Irving Fisher Committee on
Central Bank Statistics

BANK FOR INTERNATIONAL SETTLEMENTS

IFC Satellite Seminar on "Post-crisis data landscape: micro data for the macro world", co-organised with the Central Bank of Malaysia and the European Central Bank

16 August 2019, Kuala Lumpur, Malaysia

Linking micro datasets to better service policy-making and analyses[1]

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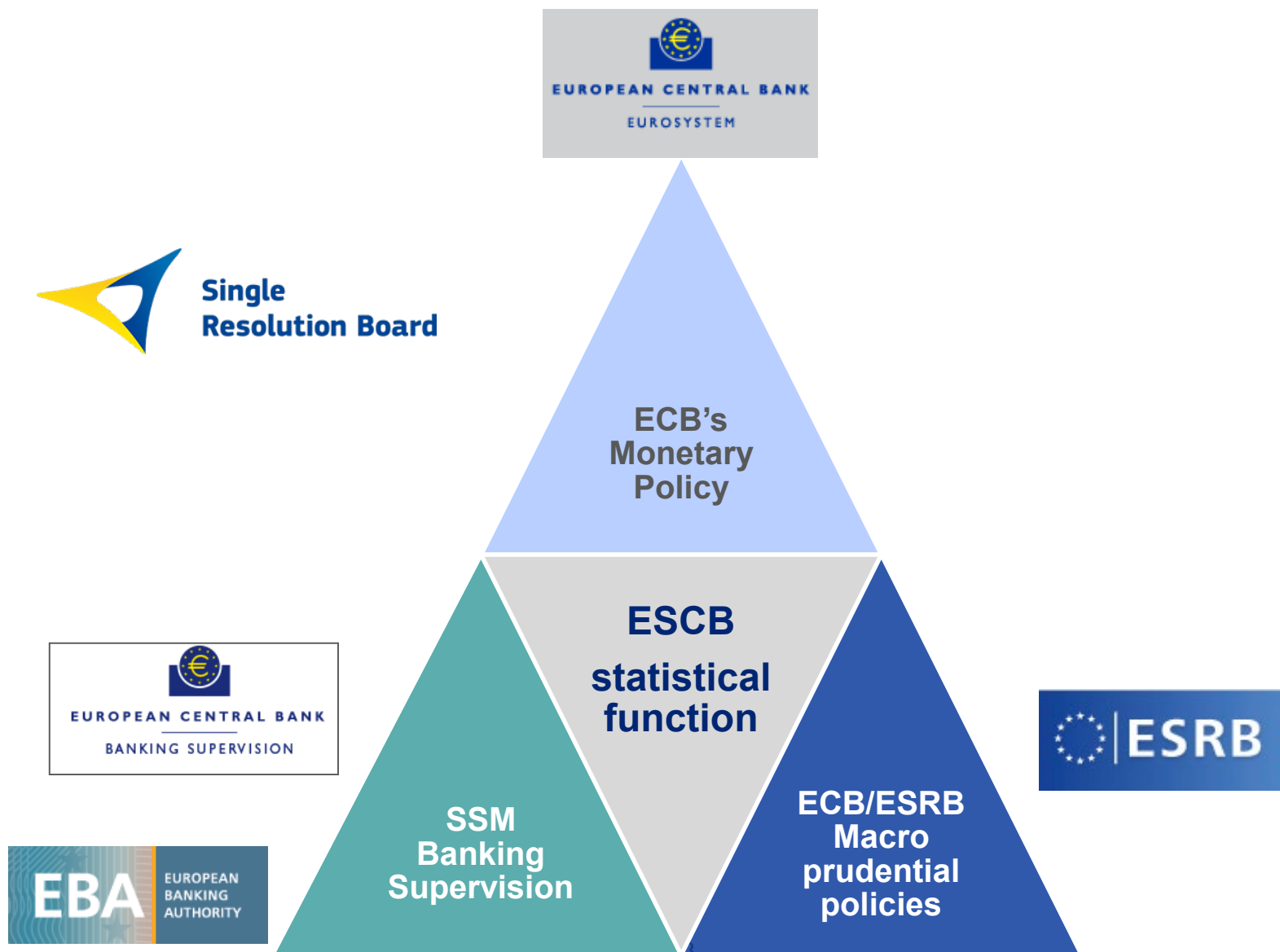# Linking micro datasets to better service policy-making and analyses

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IFC-BNM-ECB Satellite (Session 2)

Kuala Lumpur, 16 August 2019

Content

EUROPEAN CENTRAL BANK
EUROSYSTEM

Single Resolution Board

EUROPEAN CENTRAL BANK
BANKING SUPERVISION

EBA EUROPEAN BANKING AUTHORITY

ESRB

ECB's Monetary Policy

ESCB statistical function

SSM Banking Supervision

ECB/ESRB Macro prudential policies

"…well-established ESCB statistics will continue to provide the "big picture"
of economic developments. But we should also offer a magnifying glass."
Mario Draghi, ECB President, 8th ECB Statistics Conference, 2016

✓ Moving *beyond and behind aggregated* data on *credit* to corporations and related *credit risk* using granular AnaCredit, *as a "magnifying glass"* to:

- Better understand **monetary policy transmission** and **systemic risk**

- Respond to **unforeseen policy needs**

  ⚠ *Non-standard times => Non-standard measures => New statistics!*

Multipurpose dataset

Monetary policy conduct

Demand & supply in credit markets and access to finance of SMEs

➢ Evaluate lenders' risk exposures and balance sheet conditions and borrowers' indebtedness to appropriately **identify *demand* and *supply* in credit market**

➢ Identify **shocks** *to demand* and credit crunches

➢ Analysis of *credit market conditions* **for SMEs**

➢ Assess the impact of non-standard monetary policy measures on SMEs access to funding through bank credit

Multipurpose dataset

Monetary policy implementation

➤ **transmission channels** of standard/non-standard monetary policy measures

➤ study "*credit channel*" and "*risk-taking channel*" of (standard) monetary policy

➤ assess non-standard measures such as liquidity provision (TLTROs) which are targeted to specific types of borrowers

➤ detailed information on *banks' loan portfolio* and evaluate the impact of measures on *firms' access to finance*, especially SMEs

Multipurpose dataset

Risk management

Sectoral risk analysis/monitoring for macro stress testing

➢ detect *systemic vulnerabilities at sectoral level*, e.g. compute expected shortfalls, exposure indexes

➢ improve macro-stress testing, by allowing to develop a module for SME losses using micro data

Multipurpose dataset

Financial Stability

Risk exposures, interconnectedness and potential contagion

➢ study the *interconnection between host-country banks' loans* and
their mother companies via the credit portfolio and credit risk associated

➢ understand *interconnectedness* and possible *contagion* across jurisdictions

➢ analyse *capital flows in periods of crisis* and
assess possible policy instruments
to mitigate liquidity dry-out

Multipurpose dataset

Developing new and enhancing existing statistics

➢ Enhance the *quality of statistics* comparing aggregated and granular data; Compile new breakdowns of aggregated statistics not collected directly from reporting agents

➢ Further analyse credit allocation and *credit risk concentration* to assess their economic and employment impact

➢ Support and monitor new areas of policy, e.g. *green finance*

- AnaCredit = *Analytical Credit Datasets*

- *Loan-by-loan* information on (euro area) **banks' credit exposures** to *all legal entities* – including Small and Medium size Enterprises

- All euro area (19) and, nearly, all (27) *EU countries*
    - ❑ *Reporting* initially *from Credit institutions only*

- Basic features:

    - ❑ *88 data attributes per loan*, including lender and borrower identifiers (=>link to *business register*), credit and credit risk, interest rate

    - ❑ Reporting frequency: *monthly* (quarterly for some attributes)

    - ❑ *Proportionality* with possibility for NCBs to grant (full or partial) *derogations to smaller institutions* and € 25,000 *reporting threshold*

    - ❑ *First reporting* in November 2018 = 1st reference period *Sept. 2018*

**RIAD as the backbone of all ESCB granular statistics**

- RIAD to serve as unique, *shared master data set*
  serving all ESCB granular data collections:
  lenders and borrowers (loans), issuer and holders (securities) and beyond

- A *shared platform*, for several stakeholders both in 'write' and
  in 'read mode', with NCBs as national hubs

- Advanced compounding rules
  to always derive the best information *at any point in time*

- Strict checks to ensure *high data quality and consistency*

- Flexible derivation of *group structures* based on different definitions

Comprehensive data model

incl. reference data on individual units plus relationships among them

A.	*Identification*	e.g. *identifiers, address*
B.	*Stratification*	e.g. *industrial activity, geographical allocation*
C.	*Demographic developments*	e.g. *birth/closure date, corporate actions*
D.	*Relationships between units*	e.g. *ownership, control, (fund) management*
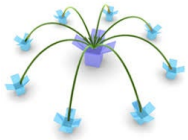
Linking different datasets: a key feature for data integration!
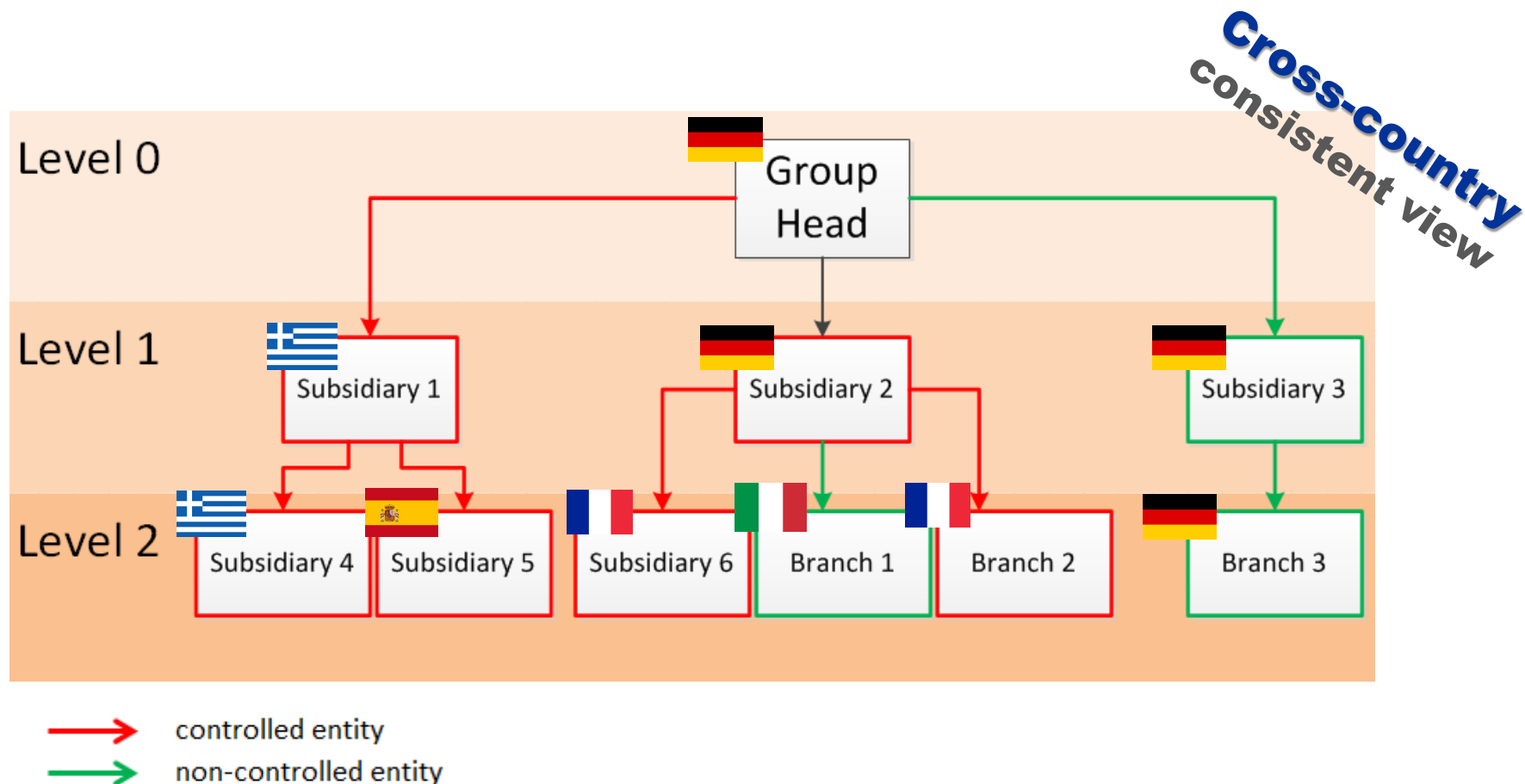
Full **historisation** of all data … *new* data versioning

Elaborate **access management**

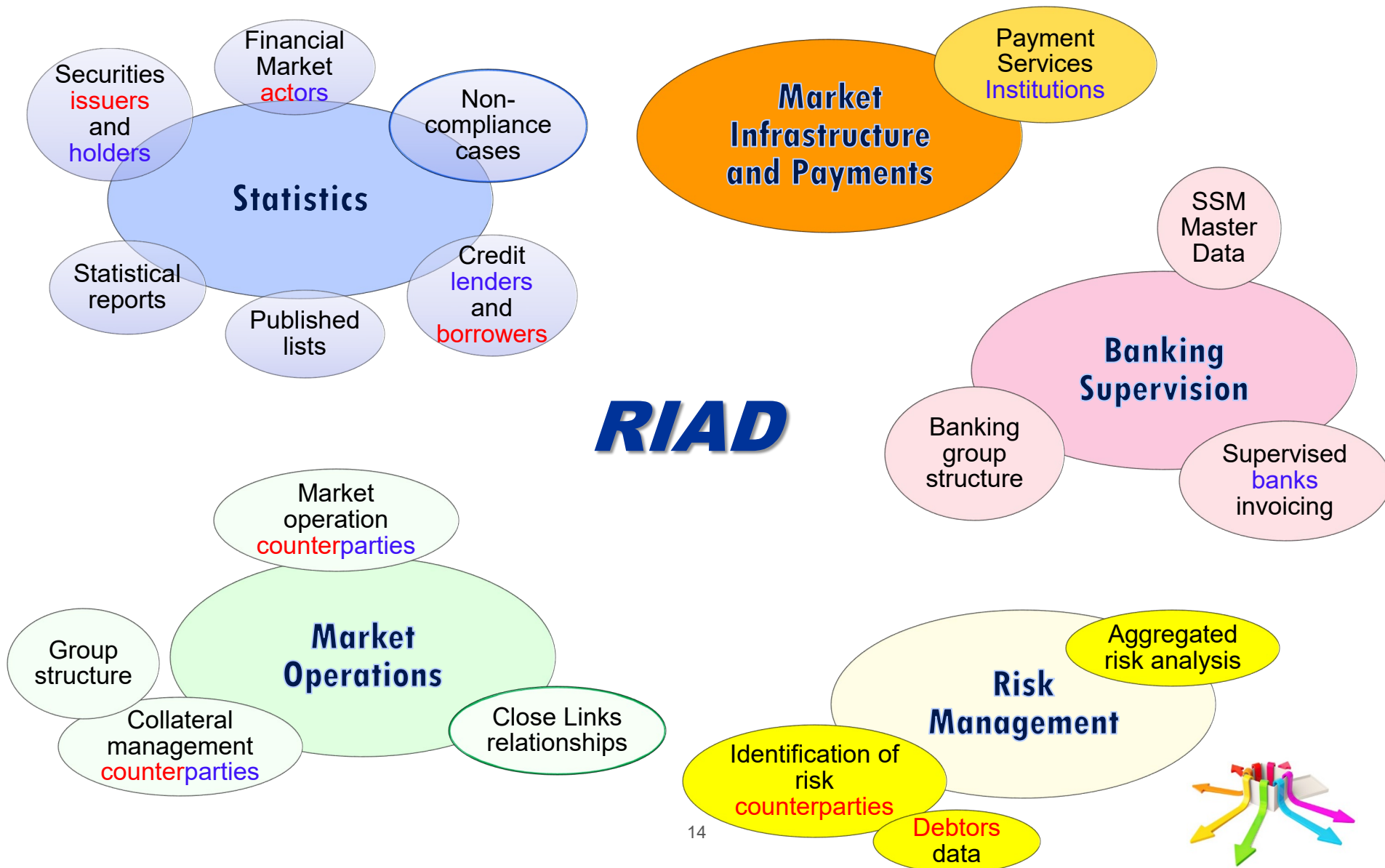e.g. *special application roles* and *different levels of confidentiality*

• RIAD allows to identify, store and present *two types of group composition*

   ✓ Type A – based on direct and indirect "control"

   ✓ Type B – based on "pure ownership" (all relationships)

Standardising and integrating existing frameworks *across domains:*

Securities issuers and holders

Financial Market actors

Non-compliance cases

Statistics

Statistical reports

Published lists

Credit lenders and borrowers

Market Infrastructure and Payments

Payment Services Institutions

SSM Master Data

Banking Supervision

Banking group structure

Supervised banks invoicing

RIAD

Market operation counterparties

Group structure

Market Operations

Collateral management counterparties

Close Links relationships

Aggregated risk analysis

Risk Management

Identification of risk counterparties

Debtors data

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- To gradually increase availability of *granular data* at the ECB, while ensuring a *holistic approach* to data reporting building on

  ➢ *Consistency:* same concepts and definitions across domains

  ➢ *Interoperability*: possibility to combine granular information from different frameworks (e.g. securities, loans) to assess total exposures


Loan-by-loan data *(creditors, debtors, protection providers, etc.)*

Reference data on *creditors, debtors, issuers, holders, etc.*

Security-by-security data *(issuers, holders)*

AnaCredit   **RIAD**   **CSDB-SHSDB**
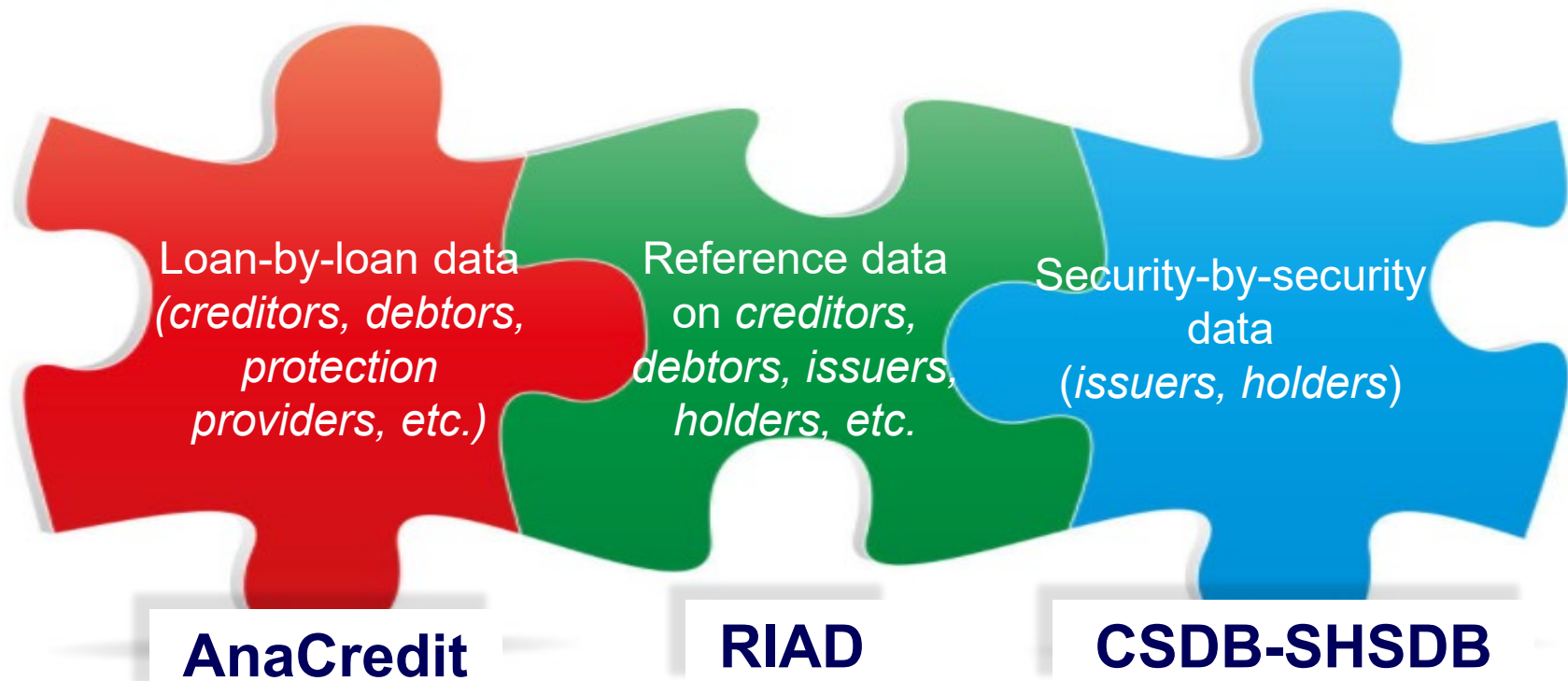
- […] *big data* also involve challenges related to, e.g., *identification* and *effectiveness and efficiency* in the data usage and analysis

- Dynamic factor models, or Bayesian shrinkage, can help address difficulties arising from the *multiple dimensions* of dataset

- But some methods are still being developed, e.g. for cases involving many observations – over time as our datasets grow ever larger

Speech by Benoît Cœuré, Member of the Executive Board of the ECB, at the conference on "Economic and Financial Regulation in the Era of Big Data" - Banque de France, Paris, 24 November 2017

The Eurosystem supports banks in implementing AnaCredit

AnaCredit Manual
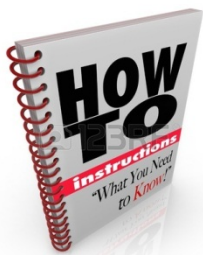
- Detailed *documentation to clarify* the reporting for AnaCredit datasets
- To provide additional background and guidance with concrete cases/examples
- Parts I, II and III = 577 pages have been *published* a year-and-a-half prior to go live
- AnaCredit Manual complemented by Q&As
- Validation checks (also published) to help automate

Cooperation via BIRD

- Cooperation with the banking industry within *Banks' Integrated Reporting Dictionary (BIRD)*
- BIRD provides a formalised representation of AnaCredit as set out in Regulation *from the business point of view*
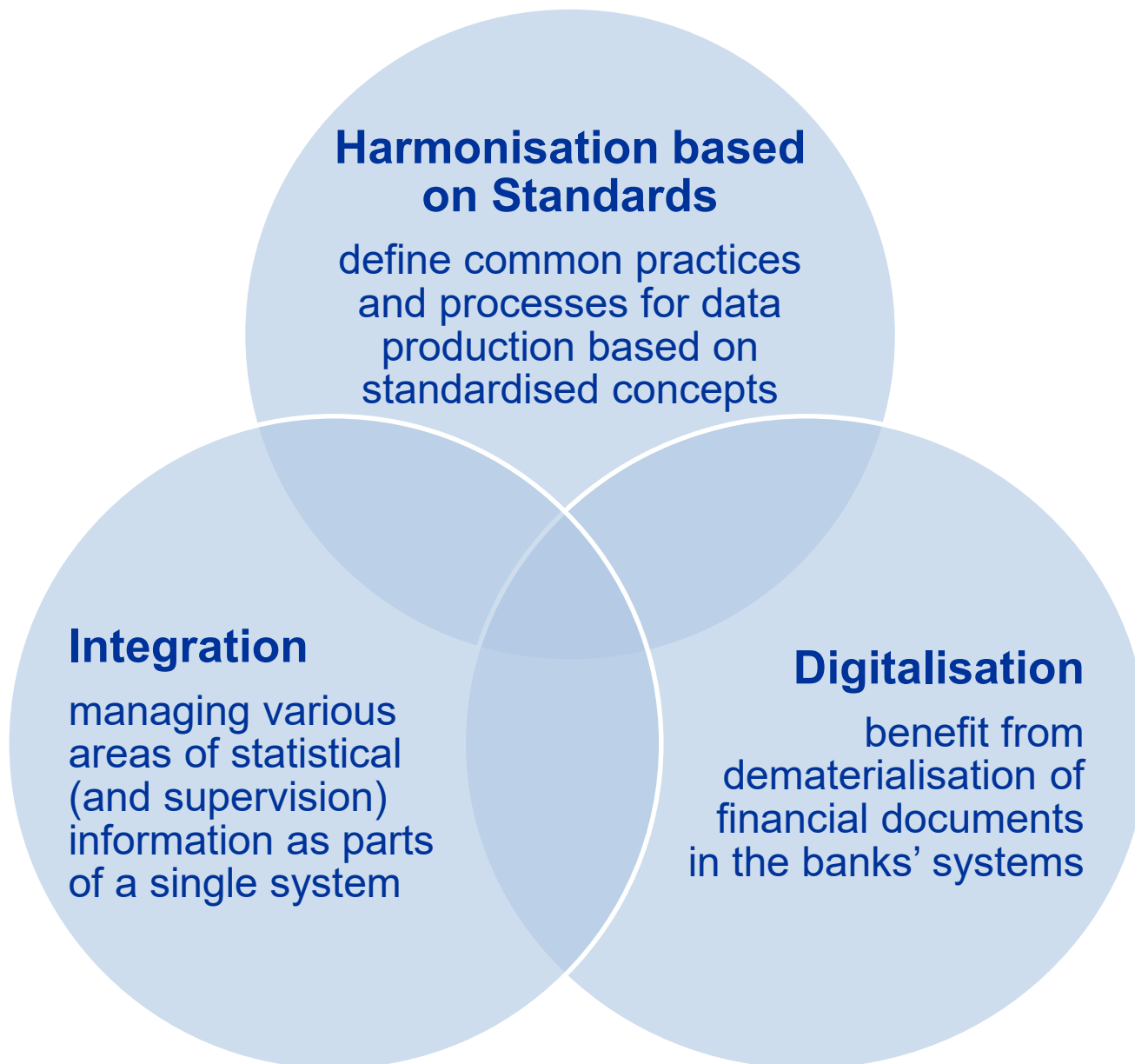- Commercial banks participate on a voluntary basis

- **Complex financial world** reflected in *complex AnaCredit data model* necessary to support a ***wide range of analyses on credit and credit risk***; still the data model is *explained at length in the Manual and Q&As*

- Statistics areas will support researchers at central banks (and beyond) by offering *pre-defined 'views' of the data* tailored on their needs

- Continuous **dialogue** *with researchers and other users* to define most appropriate *data marts* for pre-defined queries and analysis; Also **banks** will benefit from *feedback loops*

- Ensure **methodological support** – e.g. consolidate exposures or debt –, *correct usage of the data* and interpretation of the results

- First delivery of data to users –   expected *by end-2019*
  after ca. 12 months to fix initial teething problems

- Acquire and further develop tools to *analyse the data*
  with a view to deriving stories out of them

- Then, start reflecting on possible extensions – *2022 and beyond*

  - *Extend coverage to other lenders, e.g. FVCs, FCLs, Insurance*

  - *Extend credit risk attributes*

  - *Cover other instruments*

- Ensure more *data integration* with other reporting
  e.g. banks' balance sheet (BSI), banks' interest rates (MIR),
  securities holdings (SHS) from all sectors or large institutions

Thank you!

Questions?

Word-cloud from the AnaCredit Regulation

Harmonisation based on Standards

define common practices and processes for data production based on standardised concepts

Integration

managing various areas of statistical (and supervision) information as parts of a single system

Digitalisation

benefit from dematerialisation of financial documents in the banks' systems

- AnaCredit will provide *complete* and *harmonised* information on credit and credit risk for all euro area countries - and beyond…

- Data based on

  ➢ Common *concepts and definitions* across 19, and actually 27, countries

  ➢ Unique *reporting threshold* - € 25,000

- Comprehensive and harmonised *data assurance metrics*

- Gradually *replacing existing credit registers*

- A *10-year-old dream* comes **true**!

"For a more resilient international financial system we need a global credit register based on a harmonized approach with adequate standardization across countries"   *Issing Committee* (*February 2009*)