



EUROPEAN CENTRAL BANK

EUROSYSTEM

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# **BIRD methodology – Definition of data sets**

## Overview



What do we need to know about a data set?

Defining a data set in the dictionary

- What is a Variable set?

Representation of templates in the dictionary

- Representation of data points

## What do we need to know about a data set?



**Data set 1:** Fair value of instruments by sector of the counterparty

Reporting agent	Reference date	Type of instrument	Sector of the counterparty	Fair value
KI001	31/12/2015	A2Z1	2251	1000
KI001	31/03/2016	A2Z1	2251	1050
KI002	31/03/2016	A20R	1210	800
KI002	31/03/2016	A2Z3	2240	2000

## What do we need to know about a data set?



Data set 1: Fair value of instruments by sector of the counterparty

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KI001	31/03/2016	A2Z1	2251	1050
KI002	31/03/2016	A20R	1210	800
KI002	31/03/2016	A2Z3	2240	2000

What are the **fields** of the data set?

## What do we need to know about a data set?



Data set 1: Fair value of instruments by sector of the counterparty

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KI001	31/12/2015	A2Z1	2251	1000
KI001	31/03/2016	A2Z1	2251	1050
KI002	31/03/2016	A20R	1210	800
KI002	31/03/2016	A2Z3	2240	2000

What are the **fields** of the data set?

What is the (primary) **key** of the data set?

## What do we need to know about a data set?



Data set 1: Fair value of instruments by sector of the counterparty

Reporting agent	Reference date	Type of instrument	Sector of the counterparty	Fair value
KI001	31/12/2015	A2Z1	2251	1000
KI001	31/03/2016	A2Z1	2251	1050
KI002	31/03/2016	A20R	1210	800
KI002	31/03/2016	A2Z3	2240	2000

What are the **fields** of the data set?

What is the (primary) **key** of the data set?

What are the (allowed) **values** for each field?

## What do we need to know about a data set?



Data set 1: Fair value of instruments by sector of the counterparty

Reporting agent	Reference date	Type of instrument	Sector of the counterparty	Fair value
Some Bank (KI001)	31/12/2015	Revolving loans and overdrafts (A2Z1)	Households (2251)	1000
Some Bank (KI001)	31/03/2016	Revolving loans and overdrafts (A2Z1)	Households (2251)	1050
Another Bank (KI002)	31/03/2016	Reverse repurchase agreements (A20R)	Deposit-taking corporations except the central bank (1210)	800
Another Bank (KI002)	31/03/2016	Extended credit (A2Z3)	Non-Financial corporations (2240)	2000

What are the **fields** of the data set?

What is the (primary) **key** of the data set?

What are the (allowed) **values** for each field?

What is the actual **meaning** of these codes?

# What do we need to know about a data set?



Role	Variable	Subdomain
Dimension	Reporting agent	{valid reporting agents}
Dimension	Reference date	{valid dates}
Dimension	Type of instrument	{A2Z1, A20R, A2Z3,...}
Dimension	Sector of the counterparty	{1210, 2240, 2251,...}
Observation	Fair value	{positive & negative integers}

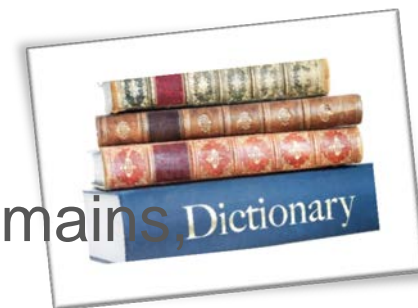
Cube structure of Data set 1 (“Fair value of instruments by sector of the counterparty”)

- Please note that this structure comprises all **necessary (meta data) information** about the example used in this presentation.
- Please also note that this structure is a simplification and that in the dictionary all components of this cube structure need to be defined formally (i.e. all variables, members, subdomains need to be defined).

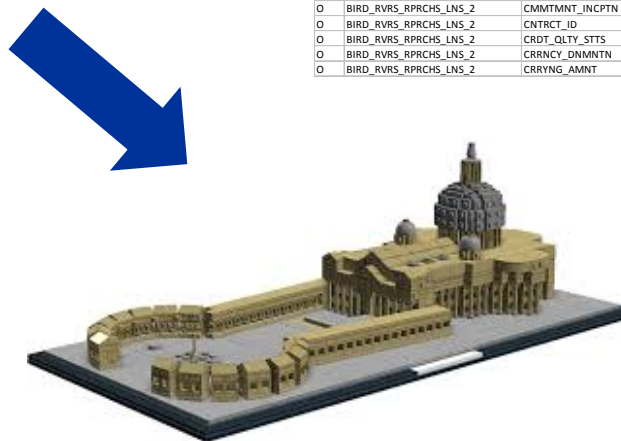


## Defining a data set in the dictionary

➤ **Core elements** (i.e. variables, domains, subdomains, members,...) ⇔ **building blocks**

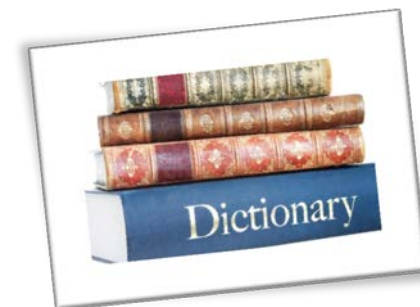


➤ Used to define **cubes / datasets** (i.e. structures)



ROLE	CUBE_STRUCTURE_ID	CUBE_VARIABLE_CODE	SUBDOMAIN_ID
D	BIRD_RVRS_RPRCHS_LNS_2	DT_RFRNC	DT_FLL
D	BIRD_RVRS_RPRCHS_LNS_2	INSTRMNT_UNQ_ID	STRNG_RSTRCTD_ID
D	BIRD_RVRS_RPRCHS_LNS_2	PRSPCTV_ID	STRNG_RSTRCTD_ID
O	BIRD_RVRS_RPRCHS_LNS_2	ACCMLTD_CHNGS_FV	MNTRY_ALL_2D
O	BIRD_RVRS_RPRCHS_LNS_2	ACCMLTD_CHNGS_FV_CR	MNTRY_ALL_2D
O	BIRD_RVRS_RPRCHS_LNS_2	ACCMLTD_IMPRMNT	MNTRY_NN_NGTV_2D
O	BIRD_RVRS_RPRCHS_LNS_2	ACCMLTD_IMPRMNT_GAAP1	MNTRY_NN_NGTV_2D
O	BIRD_RVRS_RPRCHS_LNS_2	ACCMLTD_IMPRMNT_GAAP2	MNTRY_NN_NGTV_2D
O	BIRD_RVRS_RPRCHS_LNS_2	ACCMLTD_NGTV_VL_ADJSTMNT_MR	MNTRY_NN_NGTV_2D
O	BIRD_RVRS_RPRCHS_LNS_2	ACCMLTD_WRTFFS	MNTRY_NN_NGTV_2D
O	BIRD_RVRS_RPRCHS_LNS_2	ACCNTNG_CLSSFCTN	ACCNTNG_CLSSFCTN_BIRD_5
O	BIRD_RVRS_RPRCHS_LNS_2	ACCRD_INTRST	MNTRY_ALL_2D
O	BIRD_RVRS_RPRCHS_LNS_2	ANNLSD_AGRD_RT	RL_ALL_6D
O	BIRD_RVRS_RPRCHS_LNS_2	APPRCH_CRDT_QLTY_STTS	APPRCH_CRDT_QLTY_STTS
O	BIRD_RVRS_RPRCHS_LNS_2	ARRRS	MNTRY_NN_NGTV_2D
O	BIRD_RVRS_RPRCHS_LNS_2	CLLTRL_OBTND_TKNG_PSSSN	BLN_TF
O	BIRD_RVRS_RPRCHS_LNS_2	CLLTRL_OBTND_TKNG_PSSSN_DT	DT_END_MNTH
O	BIRD_RVRS_RPRCHS_LNS_2	CMLTV_RCVR5_SNC_DFLT	MNTRY_NN_NGTV_2D
O	BIRD_RVRS_RPRCHS_LNS_2	CMNTMNT_INCPTN	MNTRY_NN_NGTV_2D
O	BIRD_RVRS_RPRCHS_LNS_2	CNTRCT_ID	STRNG_RSTRCTD_ID_60
O	BIRD_RVRS_RPRCHS_LNS_2	CRDT_QLTY_STTS	CRDT_QLTY_INPT_LYR
O	BIRD_RVRS_RPRCHS_LNS_2	CRRNCY_DNMNTN	ISO4217
O	BIRD_RVRS_RPRCHS_LNS_2	CRRYNG_AMNT	MNTRY_ALL_2D

## What is a Variable set?



Type of instrument	Currency	Fair value	Carrying amount
Loans	EUR	11	13
Debt securities	USD	17	19

Data set without a variable set

Type of instrument	Currency	Type of value	Observation value
Loans	EUR	Fair value	11
Loans	EUR	Carrying amount	13
Debt securities	USD	Fair value	17
Debt securities	USD	Carrying amount	19

Data set using a variable set

- Variables sets are used for the translation of Metrics of DPM / XBRL into out dictionary
- Please note that *Dimensions* are indicated in green

## Representation of templates (e.g. FinRep)

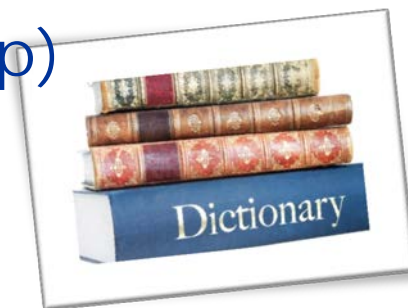


F 05.01 - Breakdown of non-trading loans and advances by product: Loan and advances other than held for trading by product									
		Columns							
		Gross carrying amount	Carrying amount						
			Central banks	General governments	Credit institutions	Other financial corporations	Non-financial corporations	Households	
		005	010	020	030	040	050	060	
<b>009 By product</b>									
On demand [call] and short notice [current account]	010	152586 €€\$	152414 €€\$	152431 €€\$	152421 €€\$	152464 €€\$	152454 €€\$	152441 €€\$	
Credit card debt	020	152587 €€\$	152415 €€\$	152432 €€\$	152422 €€\$	152465 €€\$	152455 €€\$	152442 €€\$	
Trade receivables	030	152591 €€\$	€€\$	152436 €€\$	152426 €€\$	152469 €€\$	152459 €€\$	152446 €€\$	
Finance leases	040	152588 €€\$	152416 €€\$	152433 €€\$	152423 €€\$	152466 €€\$	152456 €€\$	152443 €€\$	
Reverse repurchase loans	050	152590 €€\$	152418 €€\$	152435 €€\$	152425 €€\$	152468 €€\$	152458 €€\$	152445 €€\$	
Other term loans	060	152589 €€\$	152417 €€\$	152434 €€\$	152424 €€\$	152467 €€\$	152457 €€\$	152444 €€\$	
Advances that are not loans	070	152585 €€\$	152413 €€\$	152430 €€\$	152420 €€\$	152463 €€\$	152453 €€\$	152440 €€\$	
<b>LOANS AND ADVANCES</b>	<b>080</b>	152598 €€\$	152419 €€\$	152439 €€\$	152429 €€\$	152472 €€\$	152462 €€\$	152449 €€\$	
<b>089 By collateral</b>									
of which: loans collateralized by immovable property	090	152593 €€\$	€€\$	152438 €€\$	152428 €€\$	152471 €€\$	152461 €€\$	152448 €€\$	
of which: other collateralized loans	100	152592 €€\$	234585 €€\$	152437 €€\$	152427 €€\$	152470 €€\$	152460 €€\$	152447 €€\$	
<b>109 By purpose</b>									
of which: credit for consumption	110	152600 €€\$	€€\$	€€\$	€€\$	€€\$	€€\$	152450 €€\$	
of which: lending for house purchase	120	152601 €€\$	€€\$	€€\$	€€\$	€€\$	€€\$	152451 €€\$	
<b>129 By subordination</b>									
of which: project finance loans	130	152584 €€\$	€€\$	€€\$	€€\$	€€\$	152452 €€\$	€€\$	

Breakdown of non-trading loans and advances by product: Loan and advances other than held for trading by product (F05.01)

- **DPM / XBRL content is translated** into the dictionary **without any changes** to the content itself (i.e. non-reference description, using DPM codification)
- **One annotated template is translated into one cube**

## Representation of templates (e.g. FinRep)



Role	Variable	Subdomain / Member / Variable set
D	Main category (MCY)	Loans and advances (x469)
D	Instrument (MCB)	Total/Not applicable (x0), Project finance loans (x360), Advances that are not loans (x823), On demand [call] and short notice [current account] (x824), Term loans. Credit card debt (x825), Term loans. Finance leases (x826), Term loans. Other than Trade receivables, Credit card debt, Finance leases, Reverse repurchase loans (x827), Term loans. Reverse repurchase loans (x828), Term loans. Trade receivables (x829)
D	Accounting portfolio (APL)	Financial assets other than Held for trading and Trading Financial Assets (x77)
D	Counterparty sector (CPS)	Not applicable/ All counterparties (x0), General governments (x1), Central banks (x10), Credit institutions (x12), Financial corporations other than credit institutions (x18), Non-financial corporations (x20), Households (x5)
D	Main category of collateral or guarantee given (MCC)	Total/Not applicable (x0), Other than Real estate (x262), Real estate (x292)
D	Purpose (PUR)	Not applicable/All purposes (x0), Credit for consumption (x1), Lending for house purchase (x3)
D	Artificial variable for metrics (ATY)	Gross carrying amount (mi136), Carrying amount (mi53)
O	Observation_Value (Observation_Value)	Non enumerated subdomain for domain String (355)

Associated cube structure for the template F05.01

- The **associated cube structure** represents an **orthogonal coordinate system** (that may comprise “more” information than the template)
- A **data point** (in the template) is represented by a **point in this coordinate system** (which is called a **Combination** in the dictionary)

## Representation of data points (e.g. FinRep)



	Columns							
	Gross carrying amount	Carrying amount						
		Central banks	General governments	Credit institutions	Other financial corporations	Non-financial corporations	Households	
005	010	020	030	040	050	060		
<b>009 By product</b>								
On demand [call] and short notice [current account]	010	152586 €€\$	152414 €€\$	152431 €€\$	152421 €€\$	152464 €€\$	152454 €€\$	152441 €€\$
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Reverse repurchase loans	050	152590 €€\$	152418 €€\$	152435 €€\$	152425 €€\$	152468 €€\$	152458 €€\$	152445 €€\$
Other term loans	060	152589 €€\$	152417 €€\$	152434 €€\$	152424 €€\$	152467 €€\$	152457 €€\$	152444 €€\$

Data point 152425

Role	Variable	Subdomain / Member / Variable set
D	Main category (MCY)	Loans and advances (x469)
D	Instrument (MCB)	Term loans. Reverse repurchase loans (x828)
D	Accounting portfolio (APL)	Financial assets other than Held for trading and Trading Financial Assets (x77)
D	Counterparty sector (CPS)	Credit institutions (x12)
D	Main category of collateral or guarantee given (MCC)	Total/Not applicable (x0)
D	Purpose (PUR)	Not applicable/All purposes (x0)
D	Artificial variable for metrics (ATY)	Carrying amount (mi53)
O	Observation_Value (Observation_Value)	Non enumerated subdomain for domain String (355)

Combination EBA\_152425

- A **data point** (in the template) is equal to a **Combination** in the dictionary
- A **cube** and its **set of combinations** is a **complete description** of the content of the related **template**