 1 The importance of data quality and aggregation and its relevance for the ECB
- 2 The road to here – Pittsburgh and the progress made since
- 3 The importance of standardisation, harmonisation and appropriate governance
- 4 Outlook and potential impact of DLT

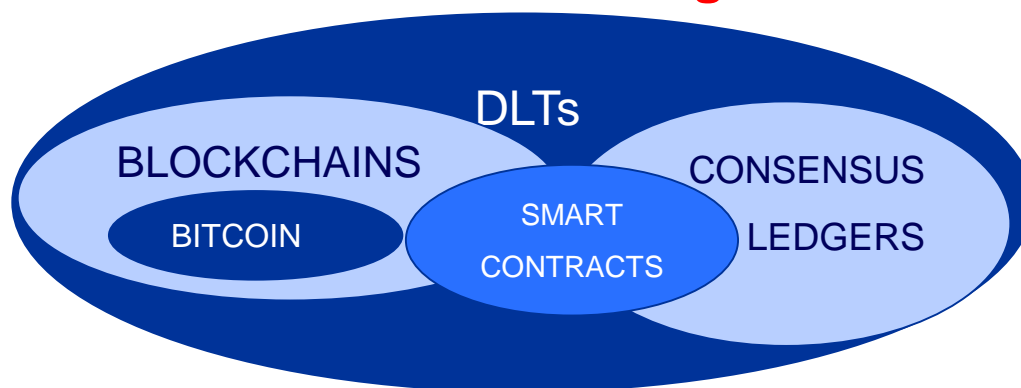
Outlook – challenges of the future

- **Financial markets are one of the most dynamic segments of the economy – the scope of data reporting and sharing needs to be adjusted on a continuous basis**
- **A few potential challenges looming on the horizon:**
 - **New types of products / contracts emerging**
 - **FinTech disruption – new service providers and new ways financial services are used (e.g. peer-to-peer lending, crowdfunding, etc.) – not traditional providers**
 - **Distributed ledger technologies (DLT) – no central provider, potential changes in financial architecture**
 - **Increasing importance of managing cyber-risks and of cyberresilience**
- **New technologies present also new opportunities for more efficient reporting, e.g. DLT can be a technology that might reduce associated costs**

A focus on DLT - what is DLT?

- A distributed ledger is a **shared** database to record either **transactions** or **account balances** for a given set of subjects (e.g. assets) and users
- DLT users can modify accounts in the distributed ledger and consider it as **authoritative** even **without central management system**

- **The DLT landscape:**



- **Potential advantages:**

- ✓ Shared database saves reconciliation costs and may increase transparency
- ✓ Multiplicity of validation nodes might make cyberattack more difficult and throughput higher
- ✓ Smart contracts add functionalities
- ✓ Coordination on new technology may deliver interoperability and straight-through processing

A focus on DLT – why the hype?

- Market participants are estimated to have invested \$1bn in DLTs in 2015
- Anecdotal evidence:
 - **To reduce back-office costs**
 - Reconciliation of information across different layers of financial markets
 - financial institutions expect to spend \$1.2bn to reconcile data in 2016 (AITE)
 - Reporting data to different regulators
 - regulators could access the ledger with special privileges to get data
 - **To lower risks to be hedged**
 - Shorter settlement cycle (potentially instantaneous)
 - lower collateral needs
 - lower capital requirements
 - **but**: higher liquidity needs (possibly offset with lending on DL)
 - **...also as a competitive strategy?**
- Three possible scenarios
 - a) DLT used by existing players internally to decrease costs / improve efficiency of
 - b) Adoption by core infrastructure providers to streamline the whole value chain
 - c) Peer-to-peer revolution – intermediaries are replaced by DLT protocols used between the principals to the transaction

A focus on DLT – relevance to data quality and reporting?

- Adoption of DLT in financial services can have (at least) two broad implications for data quality and data reporting:
 1. More efficient internal processes can make data extraction for reporting also more efficient even if reporting itself is not done on the ledger
 2. If DLT replaces current databases used as infrastructure then public authority access to the ledger could make dedicated reporting processes, tools and infrastructures unnecessary
- **Any efficiency gains will be proportionate to the extent DLT adoption promotes standardisation in the market**
- DLT can be used / deployed for reporting – not necessarily only to transmit data but also to maintain, adjust and access reference data – i.e. where it is important that all reporting agents speak the same language and the same understanding of what reference codes mean (e.g. UPI ?)
- Authorities may need to look at the public good and consider aligning their technical reporting requirements with market developments