IFC-Bank of Italy Workshop on "Data Science in Central Banking: Applications and tools"

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Single resolution board system for data collection, transformation and analysis[1]

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[1] This contribution was prepared for the workshop. The views expressed are those of the authors and do not necessarily reflect the views of the Bank of Italy, the BIS, the IFC or the other central banks and institutions represented at the event.

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Single Resolution Board system for data collection, transformation and analysis

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Applications and tools

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Disclaimer

All views presented are the views of authors only and shall not be considered official views of the Single Resolution Board.

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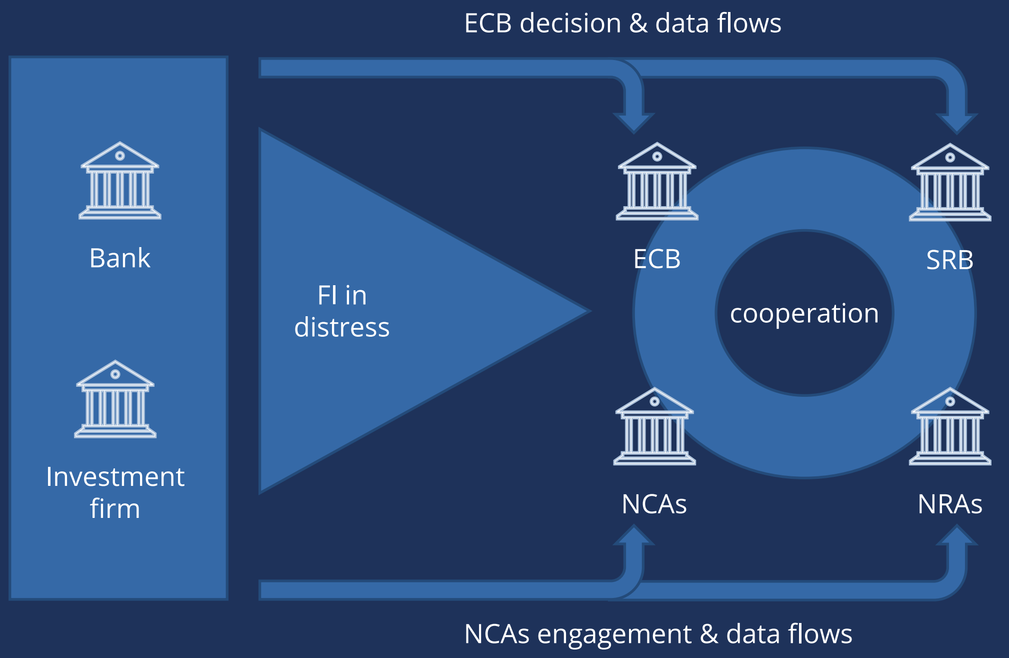
Unveiling the SRB’s legal setting

- The SRB was established in and is operational since 2015 by the EU Single Resolution Fund Regulation of 2014
- Primary aim of the SRB is to serve as resolution authority for defaulting financial institutions, as a hub for the Single Resolution Mechanism and as owner of the Single Resolution Fund
- SRB operates in a multi-stakeholder environment including credit institutions, certain investment firms, National Resolution Authorities from 19 eurozone countries plus Croatia and Bulgaria, three European Supervisory Authorities, the ECB, the SSM and the European Commission

Single Resolution Board

Operational overview



Resolution Planning Cycle

Expectations for the Banks (EfB)

Monitoring of Internal Resolution Teams

Setting up of MREL targets

Cooperation in Resolution Colleges

Analysis of COREP, FINREP, SRB resolution data reports, bank specific information and information provided by other authorities

Consultation with ECB, SSM, NCAs

Reporting to FSB

sale of business

bridge bank

bail-in

assets separation

SRB data ecosystem

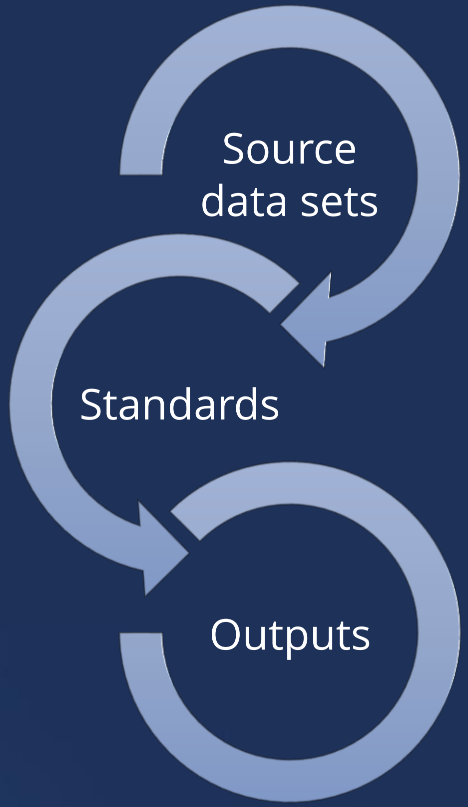
Structured supervisory data from the ECB/EBA/NCAs:
- Assets Encumbrance
- COREP
- FINREP
- GSII

SRB resolution data reports
- Liability Data Reports, Z and T (part of EBA reporting)
- Additional Liability Data Collection
- Critical Functions Report

Bank specific information
- Structured, semi-structured and unstructured reports developed by Internal Resolution Teams

Market data
- Commercial data providers information

Other data sets that can be taken into account in the future:
- Data provided by other supervisors such as ESMA TRACE repositories data based on ISO 20022 standard

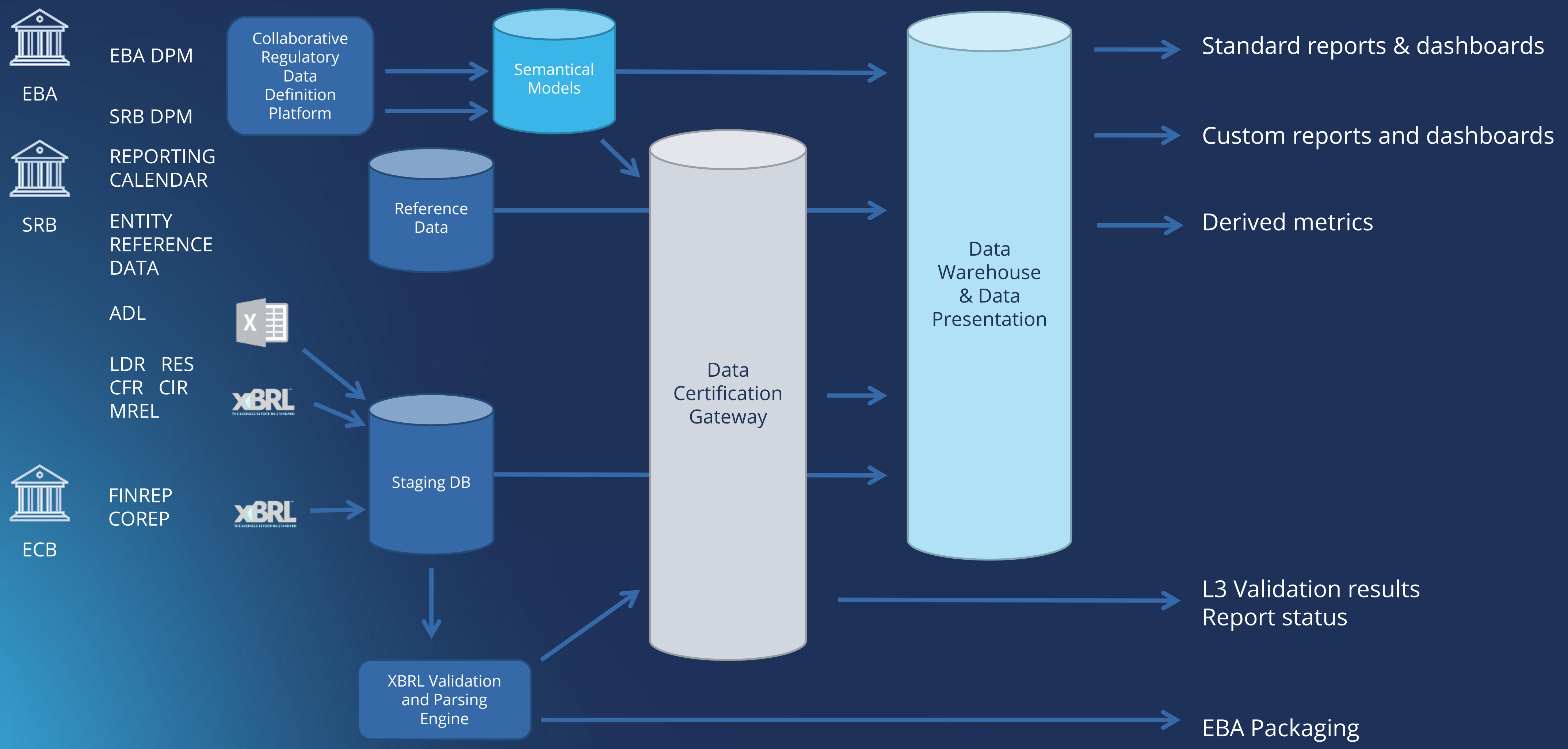


Data standards:
- EU Data Point Model used by EBA/ECB/SRB/NCAs for collection and validation of supervisory data
- XBRL used by EBA/ECB/SRB/NCAs for collection and validation of supervisory data
- LEI used by ESAs for identification of counterparties

Upcoming and other related developments:
- DPM Refit, a project conducted jointly by the ECB, EBA, EIOPA to prepare DPM for granular data reporting under IREF
- SM-Cube, a methodology combining SDMX-IM and DPM developed and used by the ECB in Statistical Data Dictionary and SSM Wide-data collection database
- ISO 5116, an official ISO Data Point Model standard for which DPM Refit will provide input for update including micro-data definition

Key outputs:
- Resolution plans preparation
- MREL targets definition
- Resolution decisions

Technological architecture



Paving the way for ResTech

- DCG and DWH components are already in production and have successfully processed all FINREP COREP data sets collected by ECB since 2018
- DCG and DWH may in the future be extended to cater for other data sets including market data and to allow analysis of ESAs' granular data sets like TRACE
- According to the SRB Work Programme 2022 the current focus is to allow for automated dashboards and tables in resolution planning, collaboration with NRAs and for exploration of cost-efficient innovative solutions
- SRB will also work on simulations including verification of banks' bail-in simulations
- SRB foresees strengthening of the XBRL-only approach and consideration of more granular data format XBRL-CSV
- SRB is currently conducting its first NLP and ML – based POCs that aim to reduce the time spent by the SBR teams on data processing

"The term 'ResTech' refers to the use of innovative technology by resolution authorities to support their work.
The aim is to benefit from innovation by using wise technological solutions, not necessarily involving the purchase of expensive hardware or software."

SRB Work Programme 2022

Conclusions

- SRB has established a comprehensive metadata model and a **standard-driven platform** for receipt, emphasizing quality assurance, classification and analysis, that is ready to efficiently operate high-volumes of facts
- **Data processed embraces highly-structured** supervisory data that includes both **aggregated and granular data** that may apply to machine-learning models for instance simulating variety of resolution scenarios or impact of specific solutions on creditors, markets and other stakeholders. On the other hand SRB receives **unstructured reports** from banks describing their critical functions that may be subject to NLP algorithms
- The platforms established by the authority are designed with **collaboration principle** including collaboration on new reporting requirements, communication with banks, ESAs, ECB and other stakeholders and finally sharing results of the RPC

1 billion

Number of facts processed by the SRB DCG and DWH platform since production launch

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