BANCO DE ESPAÑA
Eurosistema

MICRODATA MANAGEMENT AT THE BANCO DE ESPAÑA

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FINANCIAL REPORTING AND CCR

INDEX

1 INTRODUCTION

The Banco de España (BdE) applies an integrated and comprehensive approach to the financial and prudential reporting requirements of the credit institutions and other financial institutions that it supervises.

2 INTEGRATED APPROACH

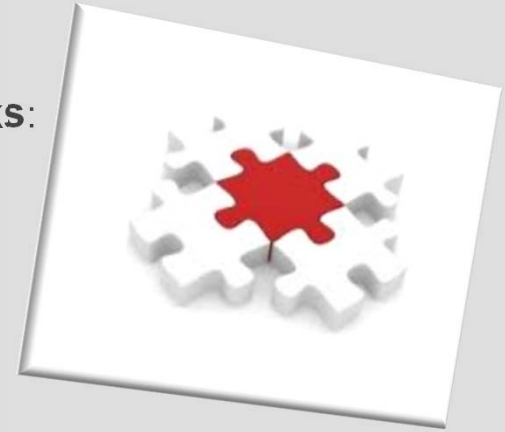
Integrated approach

The BdE has a **single data dictionary** and a **single data point model (DPM)** for:

- The **different financial and prudential reporting frameworks**:

  • Supervisory, financial stability and monetary policy statistics

  • Market primary financial statements and some disclosures



- The **different type of data:**

  • **Microdata** (open templates), e.g. CCR and SHS

  • **Aggregated data** (closed templates), e.g. FINREP and COREP

2 INTEGRATED APPROACH

DATA INPUT

Each entity develops its own input approach

ENTITIES

INTERNAL DATA BASE (each entity decides how to organise it)

Transformations

DATASET TO BE REPORTED TO BdE

INTEGRATED REPORTING APPROACH

Data are managed as a single reporting package. BdE is working on a single data dictionary based on EBA DPM

REPORTING

AGGREGATED DATA	
XBRL	EU SUPERVISORY REPORTING (FINREP, COREP, ETC.)
	BdE FINANCIAL REPORTING
	ECB REQUIREMENTS (BSI, MIR)
	BdE AND BIS STATISTICS
	SOLO SUPERVISORY FINANCIAL REPORTING
	PUBLIC FINANCIAL STATEMENTS

MICRODATA	
XBRL	GROUP COMPOSITION (FINREP)
	LARGE EXPOSURES
TEXT	CENTRAL CREDIT REGISTER (CCR)
	SECURITIES HOLDINGS

BdE

DATA WAREHOUSE

Users have access to data on a need-to-know basis

BdE can check data quality

2 INTEGRATED APPROACH
SINGLE DATA DICTIONARY AND SINGLE DPM

DICTIONARY	REPORTING FRAMEWORKS				
	FINREP	COREP	BSI/MIR	(...)	CCR
■ DATA TYPE					
■ BASIC ITEMS					
• *Assets*					
• *Liabilities*					
• *Exposure*					
• *(...)*					
■ MAIN CATEGORY					
◆ Main category					
• *Cash*					
• *Loans*					
• *(...)*	1				
◆ (...)					
■ REST OF DOMAINS					
■ **Geographical area**					
◆ Residence of counterparty					
◆ Location of the activity					
◆ (...)					
■ **Currency**					
■ **Counterparty**					
■ **(...)**					

■Domain ◆Dimension ●Member

3 COMPREHENSIVE APPROACH

Comprehensive approach

The approach is applied in the following **phases in relation to financial and prudential reporting**:

- **Decision on the information to be collected**
- **Frequency and timeliness**
- **Design of the templates**
- **Collection of the templates**
- **Primary and secondary quality controls**

3 COMPREHENSIVE APPROACH
3.1 DECISION ON THE INFORMATION TO BE COLLECTED

- **All potential internal (and external) users of the data shall be consulted on the information to be collected** under a microdata statistic to include all data relevant for them.

- **Required data ideally should also be useful for the reporting agents:** they will have an additional incentive to provide the data on time with the highest quality.

- **Reporting agents shall be clearly chosen:** not all microdata need to be requested of all entities.

- **The threshold, if any, to report data item-by-item shall be decided after a careful study:** the volume of data to be collected and the marginal usefulness of the items of a lower amount should be considered.

  Reporting of microdata with aggregated information on items that are not reported item-by-item as they are below the threshold should be considered.

A MERITS AND COST ANALYSIS OF THE DATA TO BE COLLECTED MUST BE MADE!

3 COMPREHENSIVE APPROACH
3.2 FREQUENCY AND TIMELINESS

Users normally tend to request data with the highest frequency and with the lowest timeliness, but the quality of microdata is closed related to the frequency and timeliness of the information.

Frequency

- Frequency of microdata changes from one reporting framework to another due to the reasons for which they are required:
  - **Money Market Statistics are required daily.**
  - **CCR data necessary for the feedback loop are required monthly.**
  - **Data on accounting and credit risk are required quarterly.**

    Accounting and credit-risk related information cannot be requested with a lower frequency than that required for the calculation of those data in the relevant regulation.

Timeliness

- Microdata with information that does not need any transformation or calculation by the reporting agent after the reference day can be required with a short deadline (e.g. CCR attributes necessary for feedback loop are requested by the 10th calendar day after the reference day).

- Microdata on accounting and credit-risk information should be requested with a higher timeliness than the same data requested on an aggregated basis in other reporting frameworks.

Basic concepts

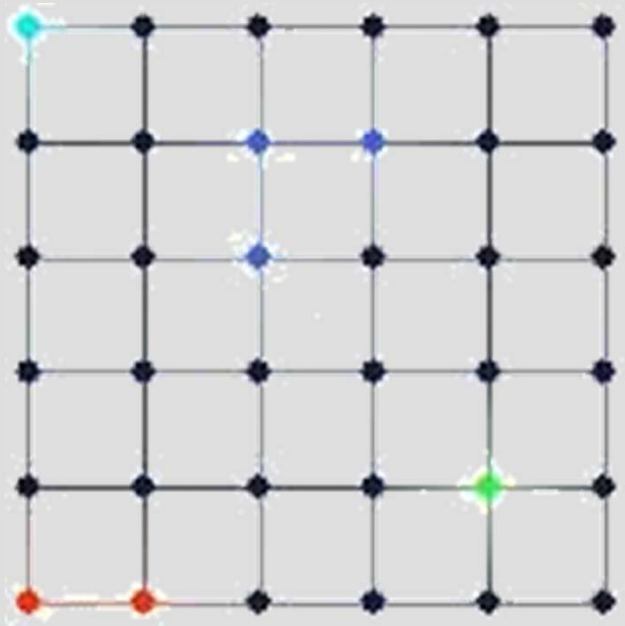
ATTRIBUTE (DIMENSION)	▪ **Each of the different "characteristics/breakdowns/disaggregations" that identify the information required to be reported** (e.g. currency, institutional sector, outstanding nominal, etc.). ▪ **Attributes can be:** • **Open attributes:** those for which there is not a closed list of values (e.g. amounts, dates or names). • **Closed attributes:** those with a closed list of values (e.g. currency, geographical area of residence and institutional sector).
VALUES (MEMBER)	▪ **Data that must be reported in an attribute.** For example, for currency: euro, dollar, ... ▪ For closed attributes, the value "not applicable" must be included when that attribute does not need to be reported for a type of counterparty or instrument (e.g. the value "size of the enterprise" shall be "not applicable" for natural persons).
TEMPLATE	▪ **Each set of attributes that are reported together.** For instance, for "Counterparty data": "counterparty identifier code", "name", "address", "sector", "geographical area of residence", etc.

IPREHENSIVE APPROACH
SIGN OF THE TEMPLATES

Attributes (I)

an attribute (dimension) with a closed list of values is ed**, the list of the potential values in the microdata ates should have, at least, the necessary granularity able to fulfill all aggregated data in which that ute is required**.

- *The list of values of an attribute should ideally be the same as that which entities have as input data in their internal databases to avoid aggregations of values.*



attribute shall refer only to one single concept to te the analysis of data and the design of the templates.

- *The mix of concepts in the same attribute to reduce the number of attributes must be avoided, especially when more than one value can be reported at the same reference date.*

ame of an attribute shall always be the same when it is ed in different templates or reporting frameworks.

tributes and values must be clearly defined.

IPREHENSIVE APPROACH
SIGN OF THE TEMPLATES

Attributes (II)

butes shall be distributed in different templates to be reported with r data of a similar nature that are also reported with the same uency and timeliness to minimise to the utmost the transmission of

- *Transmission of data is costly and time-consuming.*

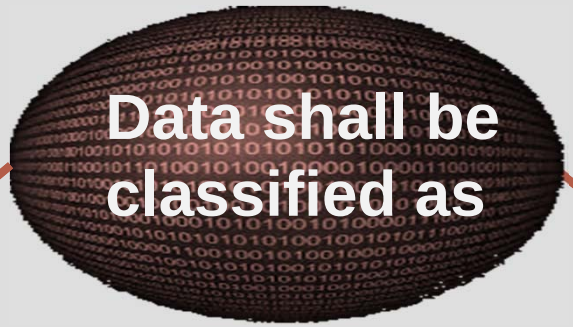
- *To collect attributes with the same values periodically entails:*

  (a) performing the same controls repeatedly and

  (b) checking the value reported afresh for an attribute against that previously reported.

IPREHENSIVE APPROACH
SIGN OF THE TEMPLATES

Attributes (III)



Basic data

Data whose values do not rmally change during their life
e.g. data of counterparties and tain data of instruments such as he original and maturity dates)

hese data should be reported once he first time they are reported) and updated only when necessary

Dynamic data

Data whose values can change periodically
(e.g. fair value, outstanding nominal value, performing status)

These data must be reported periodically: daily, monthly, quarterly, etc.

IPREHENSIVE APPROACH
SIGN OF THE TEMPLATES

Data on counterparties (I)

Data on counterparties are required in many microdata reporting frameworks

iteria for reducing the reporting of counterparty data

Data on each counterparty shall be reported by every reporting agent only once, although these data are required in several reporting frameworks.

The design of the template for collecting counterparty data shall be the same as in any reporting framework, but the number of attributes required in the different reporting frameworks can vary.

The attributes to be reported by the reporting agent to BdE for a counterparty shall be, at least, those required in all reporting frameworks for which the entity must report data.

Data on counterparties (II)

ntification of counterparties

Any counterparty shall be identified by a single identification code, BdE applies the following criteria because only very few entities have an LEI:

- For residents in Spain, the identification code is the Tax Identifier code which, in the case of natural persons, is the same as the National Identification Card code.
- For non-residents in Spain, reporting agents need to ask BdE for their counterparty identification code.

Once a counterparty identification code is assigned to a counterparty, that code cannot be re-used in the future for indentifying other counterparties.

Data on counterparties (III)

rol of the identification of the counterparties

It is necessary to ensure that the same “counterparty identification code” is reported for all reporting agents to identify the same counterparty.

BdE ensures that:

- For a counterparty identification code, all reporting agents report the same name of the counterparty.
- For the same name of a counterparty, the identification code is the same.

If this is not the case, other attributes of the counterparty are checked to ensure that they are different counterparties.

IPREHENSIVE APPROACH
SIGN OF THE TEMPLATES

AGE OF DATA ON COUNTERPARTIES TO DATA ON INSTRUMENTS (I)

nterparty can be linked to more than one instrument.

reduce the transmission of information, the counterparty data must be reported in a template
ferent from the template or templates with the information on the instruments.

nstrument can have only one or more than one counterparty, which can have the same or rent roles.

educe the transmission of data the following approaches are used:

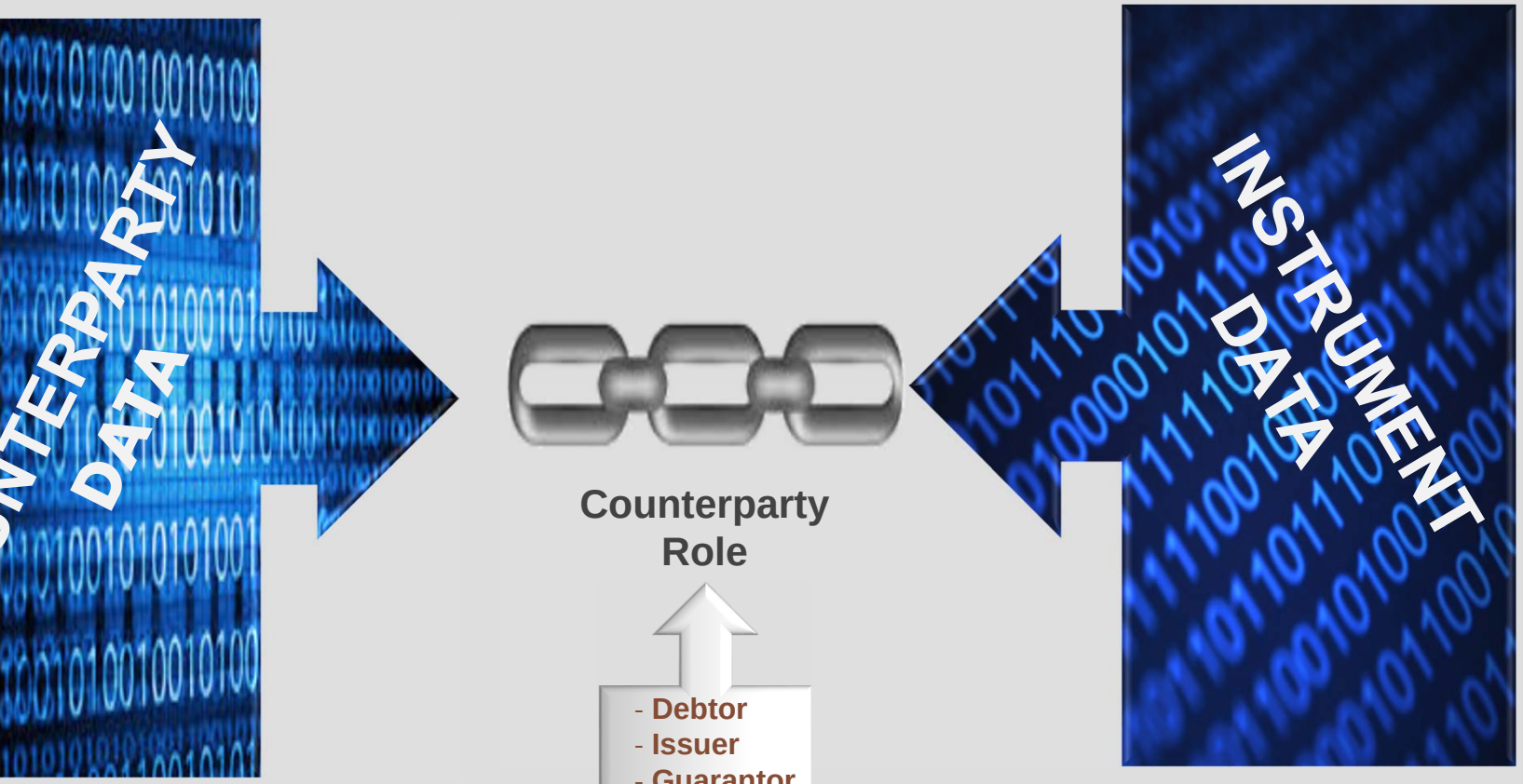
When in the reporting framework any instrument can have only one counterparty,
the "counterparty identification code" is reported as an attribute in one of the templates with instruments data.

When in the reporting framework an instrument can have more than one counterparty,
a specific template with the following attributes is included in the reporting framework:

- ***Counterparty identification code***
- ***Instrument identification code***

MPREHENSIVE APPROACH
SIGN OF THE TEMPLATES

AGE OF DATA ON COUNTERPARTIES TO DATA ON INSTRUMENTS (II)



IPREHENSIVE APPROACH
LLECTION OF MICRODATA

BdE is currently using different IT languages for collecting microdata depending on the origin of the requirement

porting Framework	IT Language
ntral Credit Register (CCR)	TEXT
curities Holding Statistics (SHS)	TEXT
curities issued by the reporting agent	TEXT
REP and COREP	XBRL
ney Market Statistics	XML ISO 20022

IT language for reporting microdata must be chosen taking into consideration he volume and a size of the data to be collected, the infrastructure of the NCB and the reporting agents, and whether the data must be re-sent to other institutions.

has chosen TEXT for the CCR because is collecting monthly data item-by-item

IPREHENSIVE APPROACH
MARY QUALITY CONTROL

Validation rules (I)

ification of the validation rules on the basis of its nature:

alidation rules: to check that the information is transmitted applying the IT criteria.

iness validation rules: to check that data reported in the different attributes meet the ness definitions and are cross-consistent.

ation rules shall be known by all reporting agents.

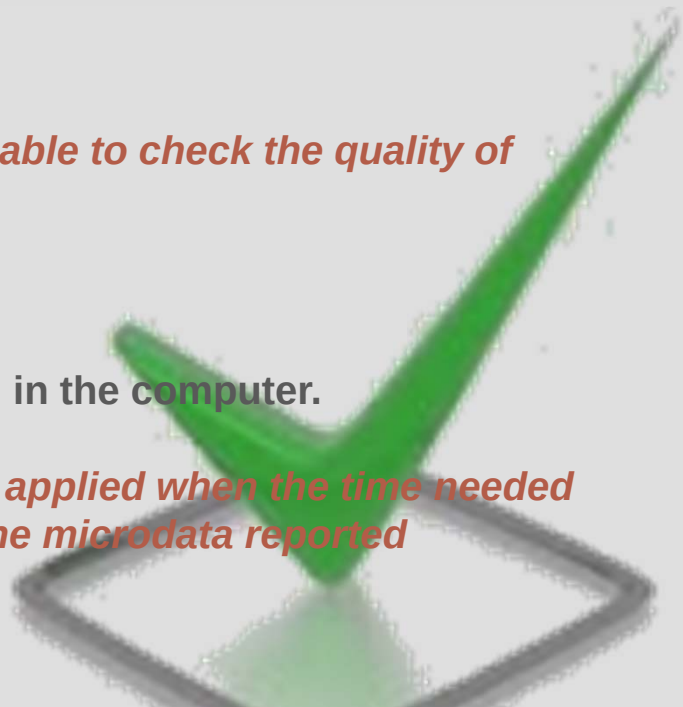
hen technically possible, reporting agents should be able to check the quality of ata on the BdE website before officially sending them.

ing of validation rules by BdE:

n the data are sent to BdE and before they are stored in the computer.

This criterion (theoretically the best one) can only be applied when the time needed to validate the data is limited (e.g. when the size of the microdata reported simultaneously is not too big).

r the data are stored in the computer.



PREHENSIVE APPROACH
MARY QUALITY CONTROL

Validation rules (II)

erity of the validation rules:

ection of data: data reported are not stored by BdE if they do not meet the validation rule.

ch severity shall only be applied for IT validation rules and for the business validation rules of y attributes.

ssage to the reporting agent and the BdE's analysts: data reported are stored, but the system sends automatic message to the reporting agent (and to the BdE's analysts) to re-send the data or to review sistency with other data.

ch severity shall be applied for business validation rules of attributes other than the key ones hen the rejection of some data may entail the rejection of key data that are not erroneous.

ssage only to the BdE's analysts: data reported are stored, but the system sends an automatic ssage to BdE's analysts to analyse them.

ch severity shall be applied for business validation rules of attributes to send a message to the dE´s analysts on potentially erroneous data. Analysts shall decide whether it is necessary to send e message to the reporting agent.

ssage on missing related data on the counterparties and the instruments

is message is sent when the reporting agent has not sent all the data needed to link the unterparties to the instruments (i.e. there are data for an instrument but not for the counterparty,

PREHENSIVE APPROACH (XIV)
ONDARY QUALITY CONTROL

omparison of microdata with aggregated data.

Microdata amounts are aggregated for items with the same attributes so as to be able to compare them with the same aggregated data reported in other reporting frameworks, to check that the information reported is consistent.

- **When microdata have no threshold:** both datasets must be the same.
- **When microdata have a threshold:** aggregated microdata must be equal to or lower than the aggregated data reported in other templates.

This quality control is easier when the attributes used in the DPM to identify any point data of the templates with aggregated data are the same as those required in the microdata statistics.

aboration of key indicators.

To compare data of individual entities with data of similar entities.

This type of check enables outliers to be identified.

CLUSIONS

inancial and prudential information management has evolved greatly in ecent years thanks to the IT revolution, especially in the case of microdata nanagement.

lational Central Banks and supervisors are taking advantage of the new IT echnologies that allow more data to be collected, with higher frequency and ower timeliness than before. For that reason, microdata statistics are urrently more frequent, especially for collecting data on financial assets.

he quality of microdata statistics increases when they are managed using a omprehensive and integrated approach.

Microdata statistics could reduce the number of templates with aggregated ata on the same information, provided that the users can receive the data a ew days later than they are currently receiving them.

em-by-item microdata statistics mean that reporting agents need to have the equired information on their internal databases item-by-item. For that reason, he quality of any aggregated statistic with that information will increase.

ANKS FOR YOUR ATTENTION