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**Standardization and granularity in the future of
regulatory reporting**

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Agenda

- 1 Current situation and its criticalities
- 2 The ongoing debate on standardization and granularity
- 3 Output layer standardization
- 4 Conclusions

CURRENT SITUATION

Proliferation of surveys and the **lack of an effective *ex ante* coordination** among the various authorities (which adopt different "languages" and collect partially redundant data)

Survey	Authority	Granularity	Business scope
BSI/MIR	ECB	Aggregated	Assets and liabilities
AnaCredit/SHSG	ECB	Item-level	Loans and securities
Payments statistics	ECB	Aggregated	Payments services
EBA-ITS on Sup. Rep.	EC + EBA	Aggregated	Acc/Prud/Res data
SRB reporting	SRB	Aggregated	Resolution data
MMSR	ECB	Transactional	Money market
EMIR reporting/SFTR	EC + ESMA	Transactional	Derivatives/SFT
BIS loc/cons statistics	BIS	Aggregated	Assets and liabilities
National reporting	National authority		
Ad hoc data collect.	Competent authority		

MAIN CRITICALITIES

This situation determines the following main criticalities:

- **sharp increase in the reporting costs:** e.g. according to the available official estimates supervisory reporting costs have almost doubled over the past decade for reporting agents, up to EUR 5.5 billions per year;
- **pressure on the current system is never ending:** information requirements are continuously evolving, e.g. CRR 3, ESG and IReF will introduce further innovations in the coming years;
- **cooperation between the authorities has to be strengthened:** there is not enough ex ante cooperation in the design of requirements, there are not robust legal bases for data exchange;
- **regulatory reporting is not suited to FinTech-induced changes in the financial landscape:** data are infrequent, backward-looking and collected according to legacy frameworks.

STANDARDIZATION AND GRANULARITY

Since 2016 there has been a **proliferation of studies trying to find solutions** to the these criticalities, leveraging standardization and granularity on one side and technology on the other side.

Three main streams of discussion (the first two being very innovative):

- **operational data standardization** - granularity at the level of operational data (**smart contracts** in pure business language) in the operational system of the banks;
- **input layer standardization** - granularity at the level of **common input data** (business-oriented in its design but also contaminated by regulatory definitions), in the data warehouse/data lake of the banks;
- **output layer standardization - item-level reporting** (e.g. loan-by-loan or security-by-security) **combined with** multidimensional structures for more **aggregated data**, as it is the case for the future IReF.

OPERATIONAL DATA STANDARDIZATION (1/2)

The prerequisite of these solutions is the use of **smart financial contracts**.

Smart contracts are **computer programs that can run on a ledger**. They can serve as a secure, unambiguous and human-readable way to represent and execute multi-party workflows, such as trading and reporting.

In the **EC Machine Readable Executable Reporting** end-to-end trading system the **smart contracts are used for the execution of trades**, based on a common data model and executed on a distributed ledger. The MRER-code interfaces with the trading code so that it can directly consume trade records and turn them into regulatory reports according to the regulator' needs.

Other solutions propose a bearer service, which generates and maintains a “digital doppelgänger” for every financial contract in the form of a **dynamic transaction document (DTD)**; in other words, it is a standardized “data facility” which automatically makes important contract data from the transaction counterparties available to relevant authorities.

OPERATIONAL DATA STANDARDIZATION (2/2)

PROS	CONS
Automation	Need for public intervention
Operational data standardization	Need for global vision and strategy
Efficiency	Lack of economic design of smart contracts as public good
Accuracy	Lack of design principles of a network
Transparency	Some data more difficult to standardize
Time-to-market	Legal issues
Consistency	New skills and competencies
Transparency	
Compliance	
New opportunities	

INPUT LAYER STANDARDIZATION (1/2)

The most interesting aspect of these solutions (**EC MRER, BoE/FCA Digital Regulatory Reporting, BIS Ellipse, BaFin study**) is that a reporting regulation would be drafted in a form that allows for its automatic implementation by the intermediaries ('instruction as a code').

Two main features characterize these new regulatory reporting solutions:

- a very **high level of granularity** of the information requests from the authorities (a common input layer, which allows data standardization and must be shared and applied by all the parties involved);
- the **regulatory authorities bear the responsibility to carry out the transformations** of input layer data into the aggregated information necessary for their analyses, thereby overcoming the responsibility currently placed on reporting entities (the authorities describe also the transformations as a machine-executable code).

INPUT LAYER STANDARDIZATION (2/2)

PROS	CONS
Consistency across reports	Implementation costs
Consistency across institutions	Adaptation costs
Flexibility	Lack of incentives
Compliance	Heterogeneous data sources
Transparency	Legacy lock-in
Regulatory efficiency	Only partial feasibility
Common language	DQM costs
	Regulatory costs
	Legal issues
	New skills and competencies

SOME ADDITIONAL CONSIDERATIONS

It has to be underlined that:

- **the available case studies and trials are not yet convincing.** The proof-of-concepts carried out so far have taken into consideration quite standardized financial products (e.g. derivatives) and very granular (e.g. EMIR reporting) or non-complex requirements, for which the necessary transformations rules to produce the output from the input are extremely linear.
- **final users are not yet deeply involved** in these explorations that would change dramatically the way they should approach data.
- **these innovative solutions have been explored in a little or uncoordinated way between authorities,** there is a lack of a global reflection of the pros/cons.

OUTPUT LAYER STANDARDIZATION...

European authorities have already identified **some areas for improvement** to modernize and integrate the current ERM reporting frameworks (including IReF as part of the Integrated Reporting Framework).

Such a reporting system should include these **main elements**:

1. **Consistent and standardized data**
2. **Data sharing and reuse**
3. **Improved design of reports**
4. **Joint governance**

This system will **reduce the compliance burden** for reporting entities and **improve the accuracy and timeliness of the data** received by authorities, **enhance their capacity to analyze it**.

These **requirements** imply an investment of resources during the transition. Therefore, a **gradual approach** to reduce implementation risks and costs is needed.

THE HIGHEST LEVEL OF GRANULARITY FOR THE REPORTING REQUIREMENTS IS NOT A PRE-CONDITION FOR HAVING SUCH A SYSTEM

...IN COOPERATION WITH THE INDUSTRY

Dialogue and joint work with the banking industry is crucial.

Even if data at the highest level of granularity are not collected by the authorities (i.e. a mandatory common input layer), they are available in the input layers of the institutions' and their governance and operational management is critical to grant effective and efficient reporting processes (SSM priorities 2023-2025 and BCBS 239).

To facilitate these complex tasks and to reduce the room for interpretation of reporting regulations, we need to **invest further on Banks' Integrated Reporting Dictionary (BIRD)**, one of the pillars of the ESCB strategy for standardizing banks' reporting.

It is a fundamental support (non-mandatory common input layer + transformation rules) for maintaining a **close connection between the data production of the reporting agents and the data collection of the authorities.**

OUTPUT LAYER STANDARDIZATION - NEXT STEPS

- **Development of a common data dictionary:** ECB–EBA–EIOPA launch a TF on governance of DPM Refit, also in view of its adoption for IReF
- **Explorations of possible areas for semantic integration:** ensure that reporting requirements are designed consistently across reporting frameworks
- **Integration of reporting requirements:** CBA questions on IReF-FINREP alignment and eventual implied developments (regulation, data model, data flows, data quality); EBA work on granularity
- **Set up of a Joint Bank Reporting Committee:** it will involve all concerned authorities, European and national, and the industry permanently through a Reporting Contact Group
- **Strengthen BIRD operational tasks:** ESCB ongoing discussions to find an organizational and technical solution to ensure more timely and reliable BIRD deliverables

CONCLUSIONS

- **Full support to the output layer standardization**, which seems to be the most pragmatic and feasible solution in the medium term in Europe. Preliminary activities are already ongoing and soon a formalized governance will steer and operationalize them.
- **I would advise to continue exploring solutions for standardizing operational data** (selecting the types of data for which it is most feasible), as these could be real game changers. It will be crucial to meet certain organizational and strategic preconditions (at global level): strong commitment, vision, culture of innovation, strategy and governance framework.
- **I wouldn't go down the path of standardizing the input layer**, as it seems to add complexity to the current situation and require high costs.

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THANKS FOR YOUR ATTENTION

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