

*Thinking
Forward.*

Source information, Data Model, XBRL Taxonomy

Mateusz Hojda

EIOPA XBRL Europe Seminar
Wednesday, 11 April 2012

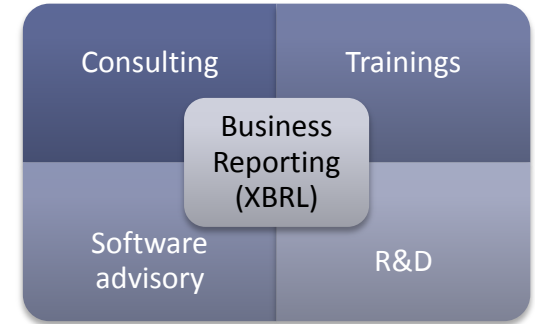




About BR-AG

Business Reporting - Advisory Group

<http://www.br-ag.eu>



Some of our XBRL projects since 2005:

- European Banking Authority (formerly Committee of European Banking Supervisors) – Eurofiling: COREP (Basel/CRD), FINREP (IFRSs for credit institutions), BSI-MIR (ECB statistics) data modelling and XBRL taxonomy design and development
- Solvency II taxonomy for Bermuda Monetary Authority (contributed to EIOPA)
- Polish extensions to COREP and FINREP for the National Bank of Poland
- other taxonomies for banking sector: Banco de España, Banking, Insurance and Pension Fund Supervision in Peru, Central Bank of Iraq, Bank of Indonesia, National Bank of Moldova
- IFRS taxonomy and extensions, local GAAP taxonomies: SVS Chile, DCCA, MIX, SMV Peru
- trainings and advisory for Deutsche Bundesbank, Oesterreichische Nationalbank, Polish Financial Supervision Authority, ACRA Singapore, Polish Central Statistical Office, Securities and Exchange Board of India, IFRS Foundation, ...
- XBRL International training partner for international conferences



Agenda

- XBRL basics
- Source information, Data Model, Taxonomy
- Example of XBRL taxonomy
- XBRL based reporting process



What is used for?

„XBRL is a flexible a standard used for describing business concepts in order to transfer information between different systems communicating with each other using the same dictionaries”

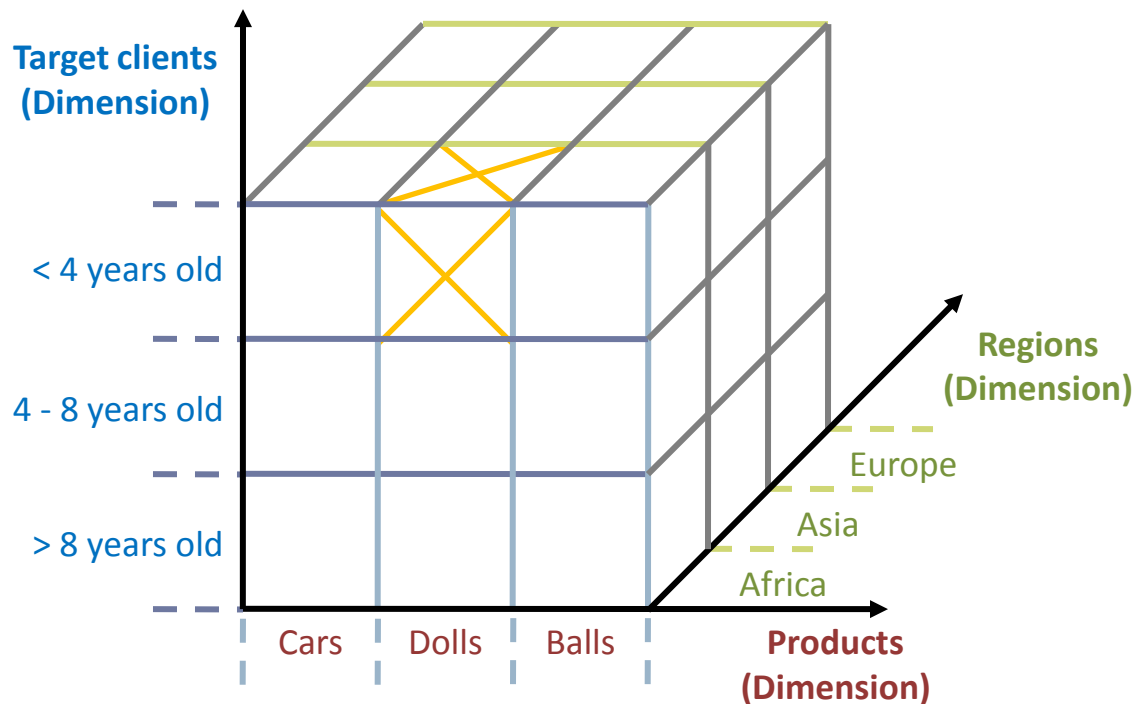
- XBRL tries to be more than that:
 - visualization/rendering of reports (e.g. tax forms, annual reports, ...)
 - versioning of concepts definitions (dictionaries) in time and space
 - advanced business mathematical and logical rules and their validation
 - „drill-down” of information (XBRL GL)
- XBRL is not „off-the-shelf” solution!



Dimensional information

XBRL supports modelling of multidimensional information. It allows for defining two kind of information

- Potential allowed combinations of information
“< 4 years old”; “Cars”; “Africa”,
“>8 years old”; “Dolls”; “Europe”
- Not allowed **exclusions of specific combinations**, for example prohibit combination of “< 4 years old”; “Dolls”; “Africa”,



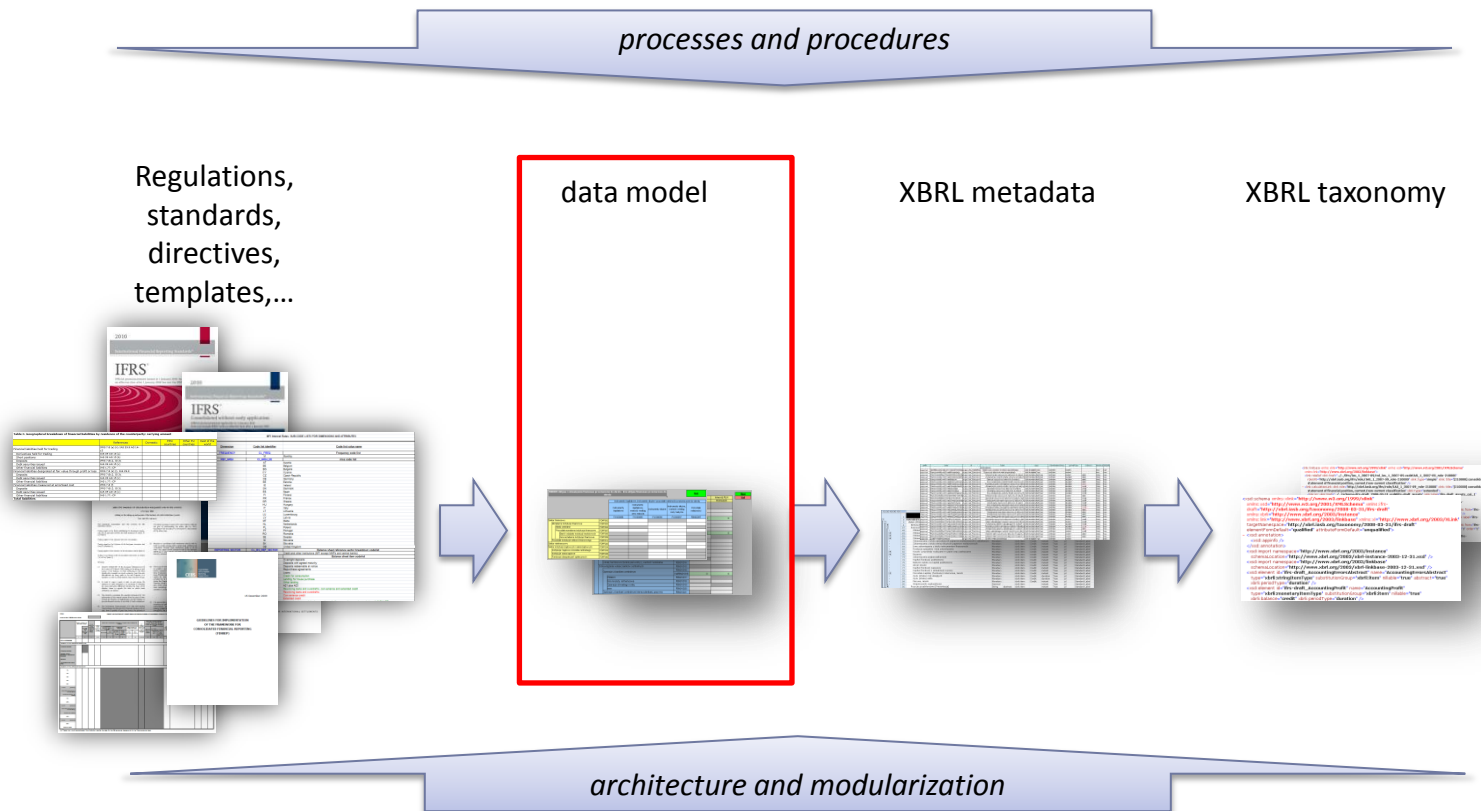


Agenda

- XBRL basics
- Source information, Data Model, Taxonomy
- Example of XBRL taxonomy
- XBRL based reporting process



From legal regulations to technical solution





Data Model

- Non-technical (mostly Excel-based) documentation of reporting requirements (tables, tree-like structures, breakdowns, views, business rules, references to legal acts)
- Developed by business users (analysts, supervisors, regulation setters,...)
- Quality of taxonomy depends on quality of data model:
 - Explicit,
 - consistent,
 - Complete
 - Unified
- There are different technics of Data Model development (depending on the purpose and character of target taxonomy)



Data Point Model (DPM)

- one of the data model development technics applicable especially for modeling of information reported in financial sectors (banking, insurance)
- identification of reportable information classified as data points that have a specified **nature (base)** and that can be characterized using consistently applied **breakdowns**
- aim:
 - explicit,
 - consistent and coherent,
 - minimizing redundancy,identification of reportable information

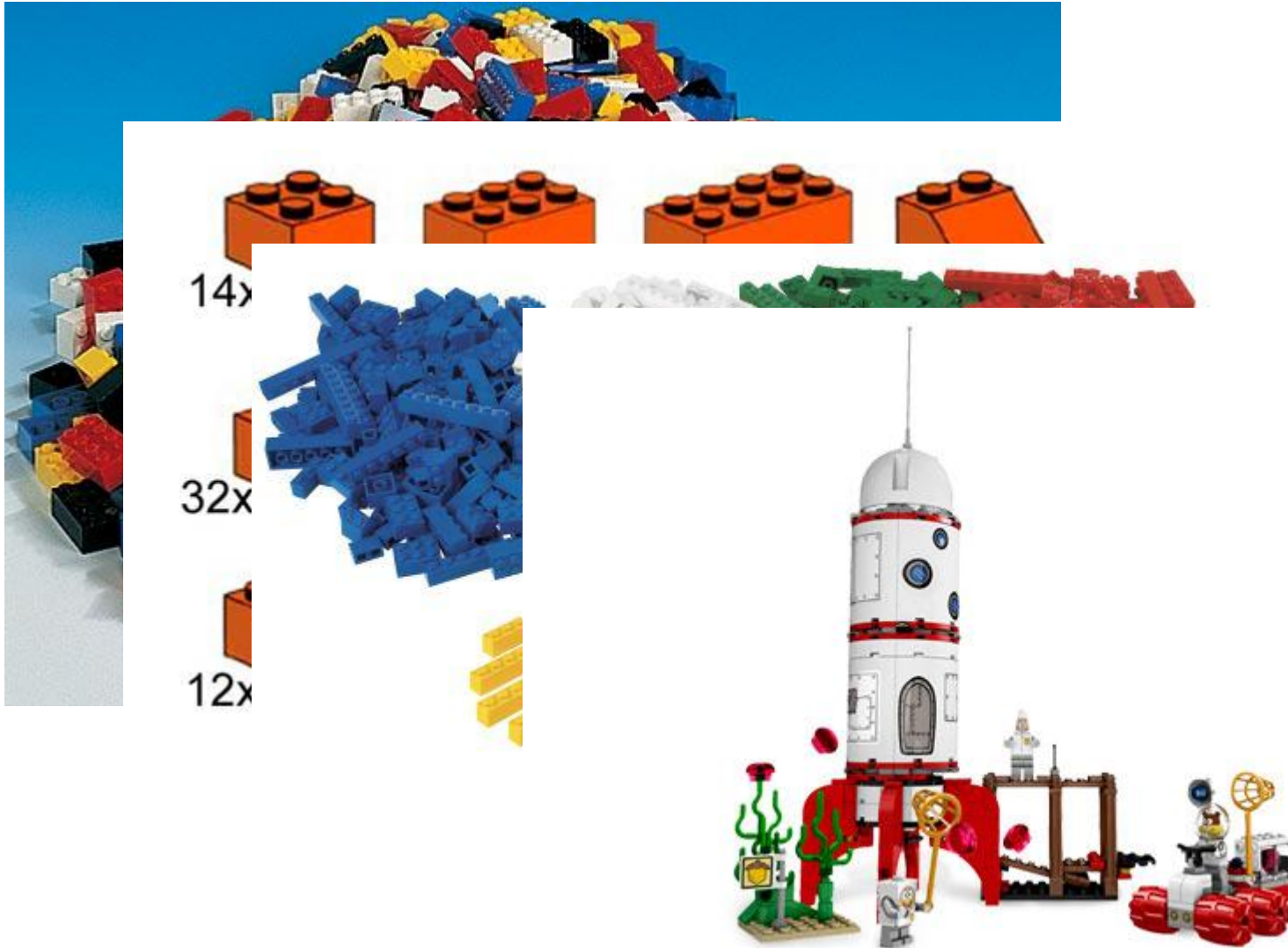


Data Points terminology in relation to XBRL

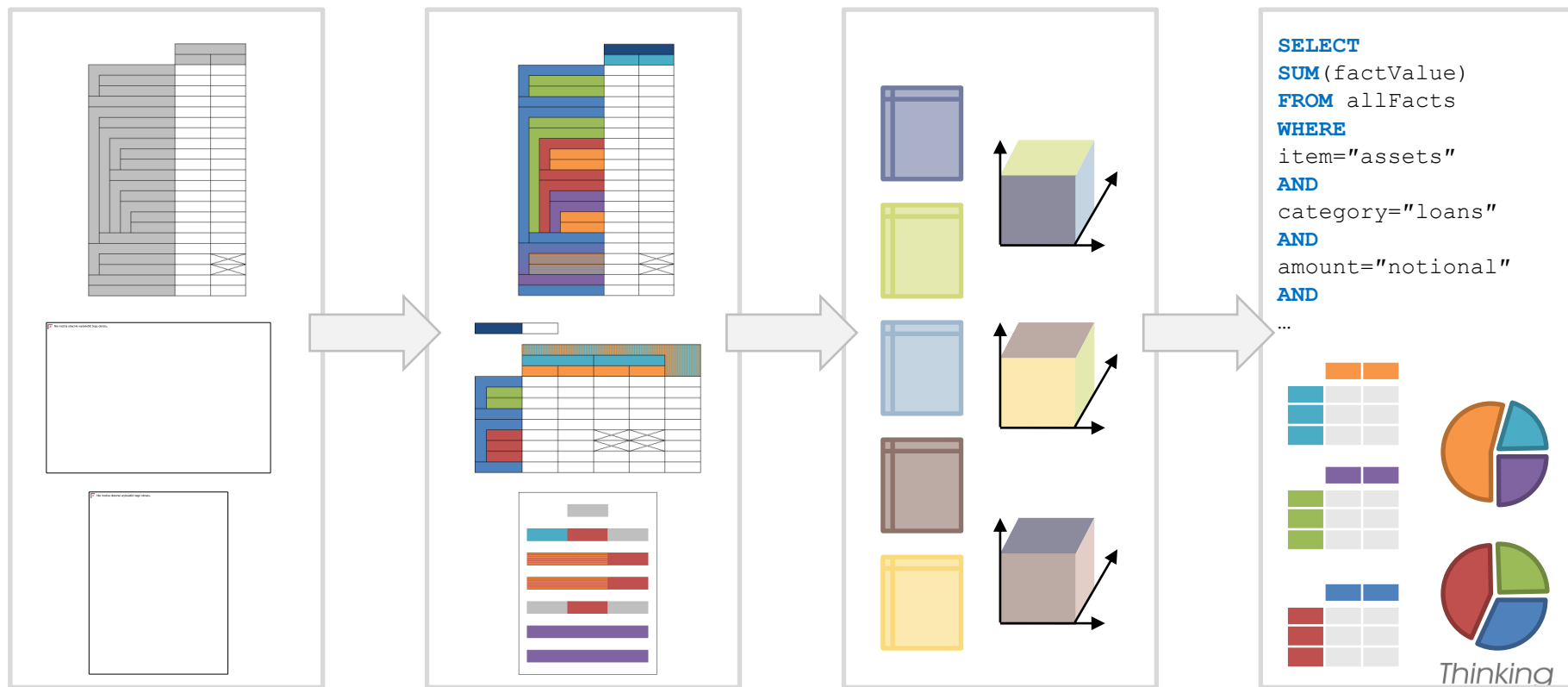
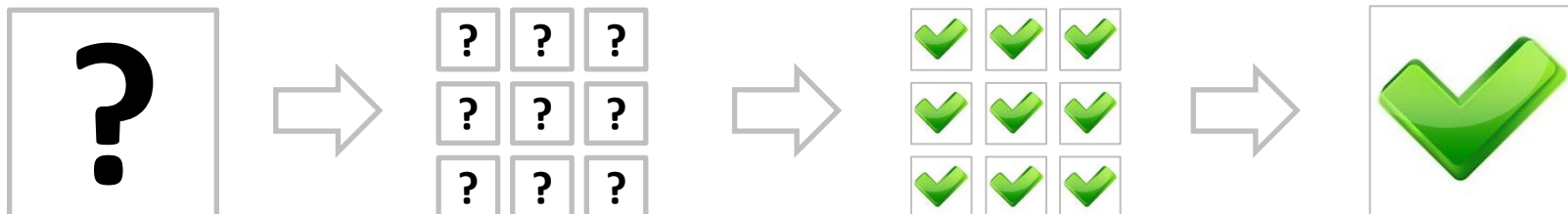
- **basic concept = primary item/measure:** basic accounting term that can be reported with a value, e.g.: [assets](#), [liabilities](#), [equity](#), ...)
- **breakdown:**
 - **domain (family of dimensions):** complete breakdown of a certain type ([list of financial instruments](#), [list of sectors](#)), may have subsets: sub-domains (domain is a superset of its subsets); subdomains can be referred from dimensions
 - **domain member:** each enumeration of a domain ([Equity instruments](#), [Debt securities](#), [Loans and advances](#); [Central banks](#), [Governments](#), [Other financial institutions](#), ...)
 - **sub-domain:** structured subset of a domain containing a number of its members applicable to a certain base item or a dimension (e.g. a group of members: [Central banks](#), [Other than central banks](#))
 - **dimension:** each of different perspectives of viewing a breakdown for which a basic term can be broken down (e.g. [By instrument held breakdown](#), [By counterparty breakdown](#), ...)



Useing DPM is like playing LEGO



Divide and Conquer



A data point

Net carrying amount of not yet unimpaired but already past due (over 180 days) debt securities held, issued in EUR by MFIs located in EMU with original maturity under one year, measured at amortised cost and relating only to business activities conducted in Spain (local business).

Base terms:
Assets
Liabilities
Equity
Off-balance sheet
Exposures

Categories:
Total (...)
Cash
Loans
Debt securities
Equity instruments
Tangible and intangible
Other than (...)

Amount types:
Carrying amount
Gross carrying amount (Specific allowances)
(Collective allowances)

Original currencies:
All / Not-applicable
EUR
Other than EUR

Portfolios:
Total (...)
Fair value through profit or loss
Amortised cost

Impairment status
All / Not-applicable
Impaired
Unimpaired

Past due periods:
All
0 days
< 180 days
≥ 180 days

Original maturity:
All
< 1 year
≥ 1 year < 2 year
≥ 2 years

Counterparty sectors:
All / Not-applicable
MFIs
MMFs
MFIs other than MMFs
Central Administration
Other general government
Non-MFIs other than government

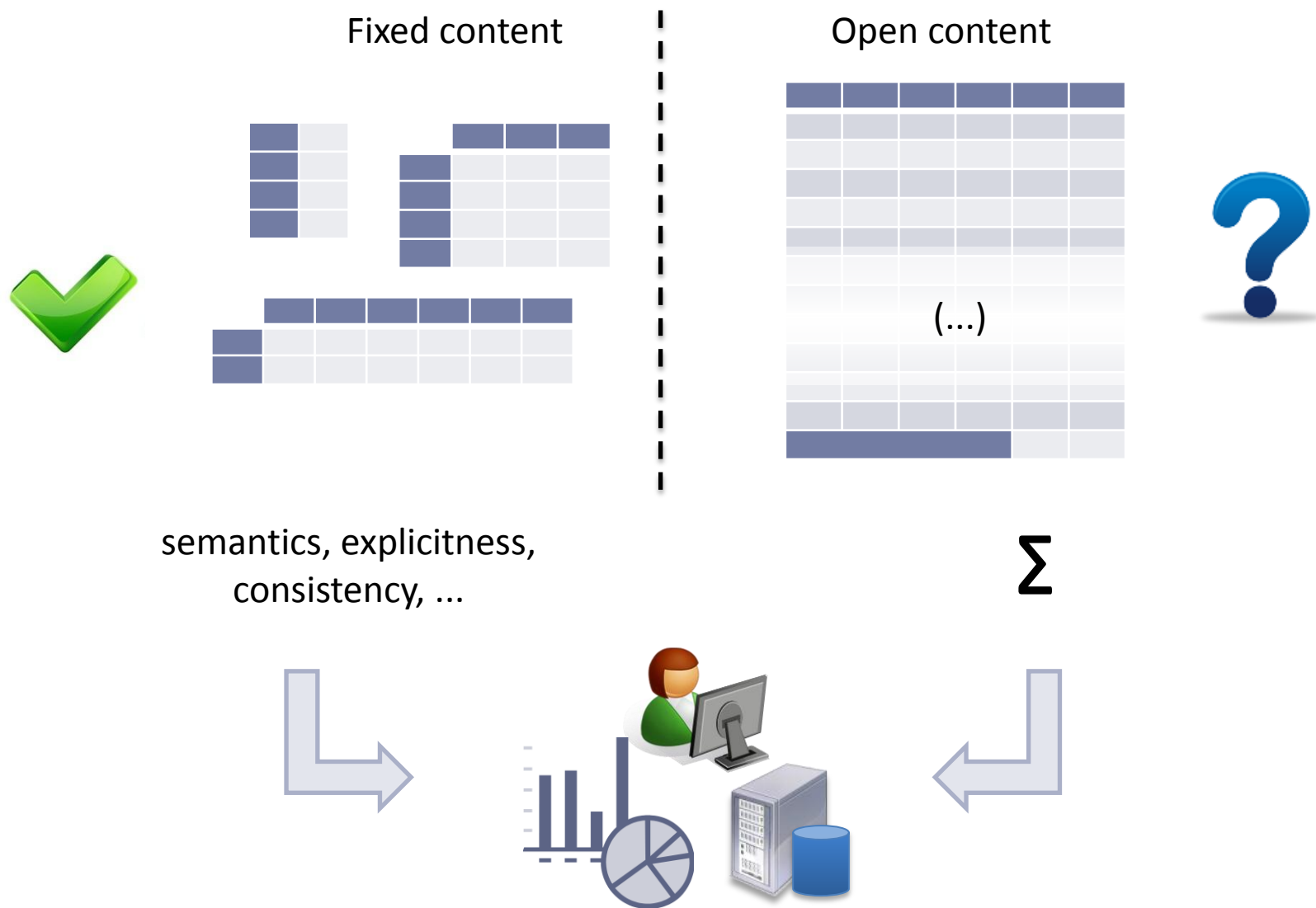
Counterparty residences:
All / Not-applicable
EMU (...)
Spain
Other than Spain in EMU (...)
Other than EMU (...)

Locations of activities:
All / Not-applicable
Spain
Other than Spain (...)

Base term:	Assets
Category:	Debt securities
Portfolio:	Amortised cost
Amount type:	Carrying amount
Impairment status:	Unimpaired
Past due period:	≥ 180 days
Original currency:	EUR
Original maturity:	< 1 year
Counterparty sector:	MFIs
Counterparty residence:	EMU
Location of activity:	Spain



Application of data modelling and XBRL





Agenda

- XBRL basics
- Source information, Data Model, Taxonomy
- Example of XBRL taxonomy
- XBRL based reporting process



Solvency II – Proof of Concept



Table C. Geographical breakdown of financial liabilities by residence of the counterparty: carrying amount

	References	Domestic	EMU countries	Other EU countries	Rest of the world
Financial liabilities held for trading					
Derivatives held for trading					
Short positions					
Deposits					
Debt securities issued					
Other financial liabilities					
Financial liabilities designated at fair value through profit or loss					
Deposits					
Debt securities issued					
Other financial liabilities					
Financial liabilities at amortised cost					
Deposits					
Debt securities issued					
Other financial liabilities					
Total liabilities					

GAUGELEN FOR IMPLEMENTATION
OF THE FRAMEWORK FOR
CONSOLIDATED FINANCIAL REPORTING
(FINREP)

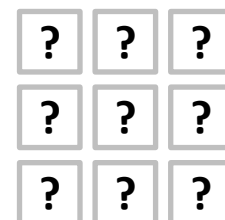


Classify information (create DPM components/breakdowns)

Primary items		Amount - Structure	
A	Navi	http://www.ceiops.eu/xbnl/d/am/role/01	
L	mc_role_01	http://www.ceiops.eu/xbnl/d/am/role/01	
D	dim_AS	Type of assets	Valuation general
C	mc_x0	Total	Statutory accounts
M	mc_x19	Intangible	Solvency II
C	mc_x18	Goodwill	Market to market
C	mc_x6	Deferred acquisition costs	Market to model
C	mc_x20	Intangible other than goodwill	http://www.ceiops.eu/xbnl/d/am/role/02
Il	mc_x7	Deferred tax	Valuation of basic own funds after adjustments
D	mc_x28	Pension benefit	Total
p	mc_x31	Property, plant and equipment	Basic own funds
F	mc_x30	Property, plant and equipment	(Own shares)
A	mc_x16	Financial other than receivables	(Minority interests)
A	mc_x9	Derivatives	Investment or own use
A	mc_x8	Deposits	Total
S	mc_x22	Loans and debt securities	Investment
Il	mc_x21	Loans	Without a goal to influence the investee
Il	mc_x4	Debt securities	With a goal to influence the investee
Il	mc_x35	Structured notes	With a goal to influence the investee [consolidated]
Il	mc_x2	Collateralised debt securities	With a goal to influence the investee [not consolidated]
p	mc_x5	Debt securities other than collateralised debt securities	Other than investment
U	mc_x10	Equity instruments	Own use
C	mc_x11	Equity instruments [liabilities]	Cash and cash equivalents
P	mc_x12	Equity instruments [assets]	Other than investment, own use and cash
	mc_x17	Financial other than receivables	http://www.ceiops.eu/xbnl/d/pu/role/01
	mc_x33	Receivables/Payables	http://www.ceiops.eu/xbnl/d/pu/role/02
	mc_x34	Recoverables	Insurance/trade
	mc_x26	Other than intangible, deferred tax assets	Total
		Net	Insurance related
		Gross	Not insurance related [trade]
		(Adjustments)	
		(Salvage and subrogation included)	

Purpose of assets - Structure	
http://www.ceiops.eu/xbnl/d/pu/role/01	
(Own shares)	Investment or own use
(Minority interests)	Total
Investment	Without a goal to influence the investee
Without a goal to influence the investee	With a goal to influence the investee
With a goal to influence the investee	With a goal to influence the investee [consolidated]
With a goal to influence the investee [consolidated]	With a goal to influence the investee [not consolidated]
With a goal to influence the investee [not consolidated]	Other than investment
Other than investment	Own use
Own use	Cash and cash equivalents
Cash and cash equivalents	Other than investment, own use and cash
Other than investment, own use and cash	http://www.ceiops.eu/xbnl/d/cs/role/01

Consolidation scope - Structure	
http://www.ceiops.eu/xbnl/d/cs/role/01	
Consolidation scope	
Solo	
Consolidated	







Solvency II Taxonomy

		11	Calculated as a whole	Member	x11
		12	Carrying amount	Member	x12
		13	Cumulative	Member	x13

Property		BS-C1 - Assets		Carrying amount	
label	base:mi1			Solvency II value	Statutory accounts valuation basis
contextRef Context_Instant_x12_x20_x4_					
instant 2011-08-31 00:00:00					
dimen (5)					
dimam:x12		Goodwill			12
dimmc:x20		Deferred acquisition costs			23
dimpu:x4		Other intangible assets		33	34
dimcs:x2		Deferred tax assets		44	45
dimam:x30		Pension benefit surplus		55	56
unitRef EUR		Property, plant & equipment held for own use		66	67
decimals 0		Investments (other than assets held for unit-linked funds)		77	77
precision		Property (other than own use)		88	89
xsi:nil false		Participations		99	100
value 33					

20	Intangible other than goodwill and deferred acquisition costs	Member	x20
21	Loans	Member	x21

22	Other than investment	Member	x22
30	Solvency II	Member	x30
31	Statutory accounts	Member	x31
4	Other than investment, own use and cash and cash equivalents	Member	x4
5	Insurance related	Member	x5

2	Solo	Member	x2
---	------	--------	----

ward



Define reported information (hypercubes)

Main category [MC_D]	Currency [CU_D]	Sector [SE_D]	Geographical area [GA_D]	Portfolio [PO_D]
Category of Assets [AS]	Original Currency [OC]	Counterparty [CN]	Residence [RE]	Portfolio [PL]
Required reserves	Total	Central Banks	Domestic	Cash
Ordinary account	PEN			
Special account [for specific purposes]	Other than PEN			
Legal mandate account [surveillance regime, sanctions for excess of legal limits]				
Required reserves other than ordinary account, special account and legal mandate account				
Overnight account				

Define how information should be presented (rendering/template/table)

row	column	column	column	row
Main category [MC_D]	Currency [CU_D]	Sector [SE_D]	Geographical area [GA_D]	Portfolio
Category of Assets [AS]	Original Currency [OC]	Counterparty [CN]	Residence [RE]	

		[RE] Domestic		
		[CN] Central Banks		
		[OC] PEN	[OC] Other than PEN	
		c3	c4	c2
[PL] Cash	[AS] Required reserves	[AS] Ordinary account	a2	
		[AS] Special account [for specific purposes]	a3	
		[AS] Legal mandate account [surveillance regime, sanctions for excess of legal limits]	a4	
		[AS] Overnight account	a5	
		[AS] Required reserves other than ordinary account, special account and legal mandate account	a6	
			a7	



Define business rules (formula)

			[RE] Domestic		
			[CN] Central Banks		
			[OC] PEN	[OC] Other than PEN	
			c3	c4	c2
[PL] Cash	[AS] Required reserves		a2		
		[AS] Ordinary account	a3		
		[AS] Special account [for specific purposes]	a4		
		[AS] Legal mandate account [surveillance regime, sanctions for excess of legal limits]	a5		
		[AS] Overnight account	a6		
		[AS] Required reserves other than ordinary account, special account and legal mandate account	a7		

$a2c3 = a3c3 + a4c3 + a5c3 + a6c3 + a7c3$
 $a2c4 = a3c4 + a4c4 + a5c4 + a6c4 + a7c4$
 $a2c2 = a3c2 + a4c2 + a5c2 + a6c2 + a7c2$
 $a2c2 = a2c3 + a2c4$
 $a3c2 = a3c3 + a3c4$
 $a4c2 = a4c3 + a4c4$
 $a5c2 = a5c3 + a5c4$
 $a6c2 = a6c3 + a6c4$
 $a7c2 = a7c3 + a7c4$



DPM based taxonomy in practise

	Domestic		
	Central Banks		
	PEN	Other than PEN	
Cash			
Required reserves	1F	1F	1F
Ordinary account	2F	2F	2F
Special account [for specific purposes]	3F	3F	3F
Legal mandate account [surveillance regime, sanctions for excess of legal limits]	4F	4F	4F
Overnight account	5F	5F	5F
Required reserves other than ordinary account, special account and legal mandate account	6F	6F	6F

Fact properties:

PEN

Other than PEN

Resources: 15324

Attribute

```
<rend:axisCoord
  xlink:label="1k
  id="c3rt05"
  xlink:type="res
  abstract="false
  <rend:explicitDimCoord ve
  </rend:axisCoord>
```

Assertion ID/Label	Count Satisfied	Count NOT Satisfied
aSa2c3toa2c2	0	1
aSa3c3toa3c2	0	1
aSa4c3toa4c2	0	1
aSa5c3toa5c2	0	1
aSa6c3toa6c2	0	1
aSa7c3toa7c2	0	1
aSc2a2toc2a7	0	1
aSc3a2toc3a7	0	1
aSc4a2toc4a7	0	1

nsion="dim:OC"/>

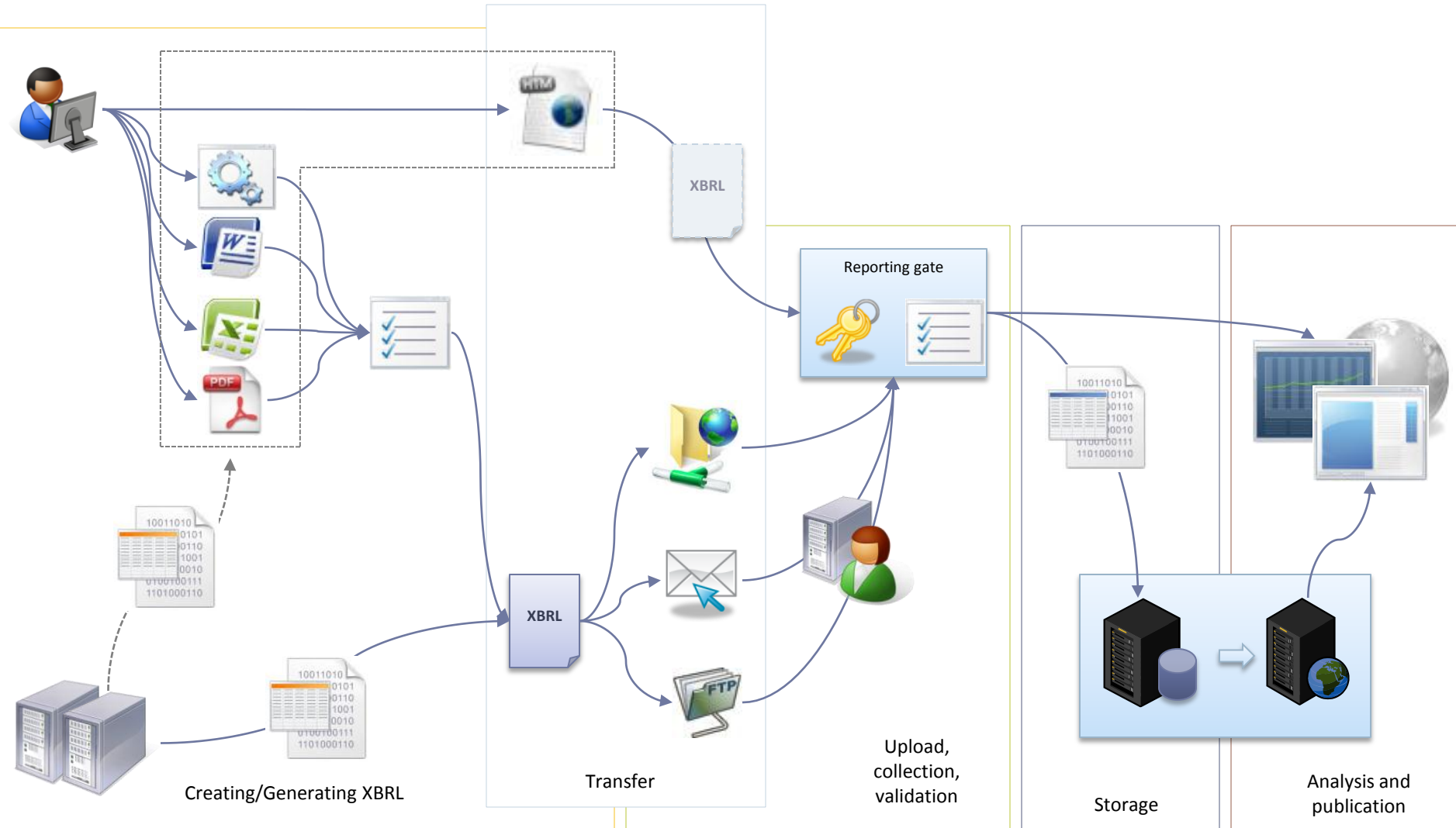


Agenda

- XBRL basics
- Source information, Data Model, Taxonomy
- Example of XBRL taxonomy
- XBRL based reporting process



XBRL reporting chain - Overview



*Thinking
Forward.*

Thank you

Mateusz Hojda

EIOPA XBRL Europe Seminar
Wednesday, 11 April 2012

Email: mateusz.hojda@br-ag.eu
Phone no.: +48 61 852 22 77

