



EUROPEAN CENTRAL BANK

EUROSYSTEM

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Data

Financial information from microdata at the European Central Bank

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All view expressed are those of the speaker and not necessarily those of the ECB.

- 1 New data needs resulting from the crisis
- 2 The ECB response: financial micro data - projects and challenges
- 3 Strengthening cooperation between the ECB and the banking sector

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New data needs resulting from the crisis

Phase A - post Lehman Brothers – Sept 2008

banks' rescue, government guarantees

Phase B – May 2010

Sovereign debt crisis and again banking crisis

Phase C - May 2012

Banking Union announced

2008

2009

2010

2011

2012

2013

2014

2015

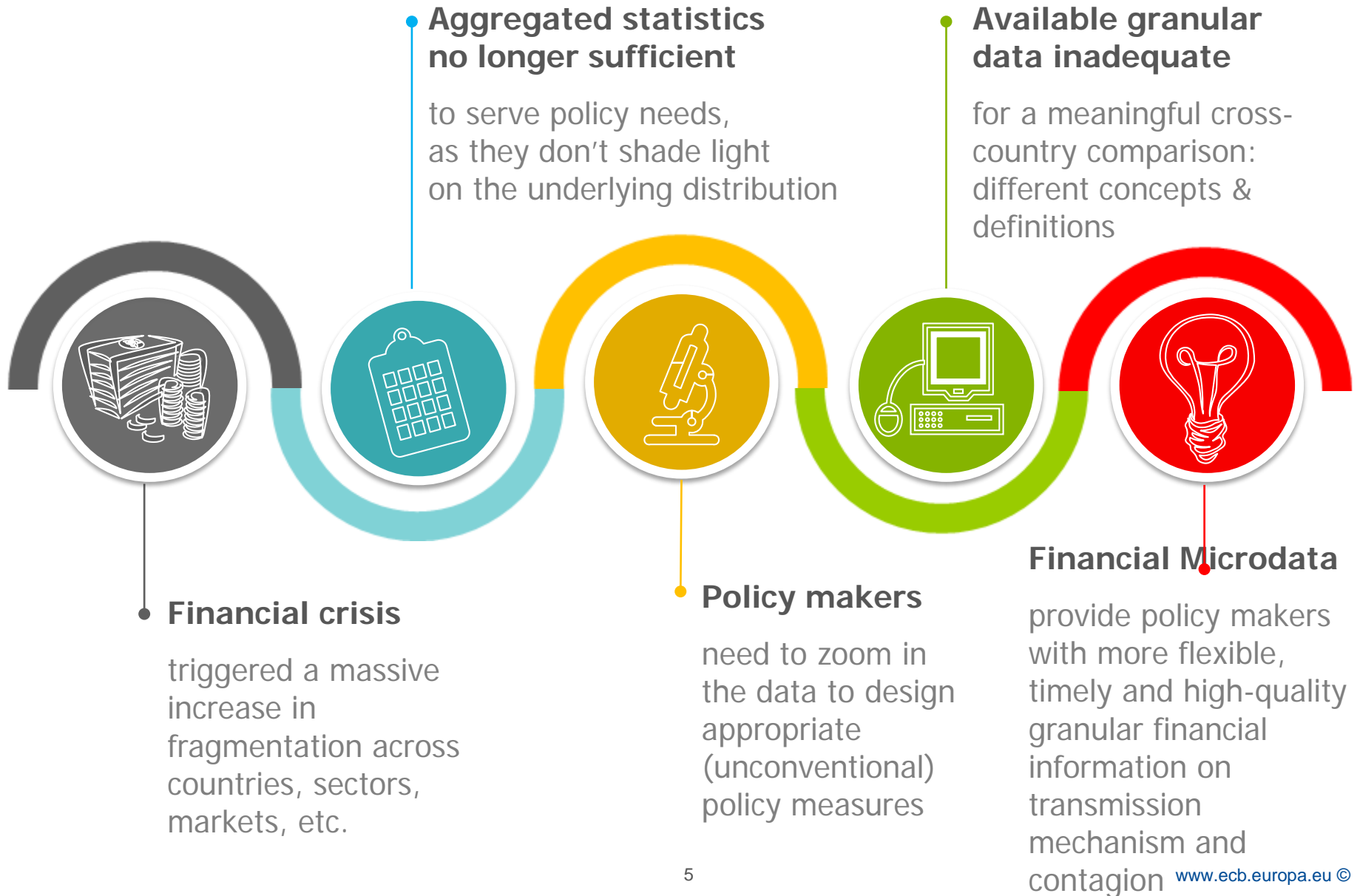
2016

EU Financial Supervision
ESAs/ESRB - Nov 2010

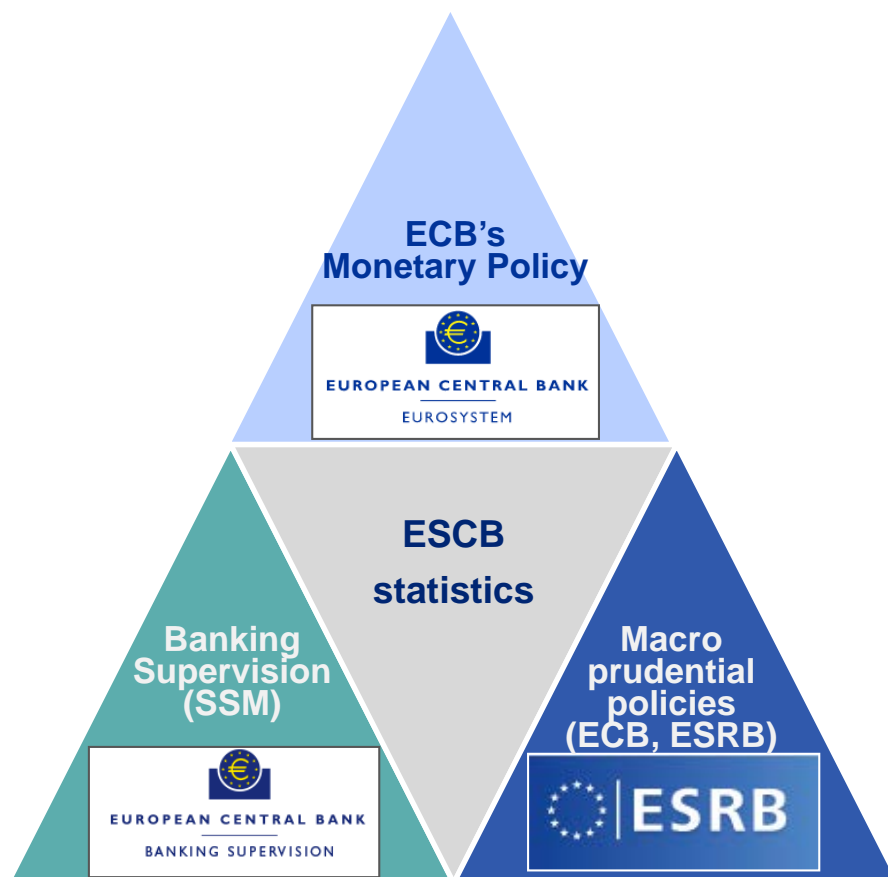
ECB's banking supervision – Nov 2014

Single Resolution Board – Jan 2015

Single Resolution Fund – Jan 2016



- ECB's **new responsibilities** for macro- & micro-prudential policies
- **Heterogeneity**: relevance of country and sectoral imbalances
- Market fragmentation and complexity of **financial instruments**



Enhancing ESCB statistics

Reinforce the basic infrastructure, increase standardisation

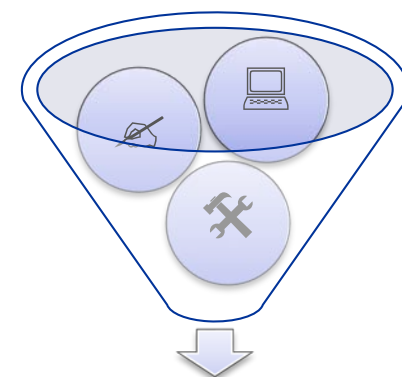
- Use reference databases (CSDB, RIAD)
- Join international initiatives (LEI, UTI, UPI)

Launch new data collections – if and when

- Data gaps cannot be addressed by other means
- Duly justified by cost-benefit analysis

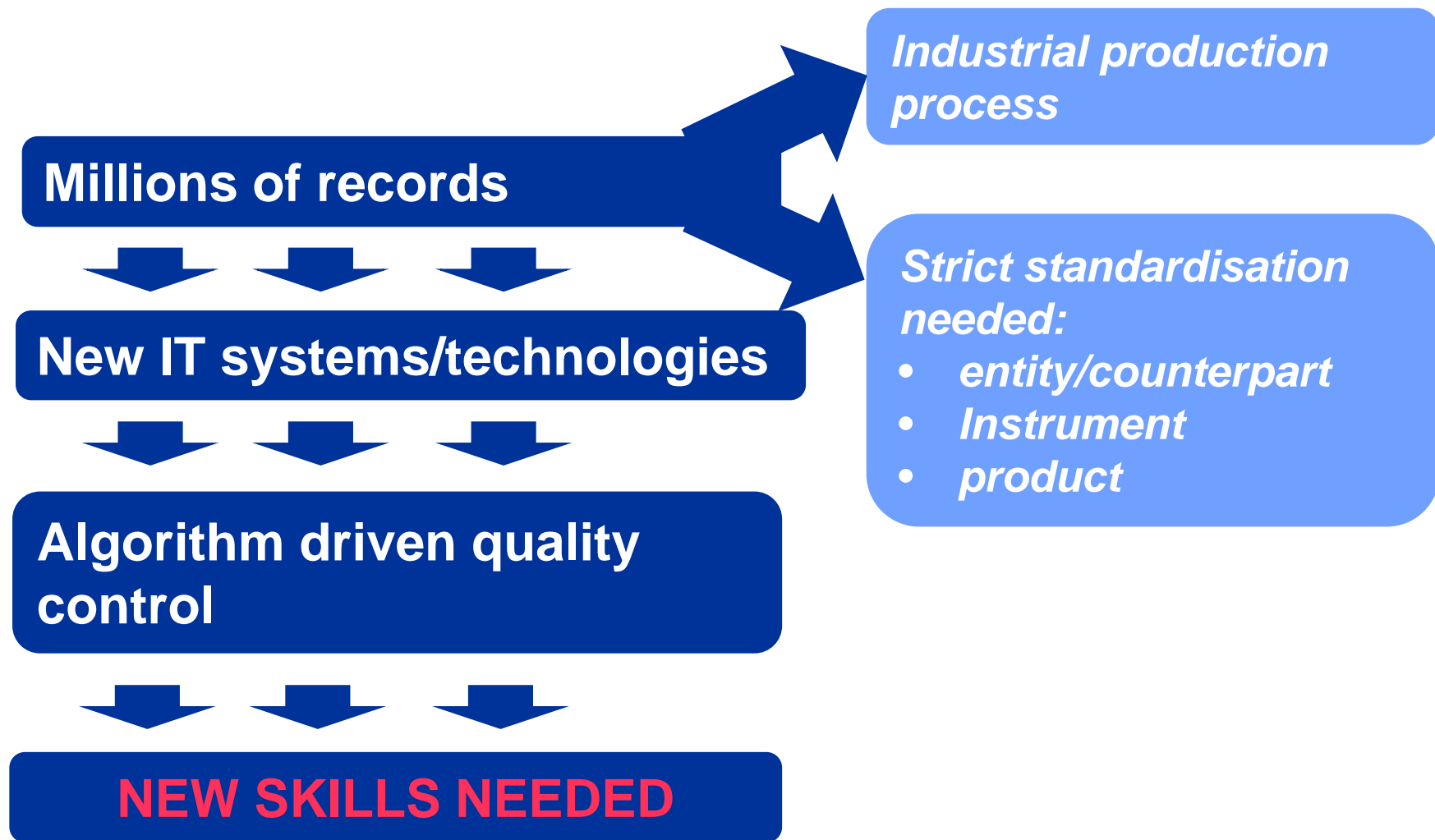
Integrate distinct data models at a granular level

- Collect micro data (SHS, AnaCredit, MMSR, EMIR)
- Rely on common definitions (SDD)
- Reconcile different reporting frameworks (ERF, BDD)



**Agile, flexible
statistical systems**

- 1 Integration of new structures and requirements
- 2 **The ECB response: micro data - projects and challenges**
- 3 Strengthening cooperation between the ECB and the banking sector



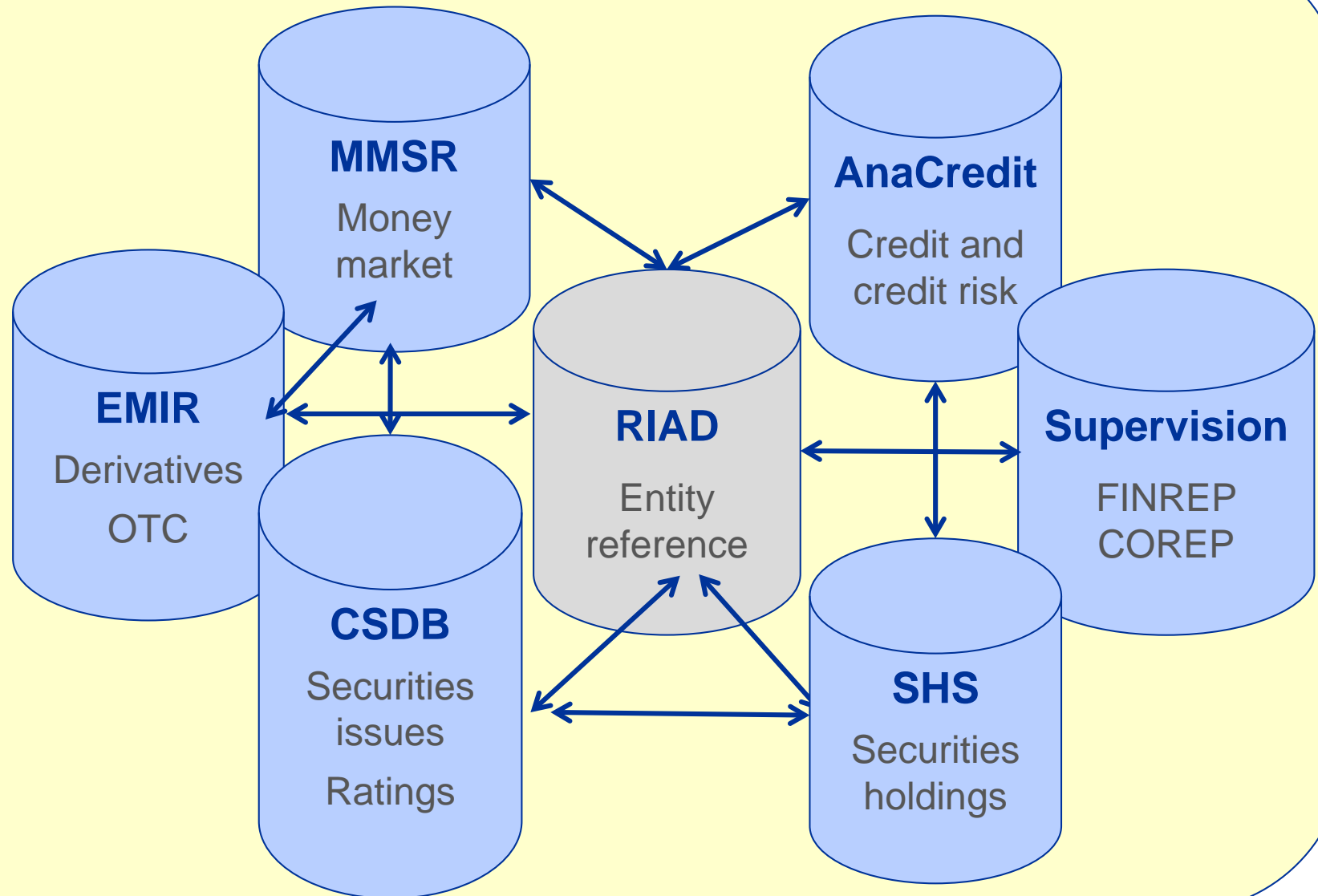
Operation

- Centralised Securities Database (CSDB)**
- Securities Holdings Statistics (SHS)**
- Money Market Statistical Reporting (MMSR)**
- Register of Institutions and Affiliates (RIAD)**
- Derivatives transactions (EMIR)**
- Individual banks' balance sheet data (iBSI)**
- Small and Medium Enterprises (SME) Access to Finance**
- Eurosystem survey on household finance & consumption**

Development

- Analytical granular credit and credit risk dataset (loan-by-loan)**
- Securities Holding statistics for Large Banking Groups under ECB direct supervision (LBGs)**
- Extension of Register of Institutions and Affiliates (RIAD) to include NFCs**
- Euro short-term rate (€STR)**

Integration of financial micro data



Register of Institutions and Affiliates Data (RIAD)

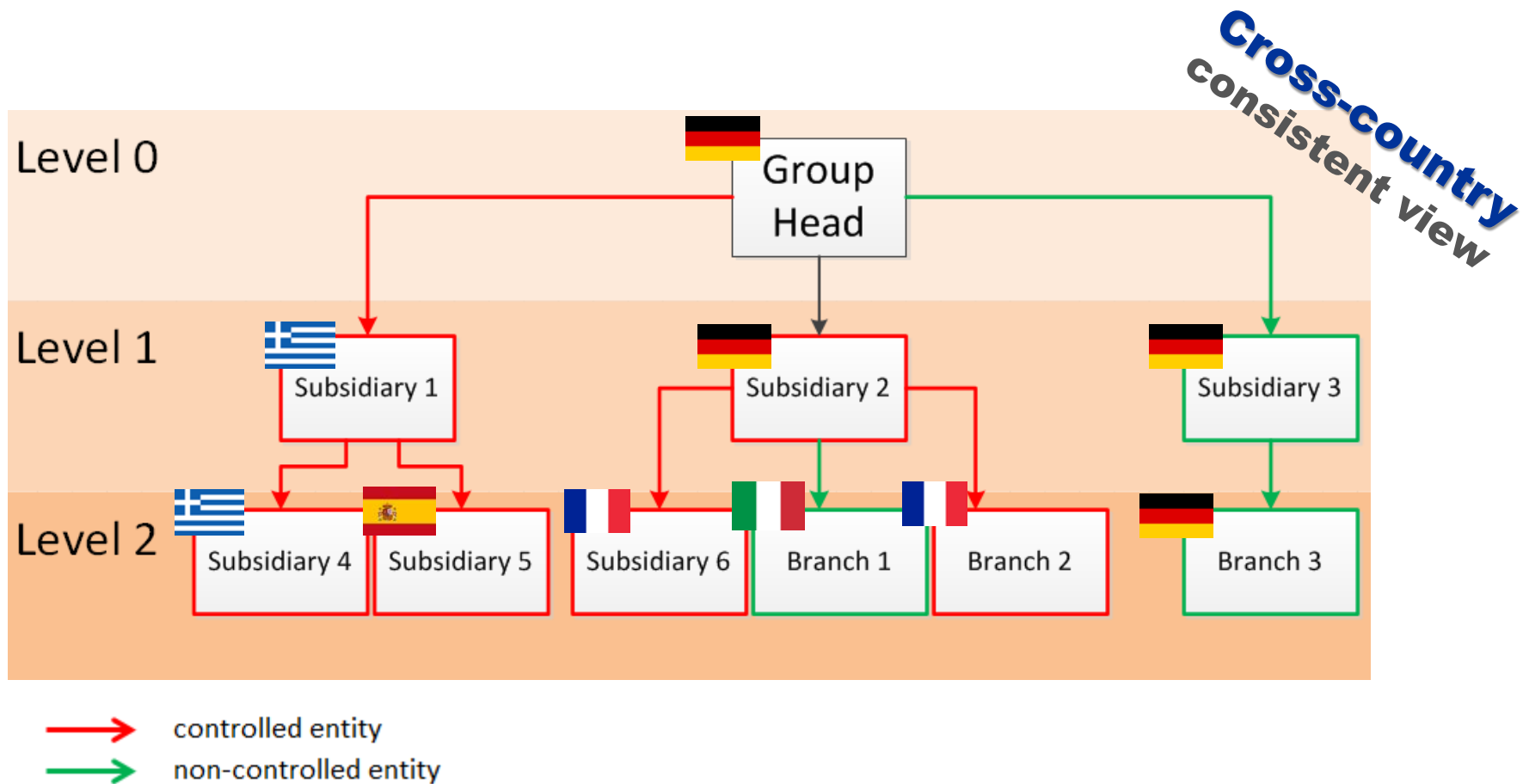


business register on counterparties (e.g. creditors, debtors, issuers, guarantors,..) for statistical and several other business purposes

- **When?** started 1998
- **What?** reference/master data on legal entities (EU, non-EU and RoW) and structural data about ~6,500 groups
Some aggregates for unsecured market are already published.
- **Who?** Eurosystem NCBs
- **Why?** assure high data quality of information on reporting population and counterparties and allow linking financial microdata from different sources
- **Legal basis?** ECB Guideline ECB/2018/16

RIAD – reference data on entities

- 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)

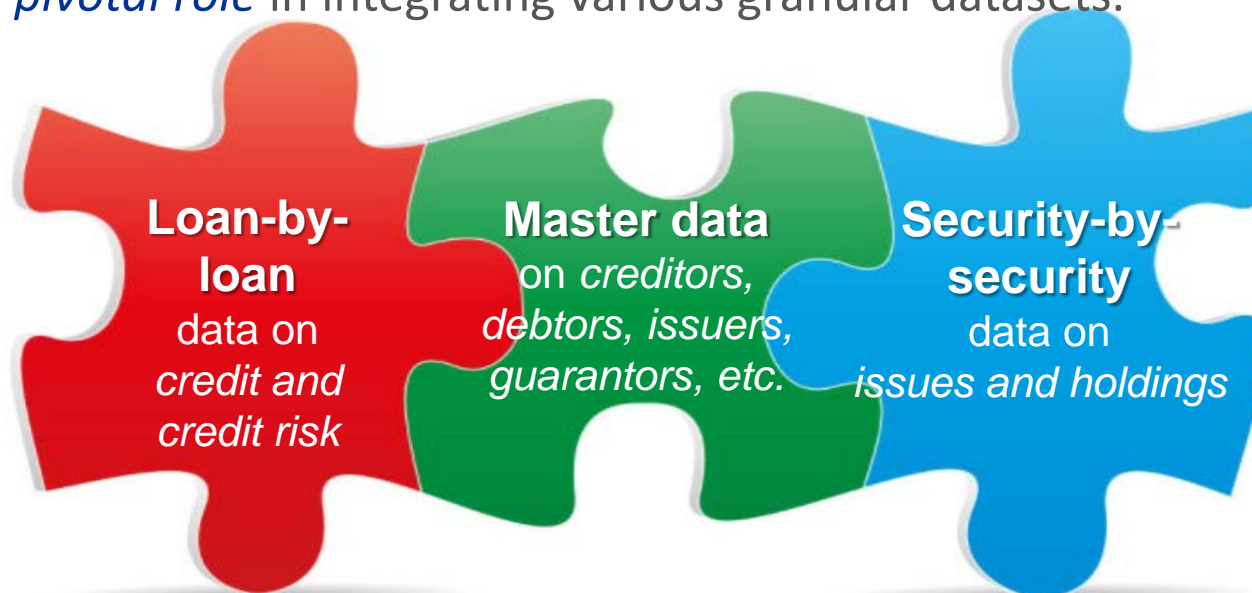


RIAD – reference data on entities

- RIAD allows the ECB to regularly publish **lists** of:

Overview Ref date 03/05/2018	Total
Monetary Financial Institutions	~9,000
Investment Funds	~58,000
Financial Vehicle Corporations (securitization)	~4,000
Payment Statistics Relevant Institutions	~7,000
Insurance Corporations	~5,000
Pension Funds (reporting to the ECB)	Soon ~2,000

- RIAD has a *pivotal role* in integrating various granular datasets.



Centralised Securities Database (CSDB)

ESXXX1 10-y Gov
bond Kingdom Spain

**Security-by-security reference information and prices on
Debt securities, Equities and Mutual funds shares/units**

- **When?** started 2002
- **What?** reference/master data on all securities denominated in euro (worldwide), issued by EU residents (all currencies) & may be held by EU residents
- **Who?** multisource system with data provided by (1) Commercial data providers (CDPs) – subject to license restrictions - & (2) NCBs
- **Why?** assure high data quality of information on securities for statistical (securities issues G-20, balance of payments, financial accounts,...) and non-statistical purposes (operations, risk management, supervision and resolution)
- **Legal basis?** ECB Guideline ECB/2018/16 for data quality management

Reference data for each security in the CSDB

Instrument	Debt instruments		Equity Instruments	Prices	Issuer
ISIN code	Issue date	Coupon type	Issue date	Price date	Issuer legal entity identifier (LEI)
Primary asset classification	Maturity date	Coupon currency	Issue price	Price value	Internal organisation code
CFI classification	Original maturity	Last Coupon frequency	Nominal value	Price value type	ESCB issuer identifier
Instrument suppl. Class	Residual maturity	Last coupon rate	Amount outstanding	Quotation basis	Issuer name
Instrument ESA 2010 class	Residual maturity class	Last coupon date	Market Capitalisation (in EUR)	Monthly average price	Issuer domicile country
Nominal currency	Issue price	Redemption type	Last split factor	Volume traded	Issuer ESA 2010 sector
Security status	Amount outstanding (in EUR)	Redemption frequency	Last split date		Issuer NACE sector
Security status date	Market Capitalisation (in EUR)	Redemption currency	Fund type		
Primary listing name	Asset securitisation type	Redemption price	Fund geographical market structure		
Primary listing residency country	Instrument seniority type	Accrual start date	Fund asset structure type		
	Pool factor	Accrued income factor	Dividend amount		
	Is private placement	Accrued income (Creditor)	Dividend currency		
	Has Embedded Option	Accrued interest	Dividend Settlement date		
		Yield to maturity	Accrued income factor		
		Bond duration			

Securities Holding Statistics Database (SHSDB)

ISIN XXX1

ISIN XXX2

Holdings on a security-by-security basis of debt securities, quoted shares and investment fund shares

- **When?** started 2013
- **What?** quarterly data at market or nominal value by investors: (1) institutional sector – Positions and transactions via direct reporting (financial) or custodians (non-financial) & (2) Significant (SI) banking groups –positions via direct reporting
- **Who?** Eurosystem NCBs receiving input from reporting agents
- **Why?** Granular data on holdings of securities for monetary policy (breakdowns per holder country, holder sector, instrument type, issuer country,...) and non-statistical purposes (operations, financial stability, supervision and resolution)
- **Legal basis?** ECB Regulation ECB/2015/18 & ECB Guideline ECB/2015/19

Attributes on holdings in the SHSDB

+

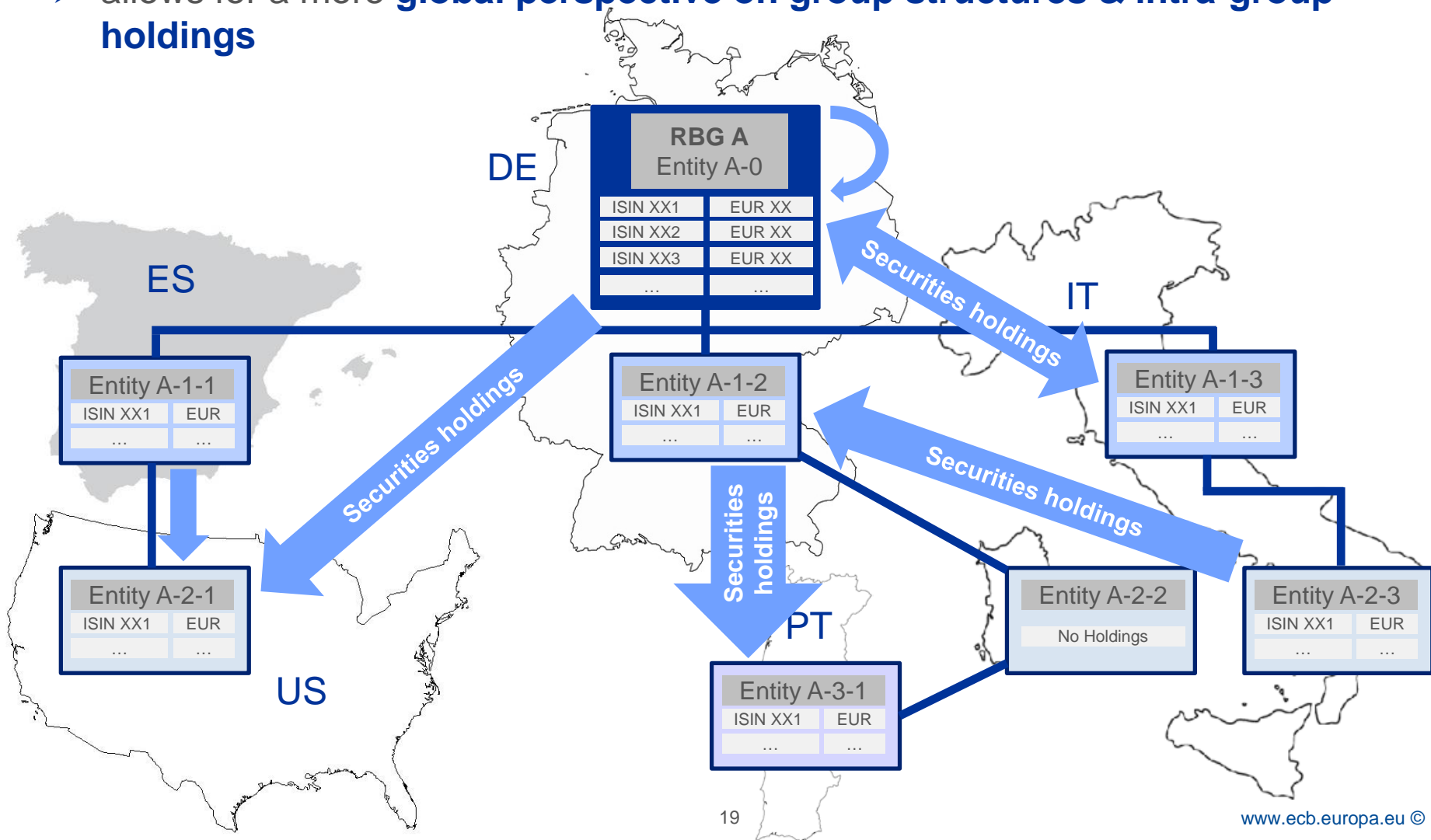
subset of CSDB data as reference information

Sector module particular attributes
Holding Amount (Nominal Value)
Holding Amount (Market Value)
Holder Country
Holder Sector
Reporting Country
Third Party Holdings Relevance for Aggregation
Valuation

Group module particular attributes		
Holdings amounts	Holder reference data	Holder-related security data
Holding Amount (Nominal Value)	Group ID	Intra-group Flag (Prudential Scope)
Holding Amount (Market Value)	Group LEI	Intra-group Flag (Accounting Scope)
Carrying Amount	Group Area	Forbearance Status
Accumulated Impairment Amount	Group Name	Forbearance Status Date
Accumulated Changes in Fair Value due to Credit Risk	Group ESA Sector	Performing Status Instrument
Cumulative Recoveries Since Default	Group Accounting Standard	Performing Status Instrument Date
Exposure Value	Entity ID	Default Status Instrument
Accounting Classification	Entity LEI	Default Status Instrument Date
Prudential Portfolio	Entity Area	Default Status Issuer
Sources of Encumbrance	Entity Name	Default Status Issuer Date
Impairment Status	Entity ESA Sector	Probability of Default Issuer
Approach for Prudential Purposes	Entity Accounting Standard	LGD in Downturns
Exposure Class	Immediate Parent	LGD in Normal
Impairment Assessment Method	Level in Group	LGD_NRML
		Risk Weight

Worldwide holdings: Availability of entity-by-entity information

- allows for a more **global perspective on group structures & intra-group holdings**



Centralised Securities Database (CSDB)

Who issues what?

Securities Holdings Statistics Database (SHSDB)

Who holds what?

Example:

Issuer A issues a **security B** which is held by **Holder C** at the **amount of X EUR**

Issuer reference data

Issuer identifier

Issuer name

Issuer sector

Issuer country

...

Instrument reference data

Instr. Identifier

Instrument type

Amount outstanding

Price

...

Holder reference data

Sector

Country

...

...

...

Holding data

Holding amount

Amount type

Valuation type

Consolidation flag

...

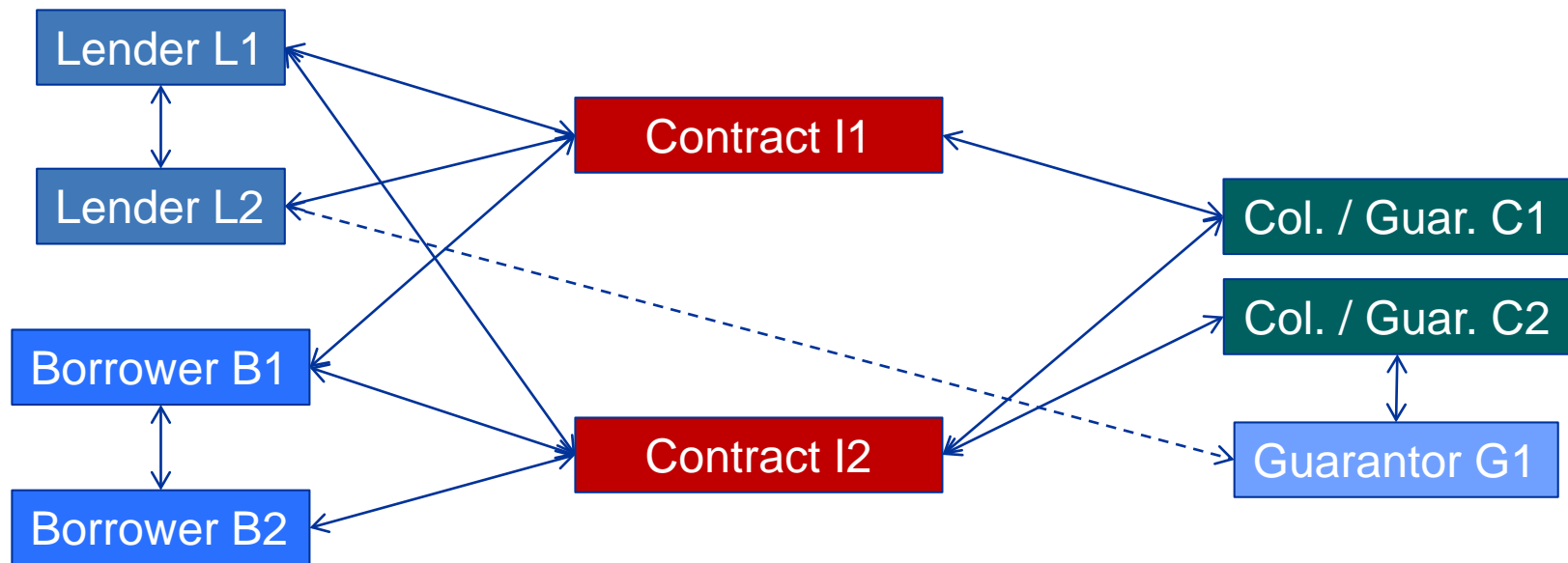
Analytical Credit Dataset (AnaCredit)



Multipurpose set of harmonised granular data on credit and credit risk

- **When?** to be implemented in a stepwise approach; the first stage introduced in September 2018
- **What?** bank loans (and guarantees) to legal entities above €25,000 e.g. *non-financial corporations* (not households, at least in the first stage!)
- **Who?** all banks in the euro area
- **For whom?** central banking purposes e.g. monetary policy, research, risk management, macro-prudential supervision... and statistics
- **Legal basis?** ECB Regulation 2016/13

- AnaCredit aims to give users *a comprehensive and consistent overview of credit and credit risk from banks to corporates*
- Collection of granular information on multiple elements:
 - *instruments, counterparties* lenders, borrowers, guarantors, etc.
 - *relations between counterparties* banking groups, syndicated loans, joint debtors, groups of connected clients
 - *collaterals, guarantees and credit risks*



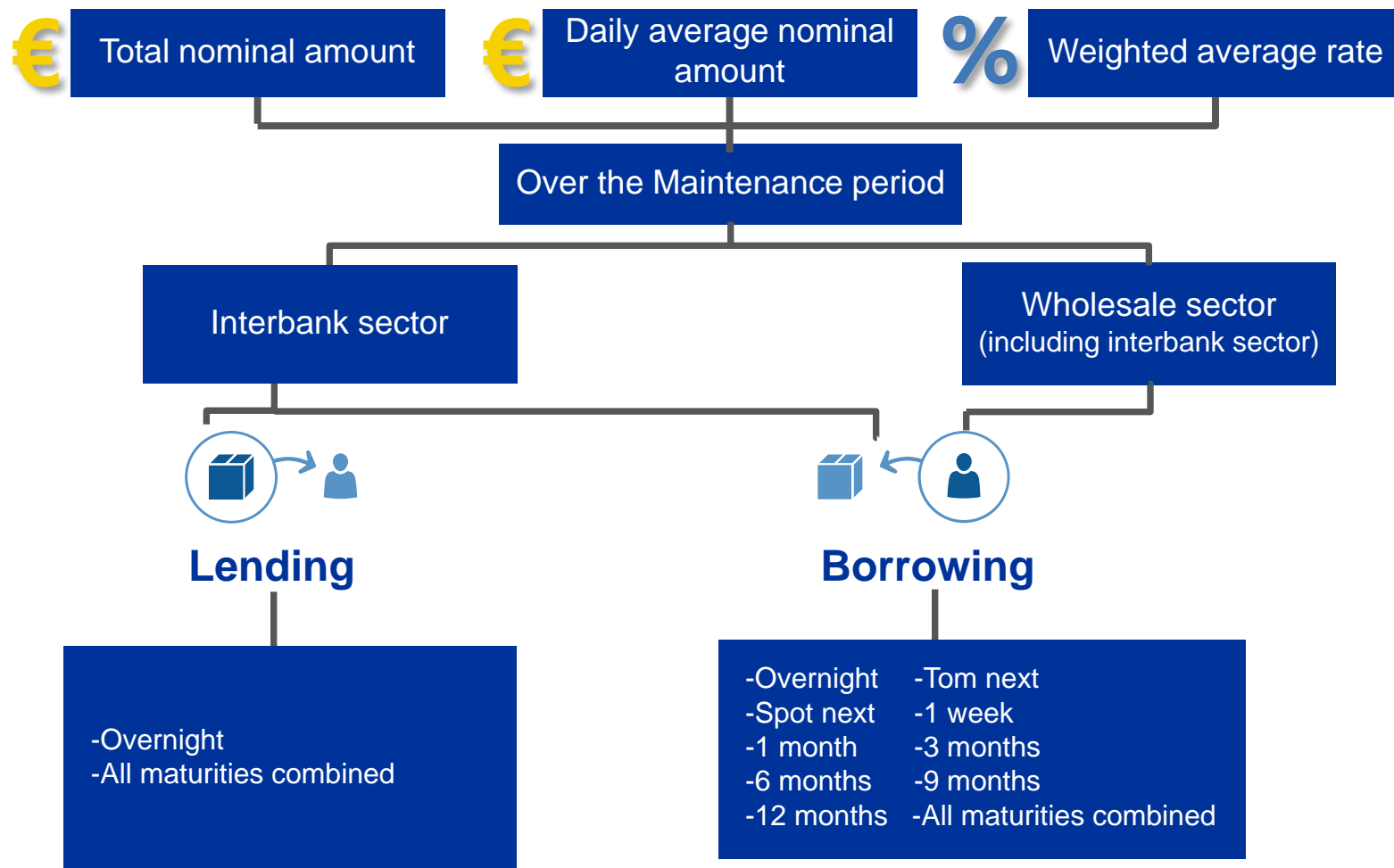
Money market statistical reporting (MMSR)



individual transactions relating to various segments of the money market

- **When?** started 1 April 2016
- **What?** daily operations on a transaction-by-transaction basis in **four market segments**: secured, unsecured, FX swaps and OIS. Some aggregates for unsecured market are already published.
- **Who?** 50 largest banks in the euro area
- **Why?** information on the **transmission mechanism** of monetary policy decisions; provide information to market participants on **market functioning**; publish **aggregates** for market segments
- **Legal basis?** ECB Regulation ECB/2014/48

- ECB statistics on unsecured and secured euro money market derived from individual transactions



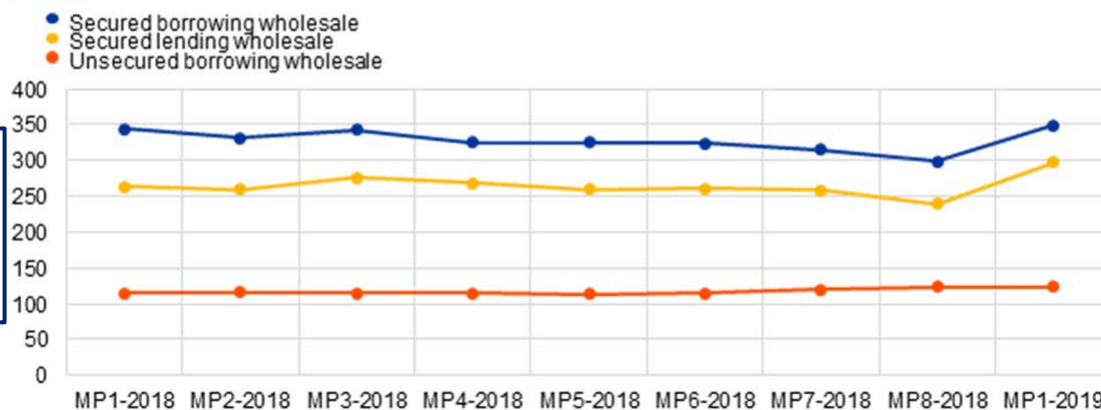
➤ Secured and unsecured segment transactions

		Turnover (EUR billion)			
		Daily average		Total	
		MP 8 2018	MP 1 2019	MP 8 2018	MP 1 2019
Unsecured	Borrowing, wholesale	123	124	3,325	3,727
	Of which, interbank	10	11	279	331
	Lending, interbank	9	8	239	232
Secured	Borrowing, w wholesale	299	349	8,082	10,475
	Lending, w wholesale	240	297	6,493	8,922

Volume of transactions in secured segment more than double than in the unsecured segment (borrowing)

Daily average nominal borrowing and lending turnover in the secured and unsecured markets by maintenance period (MP)

(EUR billion)



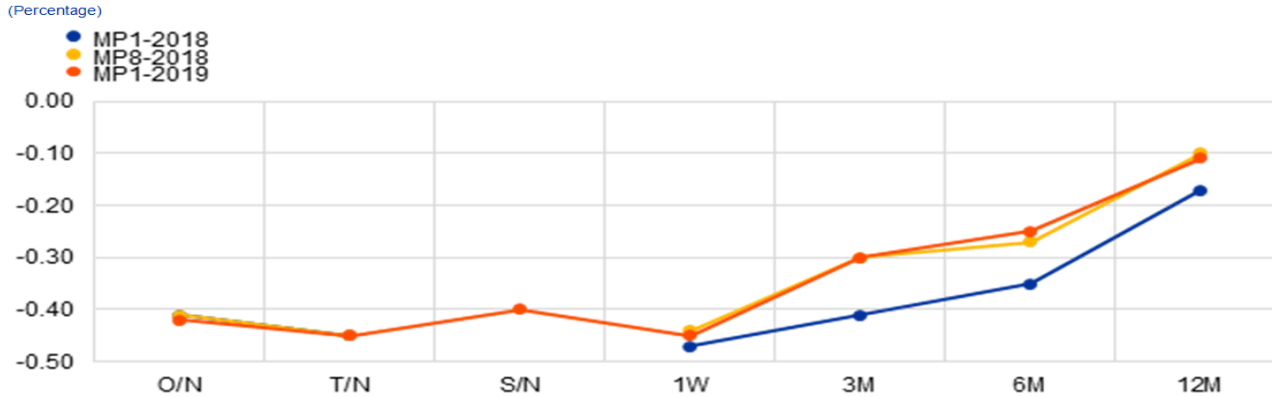
Volumes stable in 2018

High concentration: 20% entities produce 60%-70% of volumes

Fuente: Press release euro money market statistics first maintenance period 2019, ECB, 2 April 2019

Unsecured segment

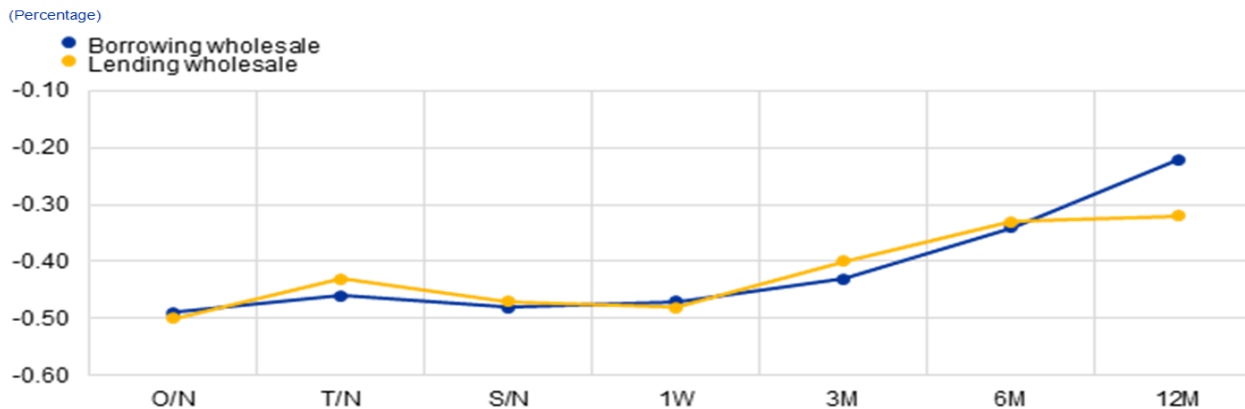
Weighted average rate for wholesale sector borrowing in the unsecured segment by tenor and maintenance period



Yield curves

Secured segment

Weighted average rate for wholesale sector borrowing and lending in the secured segment by tenor



Stability

Narrow spread between average borrowing and lending rates

Fuente: Press release euro money market statistics first maintenance period 2012, ECB, 2 April 2019

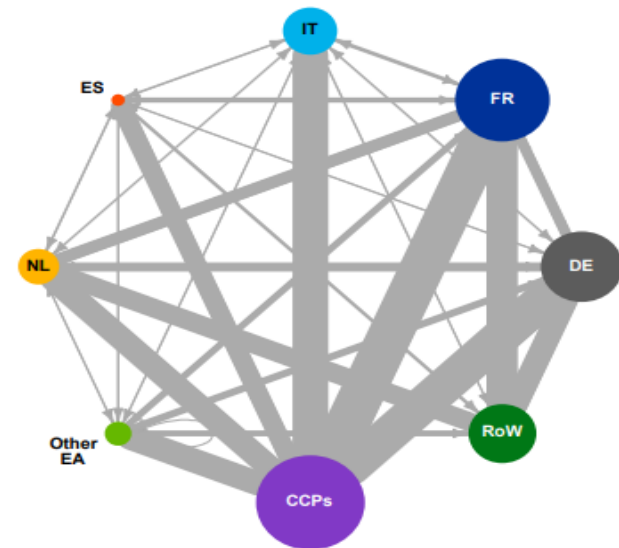
Cross-border activity in the euro area money market, 2017

Segment	Maturity	Average daily nominal amount (billions of euros)	Domestic (percentage)	Non-domestic euro area (percentage)	Non-euro area (percentage)	Central Counter-Parties (CCPs) (percentage)
Unsecured	Overnight	52	27.8%	35.8%	36.3%	0.0%
	Other mat.	47	80.2%	11.5%	8.3%	0.0%
Secured	Overnight	249	3.6%	7.3%	16.1%	72.9%
	Other mat.	29	7.1%	10.0%	35.7%	47.2%
OIS	All	24	2.2%	1.8%	5.3%	90.7%
FX Swaps	All	111	14.4%	26.5%	59.1%	0.0%

Importance of Central Counterparties (CCPs) in repo and OIS swaps

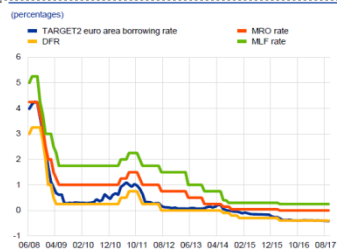
Importance of cross-border activity in all market segments

Cross-border activity (secured segment)



Fuente: Accornero, M., Ligthart, N., Box 2: Financial integration indicators based on money market statistics, Financial integration in Europe, ECB, May 2018

Euro short-term rate rate



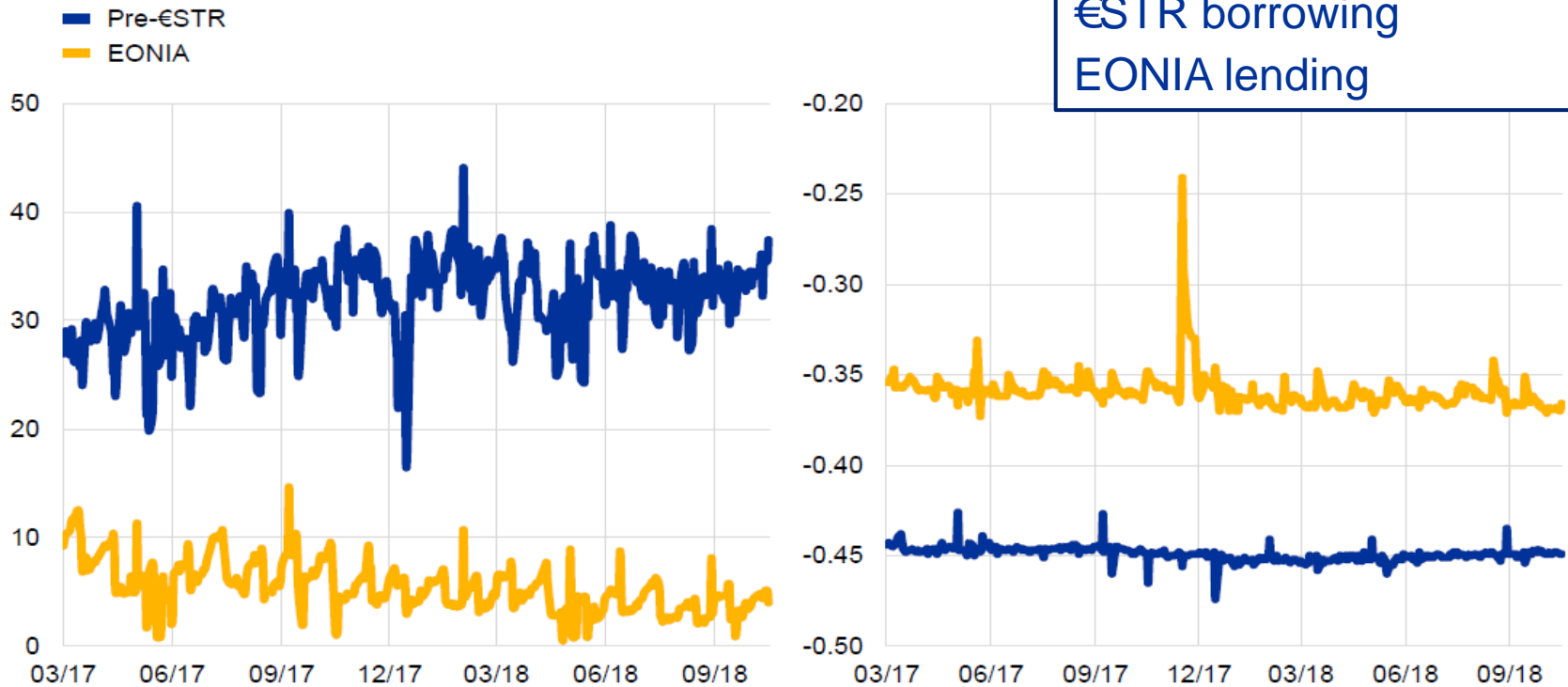
The ECB decided to take action as benchmark rates have an important anchoring role for contracts in financial markets

- **When?** Press release on 21 September 2017 & 14 March 2019
Start 2 October 2019
- **What?** based on MMSR data. Weighted average on unsecured overnight deposits from financial corporations reported by banks with fixed interest rate and above 1 million euro (truncated 25%)
- **Who?** 50 largest banks in the euro area
- **Why?** To complement existing benchmark rates produced by the private sector and serve as a backstop reference rate

Comparison pre-€STR – EONIA – Volumen and interest rate

Pre-€STR and EONIA – underlying volumes and rates

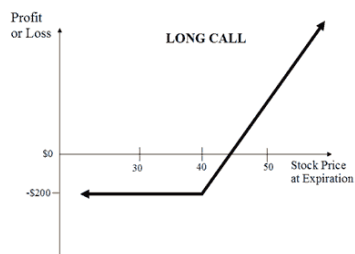
(left panel: EUR billions; right panel: percentages; 15 March 2017-18 September 2018)



Fuente: ECB Annual Report 2018

Higher volumes than EONIA (more entities and counterparties)

OTC Derivatives (EMIR)

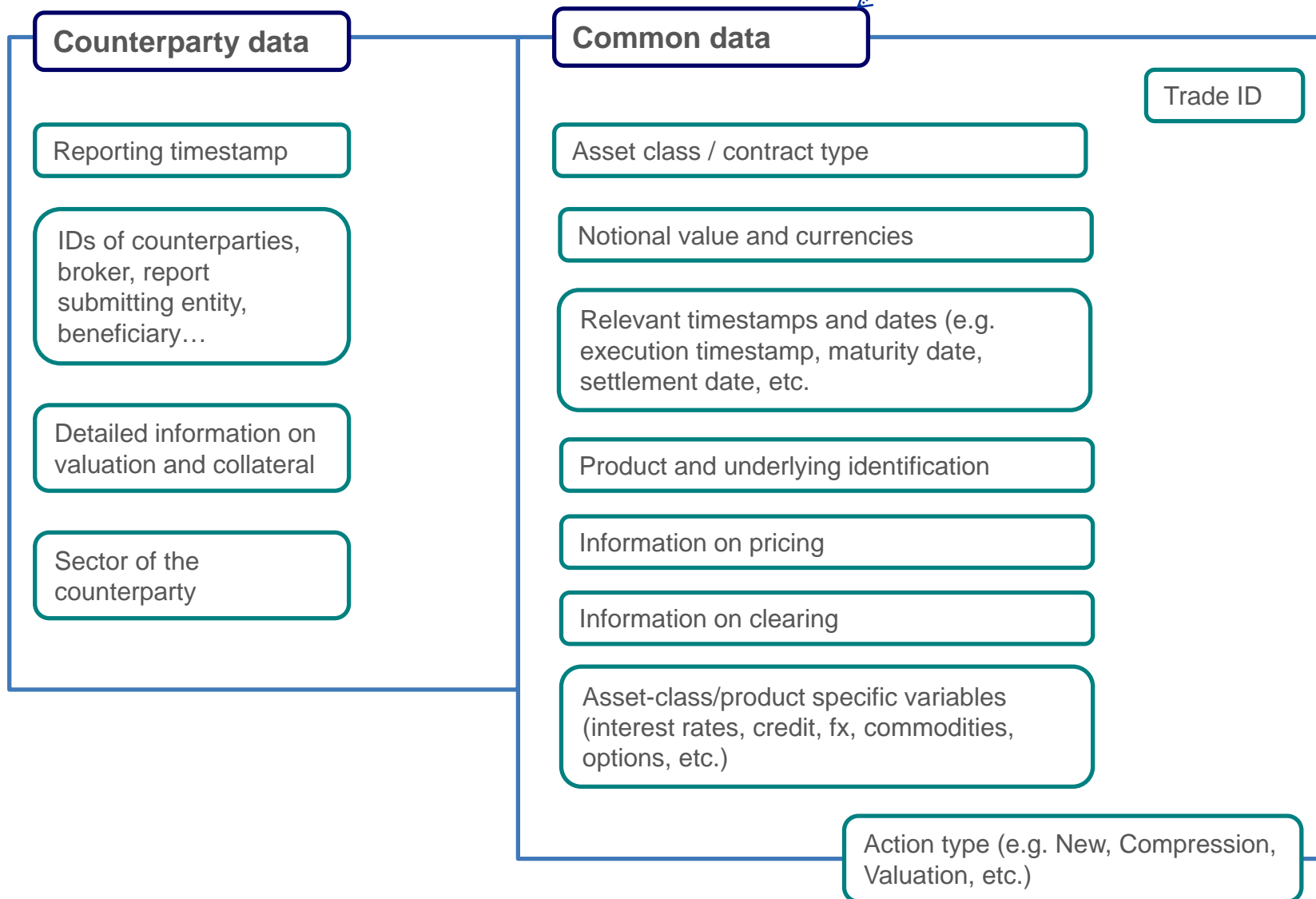


granular information on derivatives concluded on the EU market

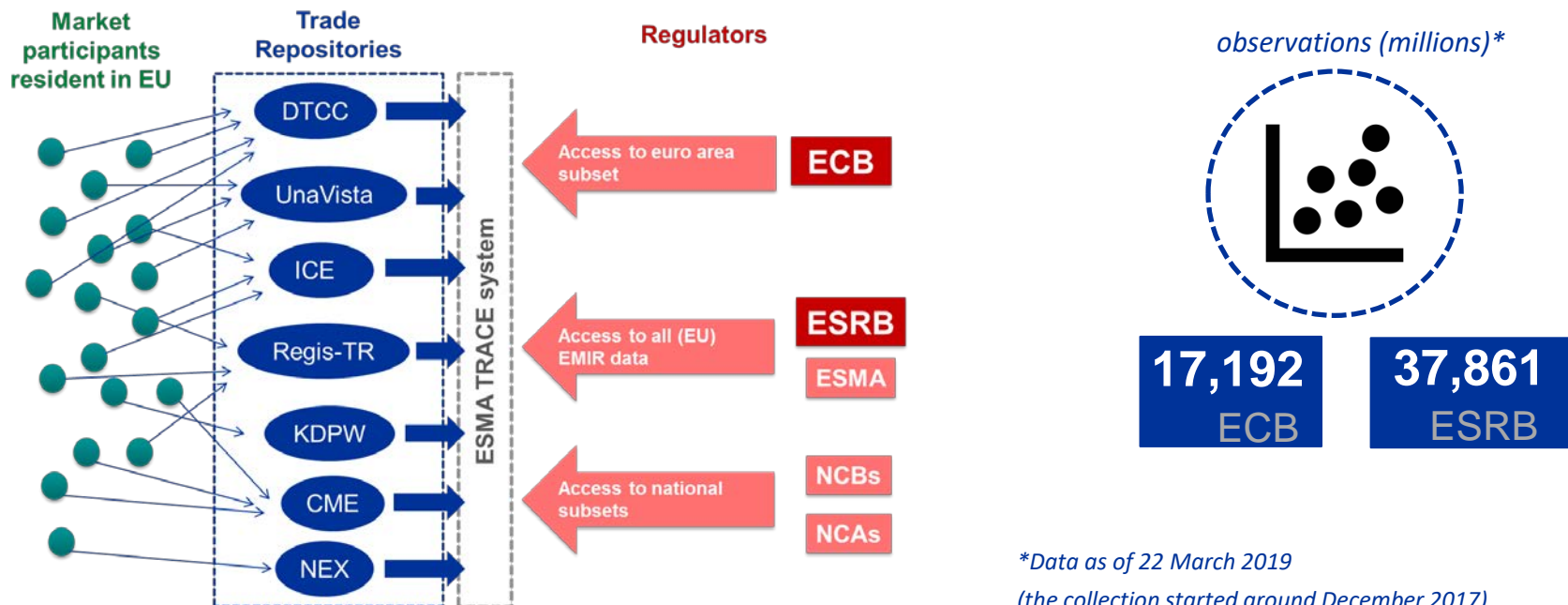
- **When?** started 12 February 2014
- **What?** Daily information on every derivative transaction concluded by an EU entity – 125 dimensions, including daily valuation, collateral, and lifecycle
- **Who?** all EU legal entities being counterparties to derivative transactions
- **Why?** provided to dozens EU authorities with different mandates; at the ECB used for monitoring of financial stability, microprudential supervision, oversight of CCPs, and many more
- **Legal basis?** EU Regulation No 648/2012

What is in EMIR?

This should be agreed between the counterparties before submitting the report



Micro-data on OTC derivatives markets



*Data as of 22 March 2019

(the collection started around December 2017)

www.ecb.europa.eu ©

Supervisory Data

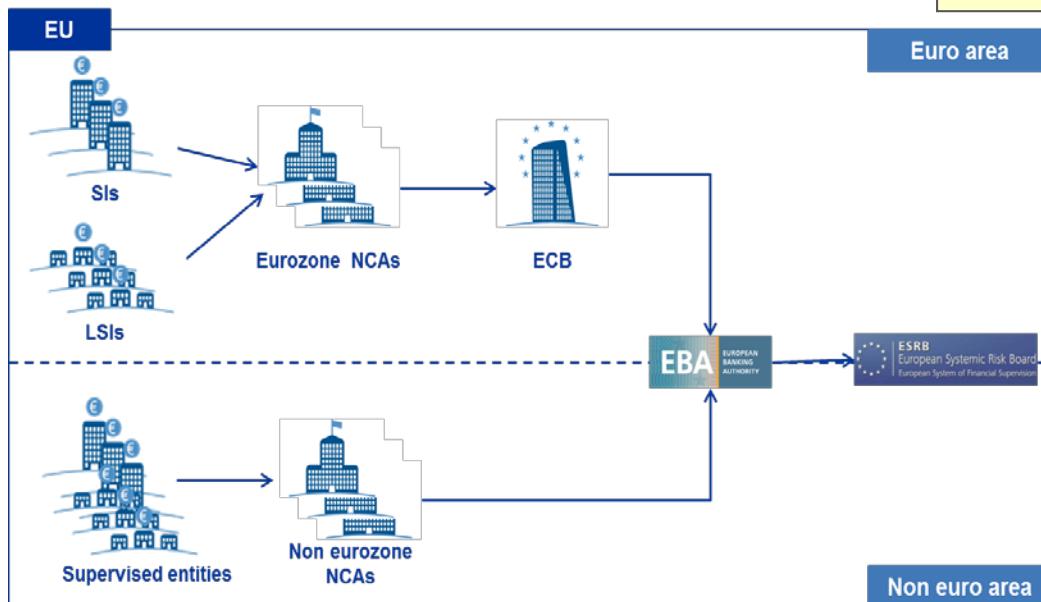
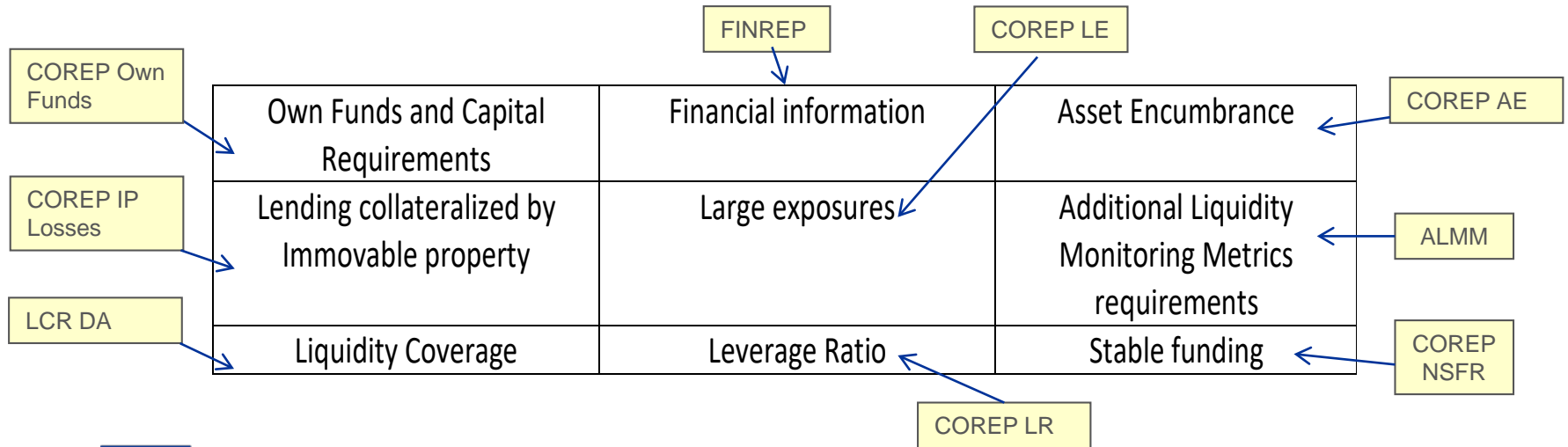


EUROPEAN CENTRAL BANK
BANKING SUPERVISION

Prudential supervisory requirements for credit institutions and investment firms (“CRR”)

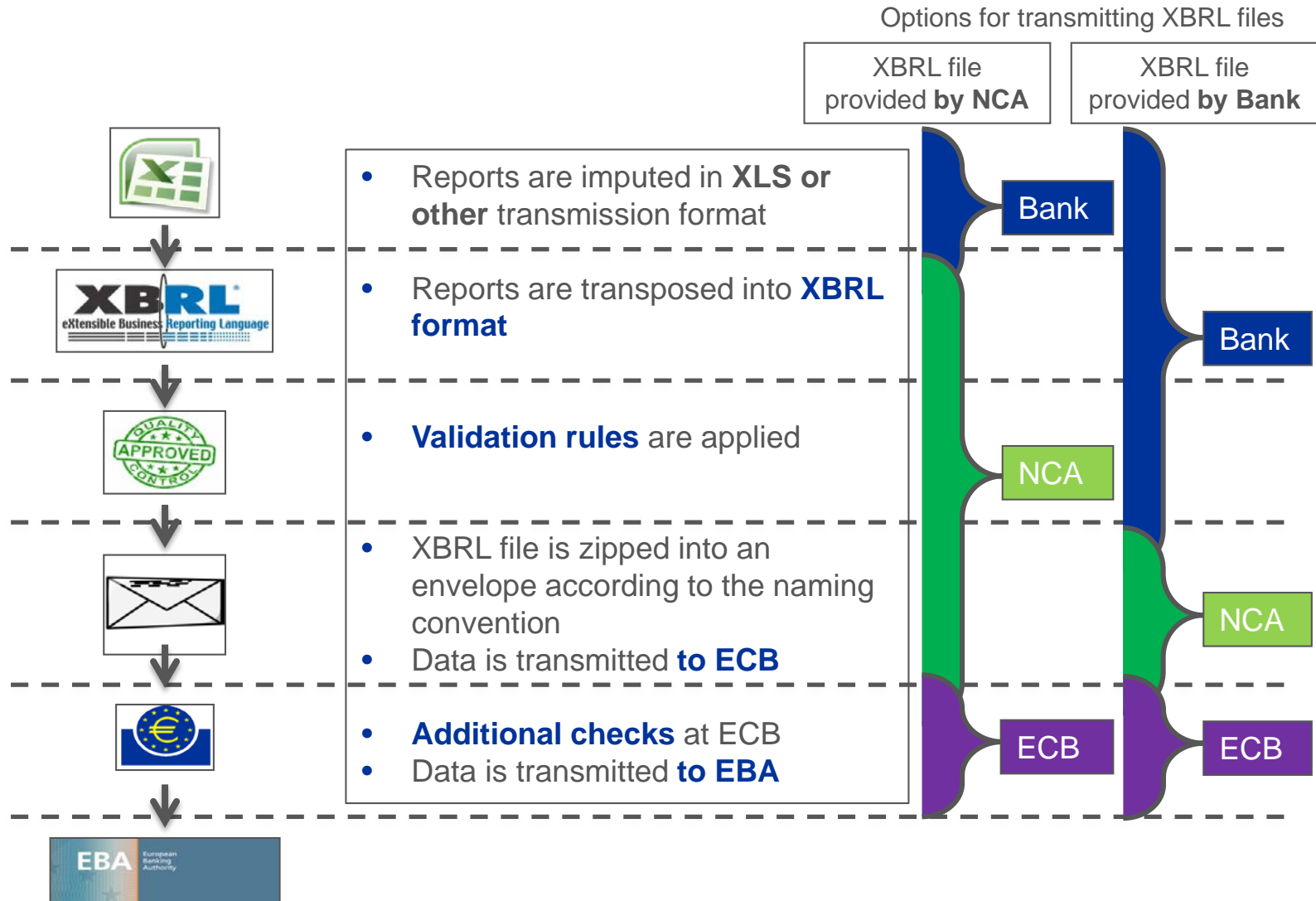
- **When?** started 1 November 2014
- **What?** Individual and consolidated financial data on credit institutions and investment firms including Own Funds, Liquidity Coverage Ratio (LCR), Leverage Ratio (LR), Net Stable Funding Ratio (NSFR), Large Exposures (LE) and Asset Encumbrance (AE)
- **Who?** 117 banking groups (involving ≈ 800 banks) & 3000 smaller banks + largest investment firms (≈ 20-30 from 2021)
- **Why?** information on banks and investment firms in euro area (and Bulgaria from 2020) liquidity and solvency for supervision
- **Legal basis?** Regulation EU/575/2013 and Regulation EU/680/2014

Reporting of supervisory data: what and how?

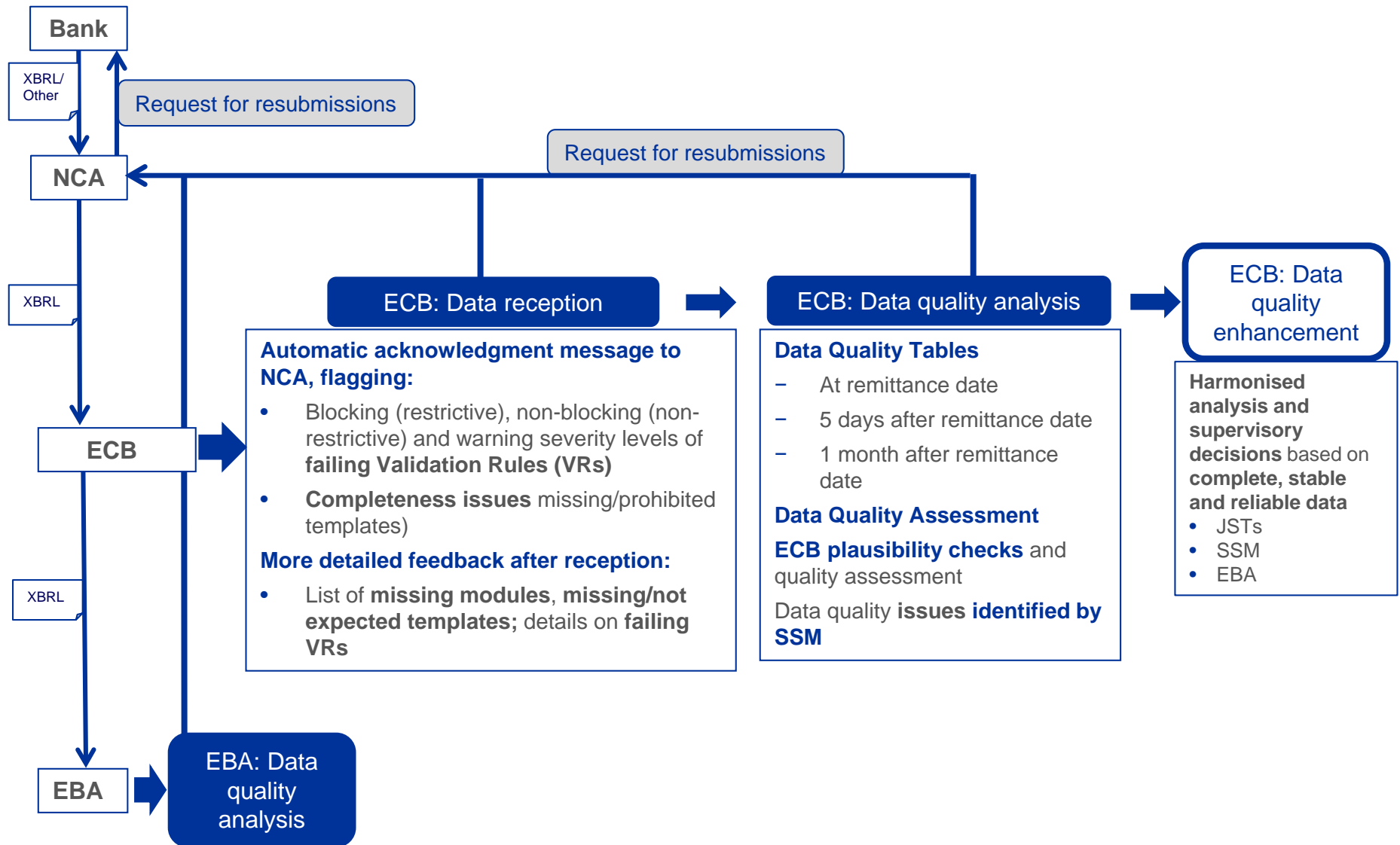


The **sequential approach** aims for **NCAs, ECB and EBA** to have **same set of supervisory data** on which to base their analysis

Compiler remains responsible for data quality

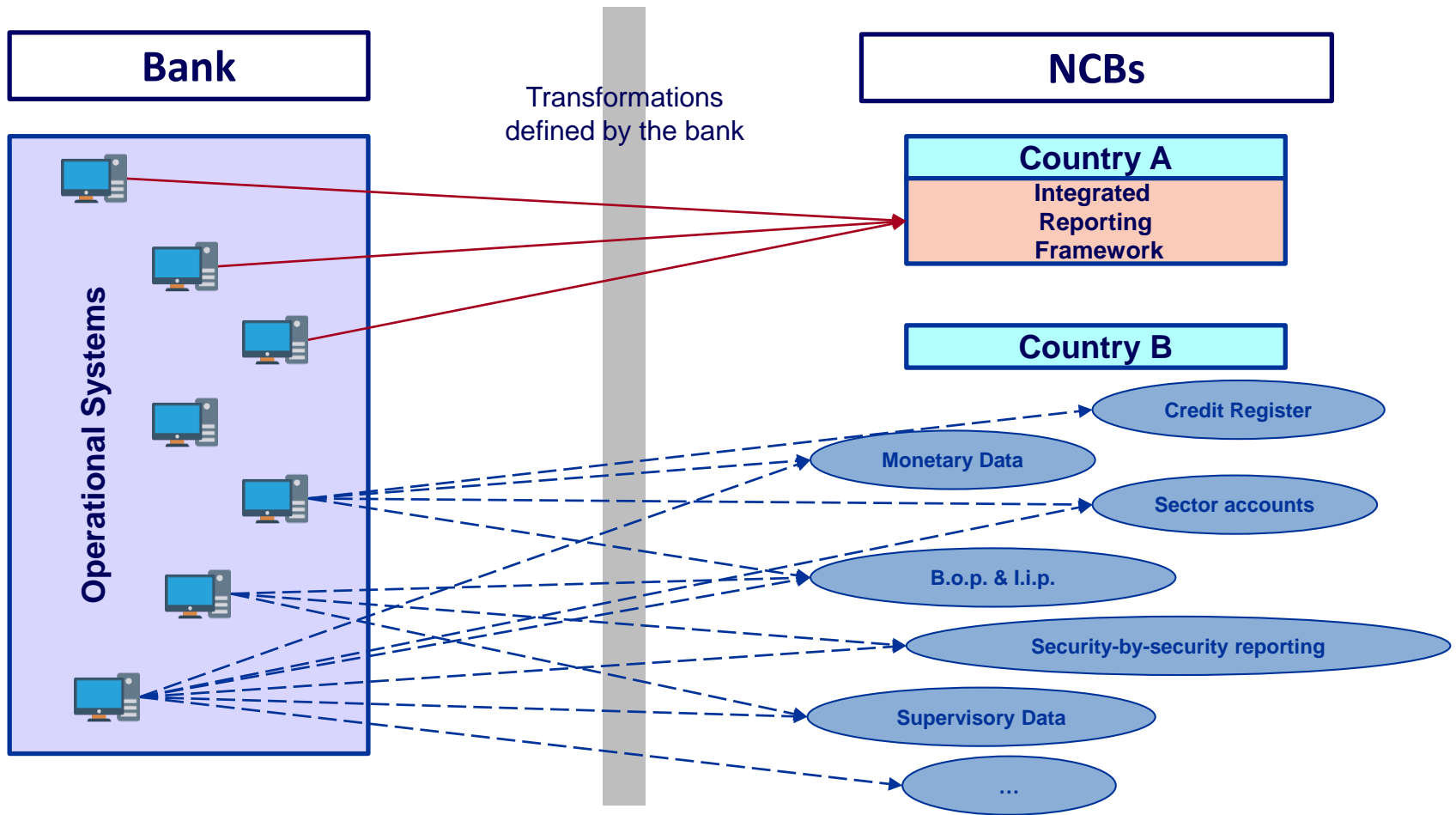


Validation processes ensure a constant feedback loop



- 1 New data needs resulting from the crisis
- 2 The ECB response: financial micro data - projects and challenges
- 3 Strengthening cooperation between the ECB and the banking sector**

- The same bank faces *different requirements across euro area countries*:



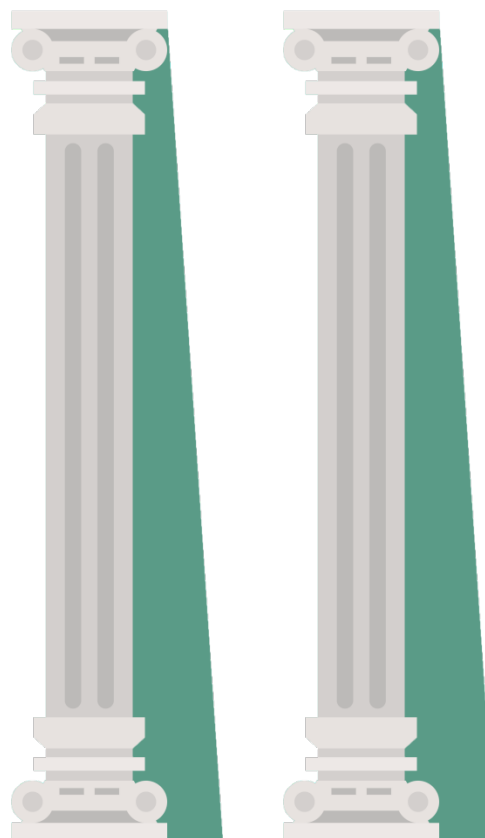
- *Approach to data collection from banks:*
 - *Standardise and integrate existing frameworks* for banks' reporting across *domains* and across *countries*

IReF

ESCB Integrated Reporting Framework

Collect the data only once, via an integrated reporting scheme

Focus on *ESCB statistical requirements*



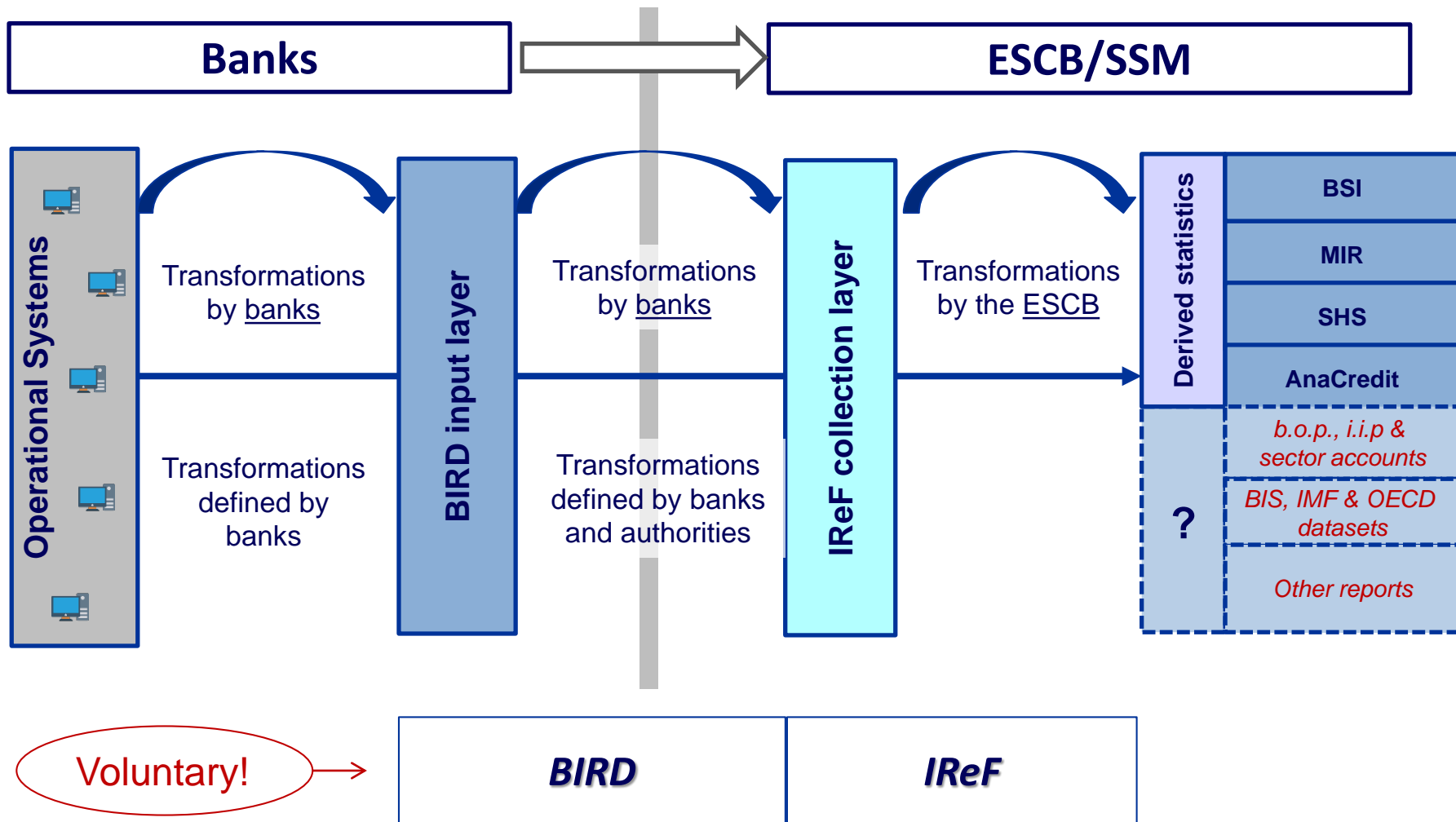
BIRD

Banks' Integrated Reporting Dictionary

Support reporting agents to optimally organise the information available in their internal systems

The ESCB future strategy to data collection from banks

- Envisaged approach to data collection from banks:





Purpose

- ✓ Streamline overall process of reporting from banks to national & European authorities
- ✓ Improve consistency & quality of information reported by banks

Provides a service to European banks

Formalised representation of requirements to banks

Needs close cooperation between authorities & banks

Working together to develop various elements of the BIRD

Participants

Crucial role of commercial banks

- Specific knowledge of banks' operational systems & reporting systems

NCBs & ECB

- Catalysts of the initiative
- Managing & maintaining the BIRD over time



Preguntas

GRACIAS