



EUROPEAN CENTRAL BANK

EUROSYSTEM

# Integrated Reporting Framework (IReF)

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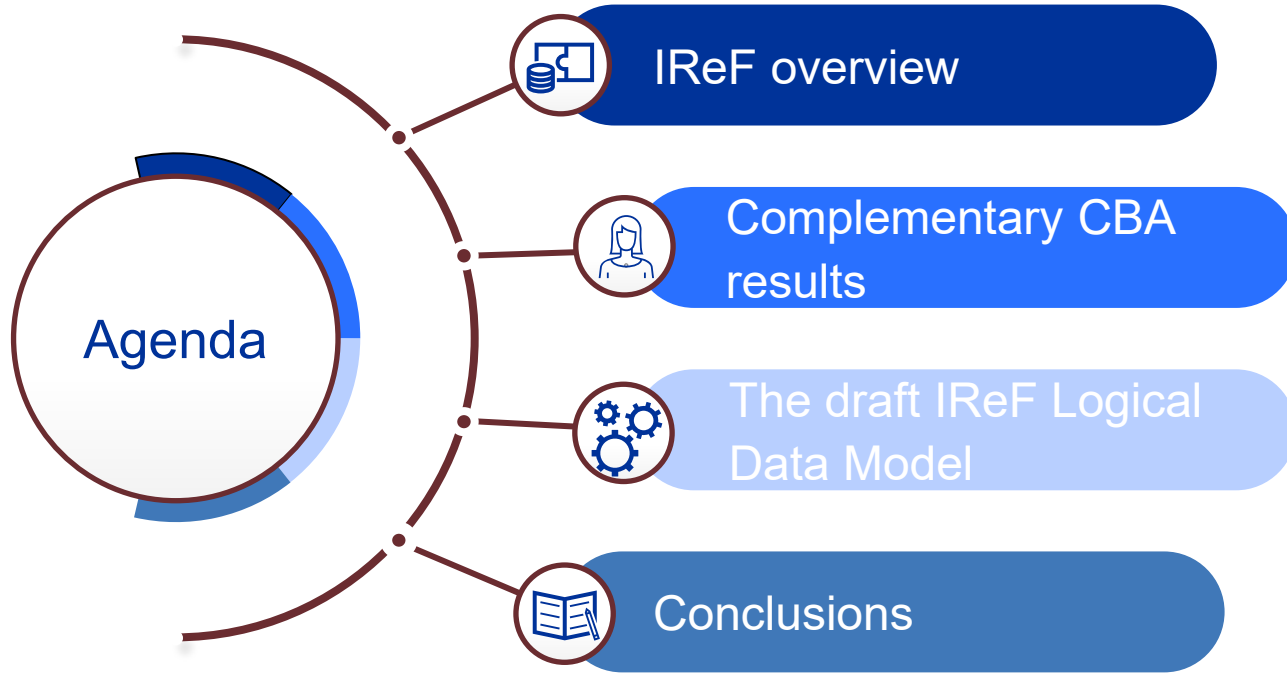
Overview,  
Complementary CBA and  
Logical Data Model

24 April 2024



ECB IReF Programme Office

# IReF complementary cost benefit assessment (CBA) and logical data model



# 1

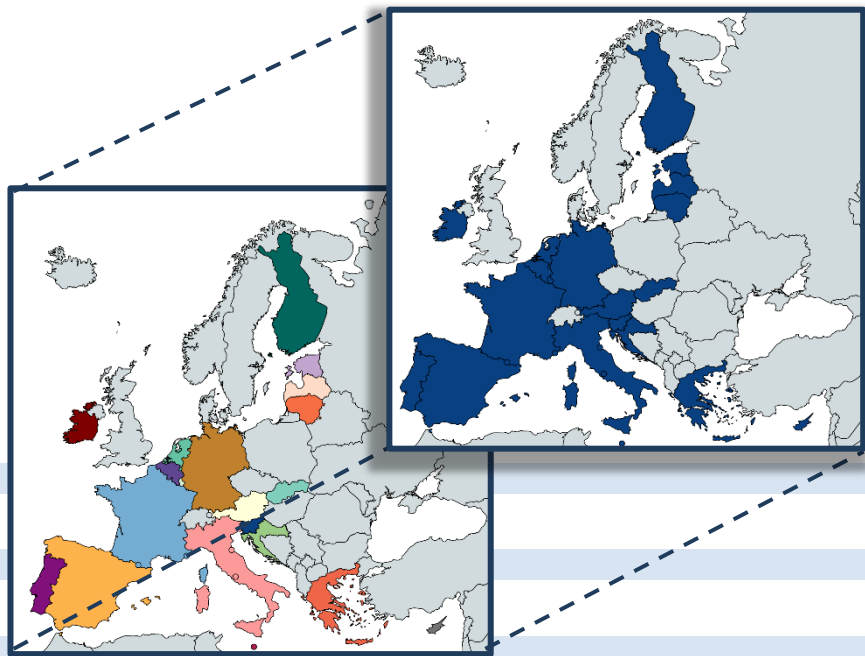
## IReF Overview

# Uniform standardised statistical reporting

## IReF

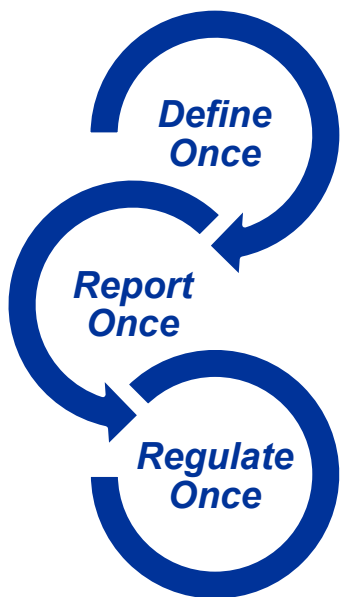
### Integrated Reporting Framework

The aim of IReF is to **integrate statistical reporting** content in the euro area. These are currently implemented and described differently in each country. IReF is seen as first step towards a common statistical, prudential and resolution reporting with tangible steps already in this direction.



# IReF Principles

IReF is part of a broader European initiative to integrate a wide range of reporting requirements (e.g. supervision, statistics) with the aim of simplifying reporting.



Use of a “common data dictionary”

Improve data reusability

Consolidation of various regulations into one IReF regulation

# Regulations in scope

| ASSETS  | LIABILITIES                        |
|---|------------------------------------|
| Cash  | Deposits                           |
| Loans to legal entities                           | Securities issued and other equity |
| Loans to natural persons                          | Derivatives                        |
| Debt securities – Equity - Investment fund shares | Remaining liabilities              |
| Unquoted shares and other equity                  | Capital and reserves               |
| Derivatives                                       |                                    |
| Non-financial assets                              |                                    |
| Remaining assets                                  |                                    |
| <b>Assets = Liabilities</b>                       |                                    |
| Off-balance sheet items                           |                                    |
| Custodian data                                    |                                    |

## Collection of granular credit and credit risk data (AnaCredit Regulation ECB/2016/13)

Reporting population credit institutions, regulation to be repealed.

## Balance sheet items of credit institutions and the monetary financial institutions (MFI) sector (BSI Regulation (ECB/2021/2)

Reporting population MFIs and non-MFI credit institutions. Money market funds (MMF) will not be included in the IReF Regulation.

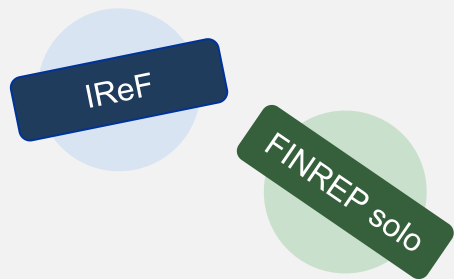
## Statistics on interest rates applied by monetary financial institutions (MIR Regulation (ECB/2013/34)

Reporting population MFIs excluding MMFs, regulation to be repealed.

## Statistics on holdings of securities (SHS Regulation (ECB/2012/24)

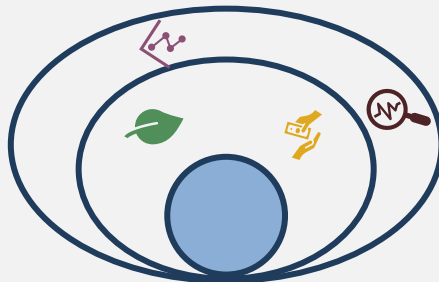
Reporting population MFIs, investment funds, insurance companies, financial vehicle companies, custodians and heads of banking groups. IReF to include holdings and custodian activities of deposit taking corporations that mirror SHS requirements.

# Extensions of existing requirements under consideration



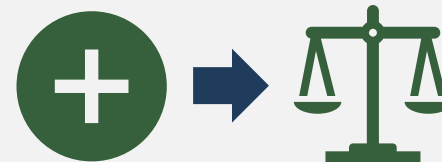
## Closer alignment with FINREP solo

Additional attributes would be included in the data collection to operationalise the alignment



## Data expansions

Those that were referenced in the AnaCredit Regulation or other under other user needs (granular collection of loans to natural persons, climate change etc.)



## Assessment process

Subject to a matching process that weighs costs with benefits for the relevant stakeholders. The complementary CBA forms a key input into this process

# Matching costs and benefits for the IReF

The cost-benefit analysis approved by the Governing Council in 2020 foresees a formal step that precedes the drafting of the Regulation

Qualitative matching of costs and benefits assessed using input from the questionnaires, including the complementary CBA (ongoing)

Policy recommendations considering the feedback of all stakeholders will be presented to the Governing Council, and, if approved, will form the basis for the draft Regulation

The documentation will accompany the public consultation on the draft regulation



# Beyond IReF

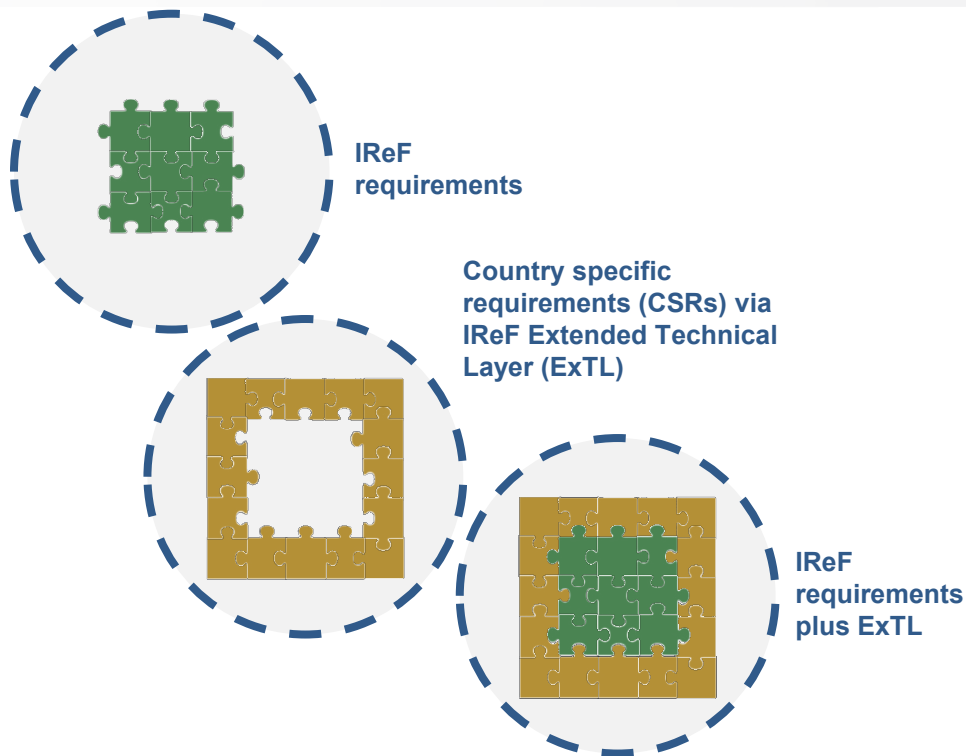
The standardization and unification of ESCB statistical reporting opens up new integration perspectives!



Central  
Credit  
Registers  
(CCRs)

Other  
country-  
specific  
requirements

# IReF and the Extended Technical Layer (ExTL)



**ExTL will be a complementary system to the core IReF requirements to capture country-specific requirements:**

- Applies only to documentation of reporting requirements

**The IReF project team has set up a working group with 16 national banks:**

- Integration of credit register requirements outside of IReF
- Synergies with IReF

# Several broader initiatives in development

## IReF focused initiatives

- Moving towards a more **standardized reporting system**
- Evaluation of a standardized “data exchange format(s)”, “submission channels”, etc.
- Working towards uniform **data quality management (DQM)**
- Implementation and **standardization of business processes**
- New approach to **reporting from branches**



## Beyond IReF

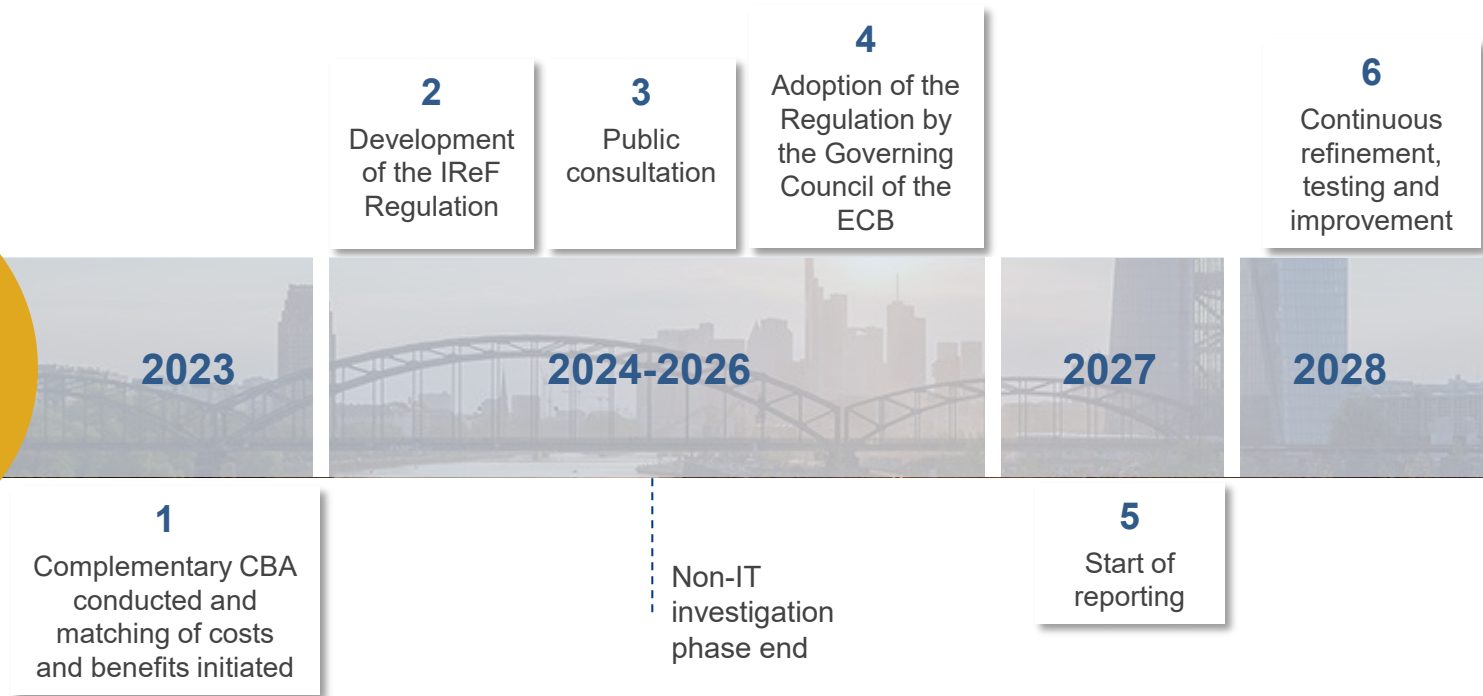
- Establishment of a **common data dictionary for statistical, prudential and resolution requirements** under the **Joint Bank Reporting Committee**
- **Syntax:** Alignment of syntactic standards, starting with a DPM alliance\*
- **Semantics:** Alignment work on-going
- Strengthening a deeper connection between BIRD and IReF as advocated by the BIRD Steering Group

\* [DPM alliance](#)

# Long-term timeline

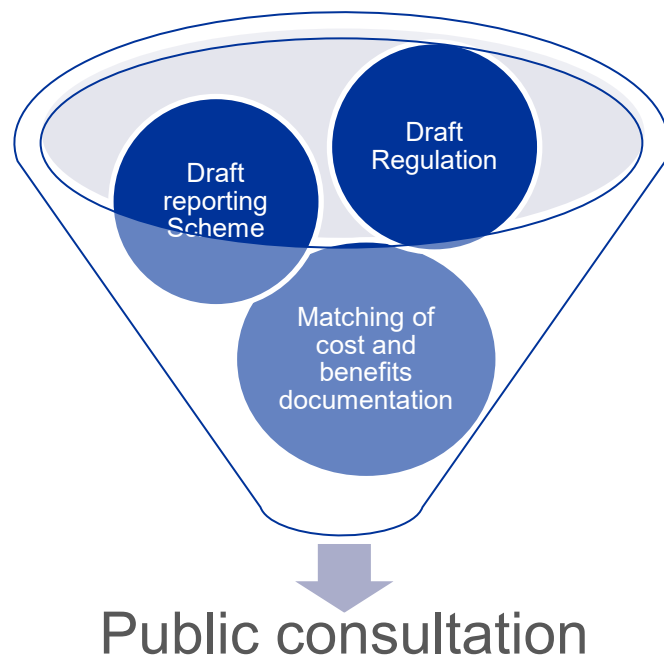


**Start**



# Process of publishing of draft IReF Regulation and public consultation

- After approval by the Governing Council, a public consultation will take place on the draft IReF Regulation
- The public consultation will also include the IReF logical data model as well as detailed documentation on the matching of costs and benefits
- An updated version of the IReF Regulation will then be submitted to the Governing Council for adoption



# 2

## Complementary CBA results

# Complementary CBA



***“The CBA findings highlighted a number of gaps, necessitating additional consultation with the banking industry and other stakeholders.”***

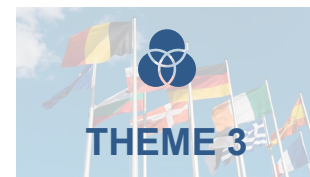
*The so-called “complementary CBA” therefore aimed to examine the identified gaps and other integration potential:*



**[Extension of the IReF Regulation to include country-specific requirements \(CSRs\)](#)**



**[Additional analytical value and operational aspects](#)**



**[Closer alignment with FINREP Solo](#)**

Links to the reports:



# Complementary CBA results and interaction with matching of costs and benefits



The complementary CBA assessed **input from the banking industry, NCB compilers and ESCB user-groups.**

**Today we present only results from the banking industry.**

## Interpretation of Feedback

Topic were generally assessed in a scalar fashion in terms of costs and benefits. However, **additional context and opinion was sought from both the BIRD sub-group on IReF and the EBF** on various topics to assist in interpreting and explaining the results.

## Impact of assessment on IReF Regulation

All stakeholder feedback, as well as practical and implementation considerations, will be weighted in the matching of costs and benefits.

Lack of support for a topic by the banking industry **does not necessarily lead to omission from the regulation.**

**The draft regulation will be accompanied by breakdown of the stakeholder feedback and the resulting matching proposals.**



# How are results displayed?



## Collection of granular credit data for natural persons in an anonymized form

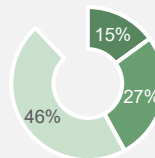
The feedback is **relatively balanced**: the proportion of respondents recognize greater benefits, while half of them indicate moderate costs.

## Item Selection

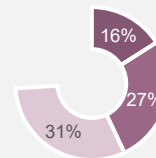
**Selected topics** from the three published reports are here reported with a title and short explanation. General view of the banking industry is briefly summarised. Not all topics are covered.

## Graphical representation

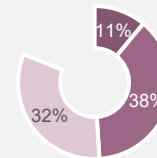
When results can be summarised in a **simple visualisation**, charts are used to show benefits/costs. **Darker colours** indicate higher benefits/costs, while low or very low benefits/costs are graphically displayed as missing slices. Graphics are only available where a single item was assessed under the topic.



Benefits



Implementation costs



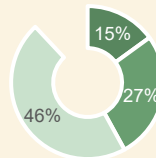
Regular costs

# Theme 1 - Country Specific Requirements (CSRs)

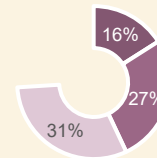


## Granular credit data for natural persons without direct identification of the counterparty

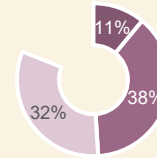
The feedback is **relatively balanced**: A large proportion of respondents recognize greater benefits, while around half indicate at least moderate costs.



Benefits



Implementation costs



Regular costs



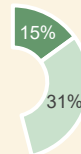
## More detailed description of real estate loans

The banking industry **does not appear to support** the inclusion of more detailed real-estate data. For both aggregated and granular collection, a majority of respondents indicate that the benefits are at most low, while the implementation and ongoing costs are at least moderate. However, commercial real estate is more favourably assessed than residential real-estate.

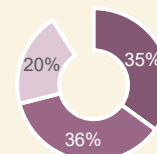


## Additional level of detail on the purpose of the loan

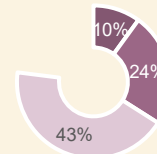
A more detailed collection of this data shows relatively low benefits and **at least moderate costs**.



Benefits\*



Implementation costs\*



Regular costs\*

\* Under a granular data collection scenario.

# Theme 1 - Country Specific Requirements (CSRs)



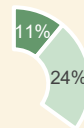
## Reasons for the appearance and disappearance of loans (origination and termination)

For banks, collecting such information appears to have low benefits and involves at least moderate **costs**. Additional feedback suggests that providing information for loans prior to the start of IReF may be an issue.

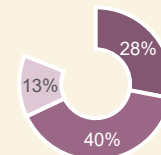


## Inclusion of information about the ultimate parent of banks' counterparties

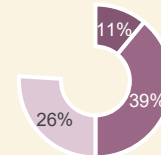
There appears to be little support, with the banking industry pointing to **mostly low benefits and at least moderate costs**. Additional feedback indicates difficulties in sourcing information when the ultimate parent is not a direct client of the bank.



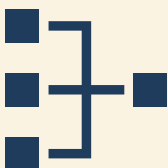
Benefits\*



Implementation costs\*



Regular costs\*



## Information about group composition and relationship information

The banking industry does not appear to support inclusion, whether it relates to accounting or regulatory consolidation or foreign direct investment (aka FDI). For the majority of those surveyed, there are at most low benefits and at least moderate costs.

\* Under a granular data collection scenario.

# Theme 1 - Country Specific Requirements (CSRs)



## Collection of data on securities lent out under repos and other lending operations

The banking industry points out that the benefits of collecting such data are low and the **costs would be at least moderate**.



## Collection of off-balance sheet items for legal entities

The feedback is balanced, as the majority of respondents indicate at least moderate benefits, but also at least moderate costs. However, due to its low utility and high cost, the industry does not support the idea of collecting this information through the inclusion of a contract-level table in the IReF.

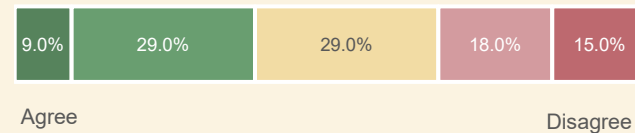
# Theme 2 – Additional analytical value and operational topics



## Statistics related to climate change

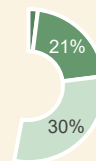
The banking industry indicates **some support** for including future granular requirements on statistics related to climate change in IReF, where they fit within the scope of consolidation (i.e. unconsolidated data at the level of the institutional unit).

General assessment – agreement to the granular inclusion

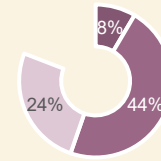


## Protection allocated value eligible for credit risk mitigation under the CRR

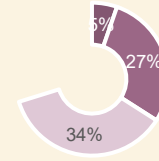
Balanced feedback, with a large majority indicating at least moderate both implementation and regular costs, but also high benefits.



Benefits



Implementation costs



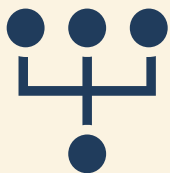
Regular costs

# Theme 2 – Additional analytical value and operational topics



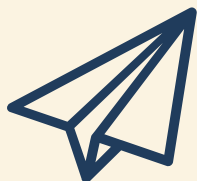
## Early submission of counterparty reference data

The banking industry prefer no early submission of counterparty reference data. Relevant counterparty reference data would be reported as part of the IReF dataset required at T+10-12.



## Data transmission timelines

The assessment of the reporting schedules shows that the baseline scenario (i.e. data collected at two frequencies, with monthly data transmitted at T+10-12 working days (WDs) and T+20-24 WDs, and quarterly data at T+20-24 WDs) remains the most supported by the banking industry. It should be noted, however, that an alignment of the quarterly transmission to the FINREP timeline is being considered.



## Types of data submission

In relation to how reporting agents will transmit data for both new reporting periods and corrections to previous reporting periods, a majority of the respondents from the banking industry indicated **support for full replacement**.



## Full replacement

Full dynamic

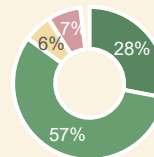
Change

# Theme 3 - Closer alignment with FINREP solo

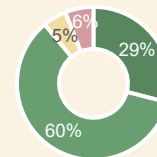


## General assessment on closer alignment between the IReF and FINREP solo

The banking industry **overall supports** closer alignment of the IReF with FINREP solo. In particular, it highlights the benefits of closer conceptual alignment between the reporting frameworks.



All reporters

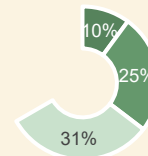


FINREP reporters

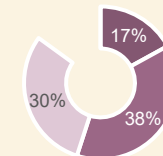


## Extensions related to concepts already available in the IReF baseline scenario

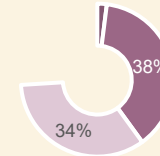
There is **some support** for extending the application of concepts already available in the IReF to all instruments that are relevant for FINREP solo, while ensuring that timeliness and frequency are taken into account.



Benefits\*



Implementation costs\*



Regular costs\*

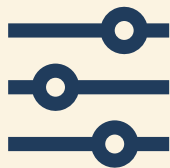
\* Under a granular data collection scenario.

# Theme 3 - Closer alignment with FINREP solo



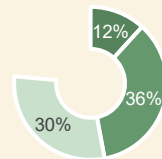
## Extensions related to off-balance-sheet items vis-à-vis natural persons

The industry **does not support** aggregated collection of information on off-balance-sheet items vis-à-vis natural persons. However, it indicates collecting granular information on off-balance-sheet items vis-à-vis natural persons would have some benefits, although costs would again be high.

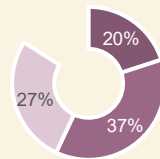


## Dynamic adjustment of the IReF to changes in the EBA ITS

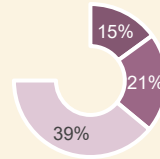
Respondents highlight that dynamic adjustment of the IReF to changes in the EBA Implementing Technical Standards (ITS) would be beneficial, but associated costs would be high.



Benefits



Implementation costs



Regular costs



# 3

## The draft IReF Logical Data Model (LDM)

# Modelling principles

## Separation of concerns

### Principle 1

We separate logical concerns that are agnostic of technical implementation from implementation concerns.

## Model the least granular option that covers all requirements

### Principle 2

We avoid unnecessary granularity.

## Use business language in the LDM

### Principle 3

We use business and legal definitions to describe objects in the LDM of the IReF opposed to mathematical and technical language: carrying amount or protection allocate value etc. will be described in business terms.

## Avoid use of abbreviations

### Principle 4

Exceptions will be abbreviations that are a part of a standard or common knowledge (e.g. LEI, ISIN, etc.).

## The model should satisfy the third normal form

### Principle 5

Attributes in entities are functionally dependent on the primary key, therefore the party information should be split from the item table for example.

## Model the role of entities

### Principle 6

E.g. a party can act as a servicer, a debtor, a custodian etc.

# Modelling principles

## Model attributive entities for specific traits

### Principle 7

We separate entities based on whether the information contained in them is objective or contextual: e.g. specific item information is split from Item.

## Generalise where objects share common traits

### Principle 8

Combining entities in cases where they share common traits will help avoid redundancies: e.g. generic Item or Transfer table.

## Use associative entities to model many-to-many relationships

### Principle 9

Use linking tables between entities: e.g. Party -> Party-Item -> Item

## Numbers are not always numeric

### Principle 10

Numeric numbers should be used only for attributes used for mathematical operations; e.g. street number, identifiers, postal codes should be defined as strings.

## Use discriminators instead of Boolean values

### Principle 11

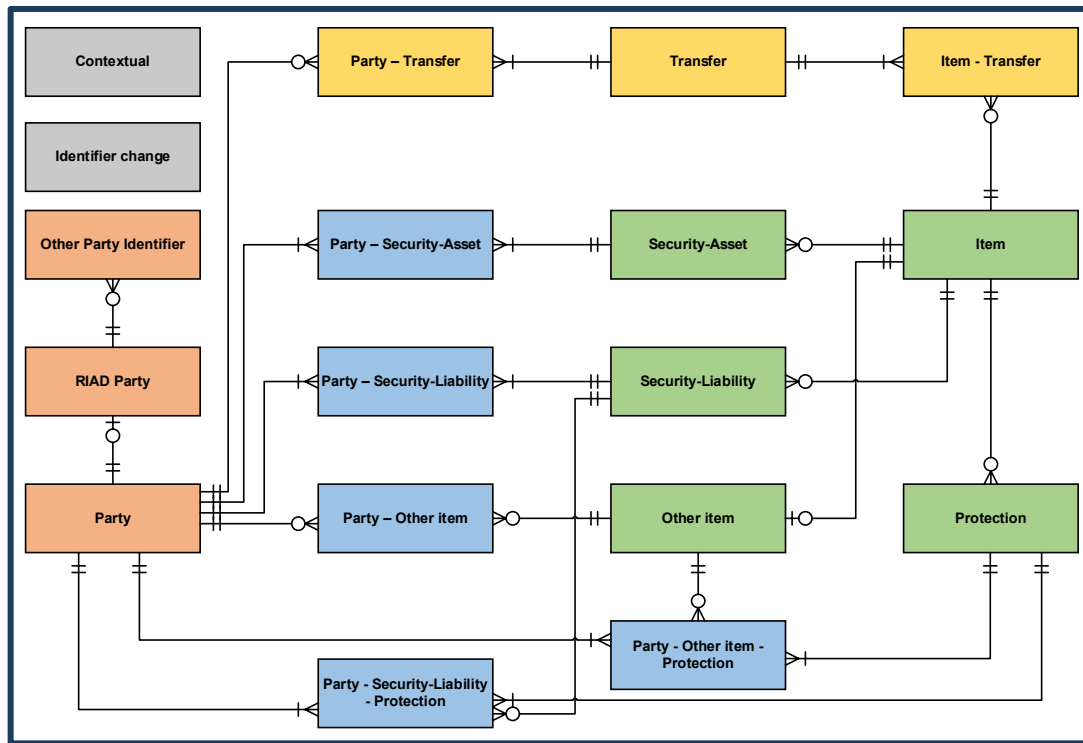
Instead of using Performing status = T / F we will have code lists: Performing status: 1) Performing; 2) Non-performing. This allows for including NEVs and extend the attributes with further explanation.

## We do not allow for null values in the primary key, but we allow for NEVs

### Principle 12

Values such as “Not applicable” can be a part of the primary key and need to be made explicit.

# The initial LDM draft



*“Realised in close collaboration between IReF and BIRD Team (e.g. alignment of naming convention and consultation with the banking industry)”*

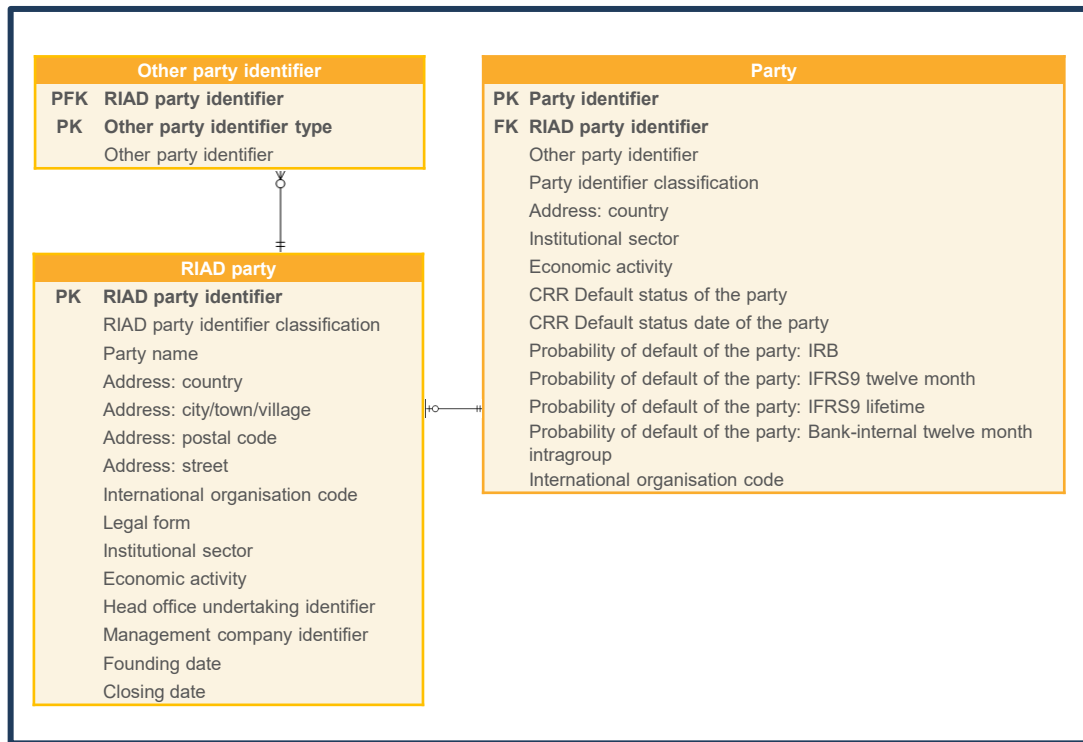
Party ●  
 Item ●  
 Transfer ●  
 Linking tables ●

*“Same model for aggregated and granular reporting”*

**WORK IN PROGRESS...**



# Party information



“A distinction shall be made between the parties whose data is in RIAD (Register of Institutions and Affiliates Data) and those whose data is not.”



## RIAD parties

In this case only the RIAD identifier as foreign key shall be reported, as data can be retracted from RIAD



## Non-RIAD parties

For all other parties which do not have their data in RIAD (e.g. aggregates, natural persons) all information shall be reported ex novo

# Item information

| Item |  |
|------|--|
| PK   | Observed agent identifier  |
| PK   | Item identifier  |
|      | Amortisation type  |
|      | Amount interval  |
|      | Annualised percentage rate of charge (APRC)                      |
|      | Asset securitisation type  |
|      | Commitment amount at inception                                   |
|      | Contract identifier  |
|      | Coverage status of the item                                      |
|      | CRR Default status date of the item                              |
|      | CRR Default status of the item                                   |
|      | Currency denomination of items                                   |
|      | End date of the interest-only period                             |
|      | Equity capital raised  |
|      | Fair value changes due to changes in credit risk before purchase |
|      | Governing law of loan agreements                                 |
|      | Inception date   |
|      | Initial period of interest rate fixation                         |
|      | Interest rate cap  |
|      | Interest rate factor   |
|      | Interest rate floor  |
|      | Interest rate reset frequency                                    |
|      | Interest rate spread / margin                                    |
|      | Interest/coupon payment frequency                                |
|      | Interest/Coupon rate   |
|      | Interest/coupon rate type  |
|      | Issue price  |
|      | Item identifier classification                                   |
|      | Item name  |
|      | Item type  |
|      | Listed status  |
|      | Maturity date of the item  |
|      | MREL eligible status   |
|      | Nominal capital guarantee level                                  |
|      | Nominal value of a share   |
|      | Notification status  |
|      | Notional cash pooling  |
|      | Original maturity  |
|      | Original nominal amount  |
|      | Payment rank   |
|      | Period of notice   |
|      | Primary asset classification                                     |
|      | Principal payment frequency                                      |
|      | Probability of default of the item: Bank-internal twelve-month   |
|      | Probability of default of the item: Bank-internal twelve-month   |
|      | Probability of default of the item: IFRS9 twelve month           |
|      | Probability of default of the item: IRB                          |
|      | Project finance loan status                                      |
|      | Purpose  |
|      | Real estate location: country                                    |
|      | Real estate location: postal code                                |
|      | Recourse   |
|      | Redeemable at notice status                                      |
|      | Redemption price   |
|      | Reference rate maturity  |
|      | Reference rate type  |
|      | Renegotiation amount   |
|      | Renegotiation status date  |
|      | Renegotiation status of the item                                 |
|      | Repayment rights   |
|      | Residual maturity  |
|      | Security identifier  |
|      | Security identifier type   |
|      | Settlement date  |
|      | Split factor   |
|      | Syndicated contract status                                       |
|      | Transferable status  |
|      | Units  |



Still extensively looking into alternatives

## Why one single entity/table?



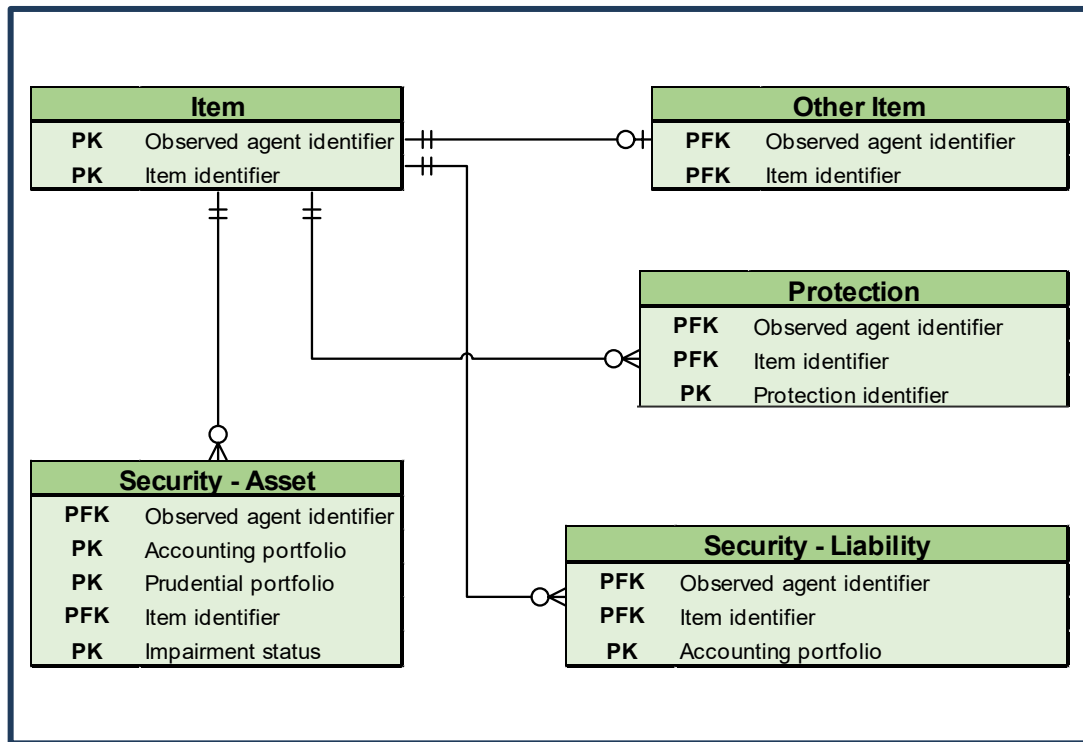
- Single model for granular and aggregated reporting
- Extensibility
- Tracking multi-use of the same item
- Tracking changes in the use of item

## What about multiple entities/tables?



- General logical model will show better which attributes are applicable for each item type
- A smaller amount of 'Not applicable' values

# Item information



## Securities entities

Split in two: assets and liabilities due to the differences in the primary key (following the logic of SHSG)

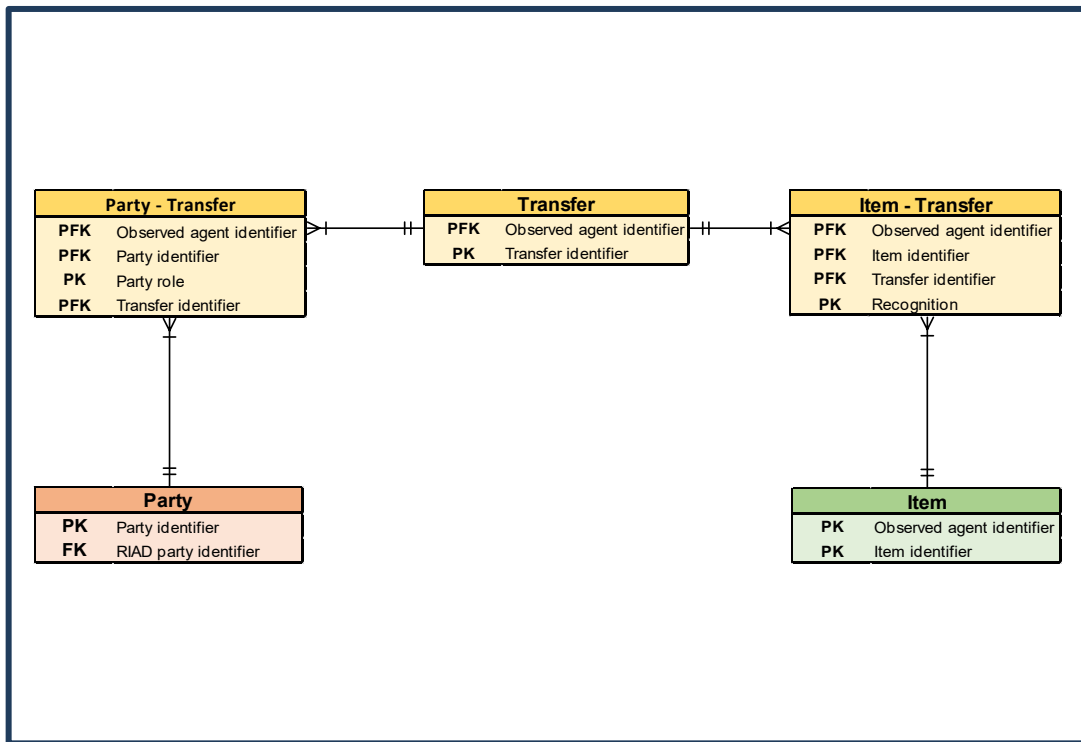
## Other item

Contains contextual information on all items that are not securities and protections, e.g. loans, deposits, off-balance items, etc.)

## Protection

Protections are described in the same entity as all other items and then contextual information on protections is added in a specific item table

# Transfer information



## Transfer

- A container table for securitisation, transfers and potentially covered bonds where loans are legally transferred to an SPV only
- The proposal is more elaborate in comparison to the original draft but required to capture all existing Balance Sheet Items (BSI, multiple additions in the last update) and AnaCredit requirements

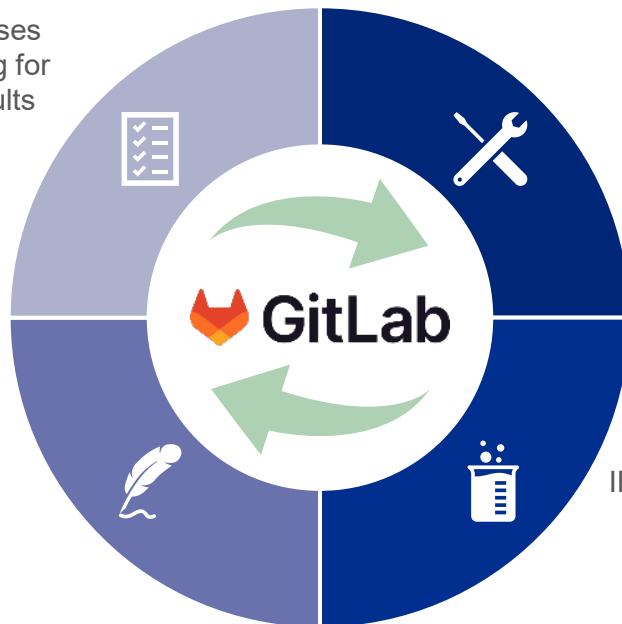
## Party - Transfer

- We need specific party roles to link transfers to entities
- Creates redundancy with party-item tables



# BIRD IReF subgroup Testing

**Test catalogue**  
All completed test cases are added to a catalog for collection of test results



**Definition of test cases**  
The banks will define these

**Test via the banks**  
Ideally, there will be 2 or more banks each conducting tests based on test cases developed by other banks and assessing whether the model can capture the business case and is intuitive

**Improvements**  
IReF and BIRD will fine-tune the model based on the feedback received and the results of testing activities

# 4

## Conclusions

# IReF summary



## What?

A consolidated and integrated reporting requirement for statistical reporting content



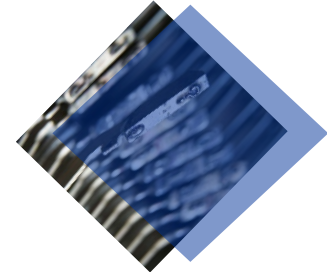
## How?

More standardization in terms of processes and IT aspects



## News

Data model ideas and complementary CBA results



## Next

Draft regulation and logical data model will become available for public consultation

# Thank you!

