



EIOPA DPM Documentation

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I Abstract

This document describes the Data Point Model [DPM] defined by EIOPA to support reporting of Solvency II, Pension Funds containing an integrated and standalone PEPP Prudential Reporting (PR), Pan-European Personal Pension Products KID data and Financial Conglomerates model. It introduces the DPM terminology, presents the resulting artefacts (DPM Dictionary and Annotated Templates) and explains in detail the approach applied for data modelling.

II Introduction

One of the aims of EIOPA is to improve harmonisation and support coherent application of rules applied for financial institutions and markets across the European Union. In order to achieve this goal a set of common legal acts has been published: the Framework Directive, the Implementing Technical Standards and the Public Guidelines. These acts define among others a set of data to be reported by the undertakings (in particular in the Reporting Templates and supporting Business Logs).

In order to facilitate the data exchange process, EIOPA decided to use an XBRL standard as a mean for technical definition of information requirements (in form of XBRL taxonomies) and as a technical data submission format (XBRL instance documents).

The Data Point Modelling methodology has emerged in the evolution process of application of the XBRL standard for financial and prudential reporting¹. In the beginning and for the first few years XBRL taxonomies have been developed by the IT experts who basically translated the tabular representation of information requirements to the technical format. At some point though the maintenance and updates started to require increasing business input and the business domain experts had been more and more

¹ <http://eurofiling.info/portal/data-point-model/>

involved in the process. This caused the need for definition of a formal model for description of requested data which could be provided by the data users and translated to technical format by the IT without any loss of information or space for interpretation. The resulting methodology has been called the Data Point Modelling to emphasise the shift in the approach from the form centric representation of information requirements (based on tabular views) to the data centric definitions (detailing properties of each exchanged piece of information).

Currently DPM methodology is considered as an intermediary layer between the information requirements definition in legal acts and its technical representation. Following other European supervisors (such as EBA) and some National Competent Authorities (NCAs), EIOPA decided to use this methodology to properly reflect in XBRL all relevant properties of the exchanged data.

The result of the DPM modelling process is a structured description of the model in form of a dictionary (listing and naming all breakdowns and their components identified in the process of analysing the legal acts) and a set of annotated templates (tabular views of requested data with description from the dictionary). These two documents are subsequently used as the inputs for XBRL taxonomy generation process.

The result of application of the DPM methodology shall support fulfilment of the following requirements:

- remove redundancy of metadata definitions (no duplicated data points),
- increase consistency of metadata definitions (clarity and explicitness of definitions),
- increase efficiency of data tagging and mapping (accuracy of assigning tags to data points for generation to/from existing systems),
- advance metadata maintenance procedures (change management and communication),
- facilitate non-IT technical experts' involvement (data modelling is performed by the business users),
- support data mapping procedures (manual and automatic).

With the version 2.8.0, EIOPA has introduced changes to the generation of XBRL/DPM models. As part of these modifications, the generation of the database, the XBRL taxonomy as well as the excel files has been amended. Although the DPM metamodel did not change, it was decided to modify the DPM documentation file in order to familiarise users with the new format of some files, as well as publish excel files in both versions. Differences between new and previous layout have been described in a dedicated section at the end of this document.

III General building blocks and terminology of DPM methodology

An important impact on the organization of the DPM has the process of its definition. The starting point is a set of legal acts composed of the text of regulations, guidelines, international standards and the tabular representation of the information requirements. These input materials are analysed in order to define consistent classifications (breakdowns with enumerated properties) used to categorise the content of the tables². The main division of in the DPM is therefore a clear separation of a **dictionary** (definition of breakdowns in general) and the tabular representation of current information requirements gathered in **frameworks** (which in case of the EIOPA DPM takes form of the Annotated Templates). This is particularly important from the standpoint of maintenance. While dictionary is expected to steadily grow in time and assure backward compatibility (i.e. to support all previous versions), frameworks can change more drastically and dynamically depending on actual information requirements.

III.1 DPM dictionary

Dictionary defines the classifications used in data description. It does it by identifying elements: metrics (that may be arranged in relationship sets), domains and their value constraints or members (plus relationships between them) and dimension as presented on Figure 1 and explained in the next paragraphs.

² Ideally though, the process should be reversed, i.e. start with the definition of breakdowns that would subsequently be applied in description of information requirements presented in the tabular format.

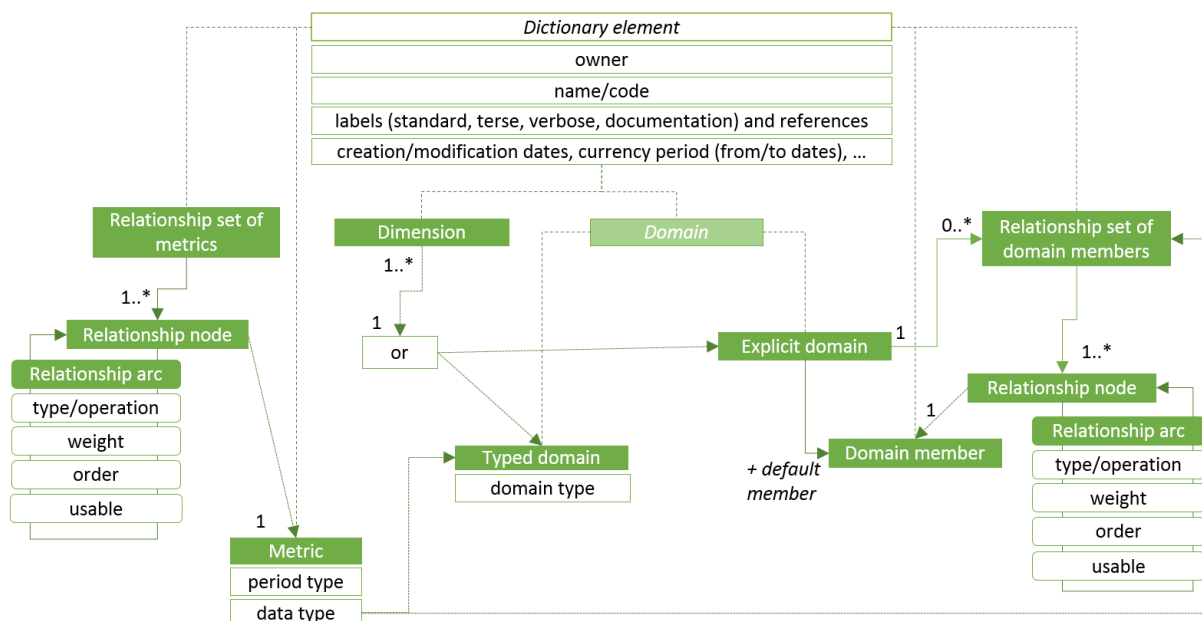


Figure 1. DPM dictionary

Each dictionary element must have a unique (in scope of its definition³) name/code and identify an owner (authority who defined it/is responsible for its maintenance). Additionally it should have a human readable label (in one – usually English – or more languages and optionally serving different roles/purposes) and may contain other documentary properties (e.g. references to underlying legislation or guidelines, more verbose explanations, etc.). For maintenance purposes declaration of each element must contain a creation date, may include a date of last modification as well as a currency period (from and to dates) when the element is considered to be in application.

A **metric** is the minimum description of each data point (each data point in the model must include in its definition one, and only one, metric). It carries the information on the expected value (data type) and the time context (period type)⁴. It may include other semantics (business properties) depending on the approach taken by the author of the model.

³ In general name/code must be unique for a given owner for metrics, domains and dimensions. Relationship set and members' names/codes must be unique for an owner and a domain that they belong to.

⁴ Time context could be also carried by dimensional attributes.

Other classifications are represented by domains. A **domain** is a set of elements/values sharing a specified semantic nature. Domain can be of one of two kinds: explicit and typed. An **explicit domain** has its elements enumerated in the model while a **typed domain** values are assigned in the reports based on a specified format (data type).

Elements of an explicit domain are called domain members. A **domain member** (or simply a member) is enumerated element of an explicit domain. All members from a domain share a certain common nature defined subjectively but applied consistently by the model's author. A typical example of a domain is "Geographical areas". Members of this domain could be different areas of the Earth, classified according to the physical geography ("Europe", "Pacific Ocean", "Himalayas", ...) and/or human geography ("France", "EU", "G-20 major economies", ...). Combining physical and human geography into one domain is already the author's subjective view of the classification. The number of members in explicit domains varies from two (e.g. "Yes" and "No") to hundreds (in case of countries or currencies).

An example of a typed domain could be the ISIN identifier (used to identify uniquely financial instruments) which is restricted to a certain number of characters.

In order to document the relations between domain members or between metrics, they can be gathered in **relationship sets** (sometimes called subdomains or hierarchies). A **relationship** is constructed from nodes and arcs. A **node** refers to a metric (in relationship sets for metrics) or to a domain member (in relationship set of domain members). Nodes are arranged as directed graphs. An **arc** (edge) identifies the source node, the target node, and the order of the relation in a relationship set. It may also identify a node as used for organizational purposes only (with usable property). Arcs may also document the basic arithmetic relations by identifying the type of operation (" \geq ", " \leq " or " $=$ ") and weight by which the target node contributes to the value of a source node (in applications of the DPM so far constrained mainly to identification of a sign, i.e. "+1" and "-1"). In general all members of explicit domains should participate in hierarchical relationships and whenever possible, these relationships shall reflect arithmetical dependencies as presented in Table 1.

Table 1. Example of arithmetical dependencies between domain members expressed in the DPM as a hierarchy (subdomain)

Member	Comparison operator	Sign and weight
--------	---------------------	-----------------

Calculated as a sum of best estimate and risk margin	=	
Best estimate	=	+1
Best estimate [before adjustment for expected losses due to counterparty default]		+1
Adjustment for expected losses due to counterparty default		-1
Risk margin		+1

In some cases a hierarchy (subdomain) is defined as a flat list of members to be used in a certain scenario (e.g. applied to a particular dimension, driven by information requirements of a template or set of members referenced by an enumerated metric).

Usually hierarchies include only some members of a domain, especially when there could be alternative classifications, e.g. "Poland"/"Other than Poland" and "EU"/"Other than EU" would never form a single hierarchy as "EU" includes "Poland" plus some other countries while "Other than EU" includes "Other than Poland" minus some countries.

Hierarchies are an important part of the model as they help to maintain coherence within a domain.

In order to be used in description of information requirements a domain member or a typed domain value requires a **dimension** that provides a context of its application. In other words dimensions contextualise domain members when applied to a data point i.e. they contribute to the semantics of a member which, without a dimension, may be insufficient to represent the full meaning of a property. For instance, in case of "Geographical areas" domain, "Spain" as a member could represent "Location of an issuer" of a financial instrument, "Location of a stock exchange" where this instrument is traded, "Location of a broker" who participated as a middleman in the transaction or finally "Location of a buyer" who purchased this instrument. The same domain member "Spain" was contextualised in this example by four different dimensions. A similar situation may appear in case of a typed domain whose restriction could be different based on the dimension contextualising its value, e.g. code = 123-345-567-890 could be the "Identification number for tax purposes" or "Company registration number", where the kind/type of the number is given by the dimension.

Each dimension must be associated with a domain and may contextualize any member or value of this domain. A domain may have associated more than one dimension, in such a case a member of a domain can be contextualized with many dimensions when representing a reportable piece of information.

Explicit domain should specify a **default member** that is assumed to be applied to all dimensions referring to this domain in case they are not explicitly used in description

of the required data, i.e. these default members are implicitly applied to every data point that is not explicitly characterised by a particular dimension. For example, a dimension “Original currency” may be associated with a default member “All currencies”. This means that when a data point does not explicitly mention the “Original currency” dimension, it is assumed that it takes the “All currencies” member for this dimension.

Default members are very useful when defining the model, as otherwise every data point would have to explicitly mention each dimension and the applicable member. With default members it is enough for a data point to name only the properties that are important to distinguish this data point from other data points. Although technically in XBRL the “default” is a property of a member with respect to a dimension, the DPM assumes that all dimensions referring to a certain domain would have the same default member. This means that only one member in a domain can be assigned as a default and shall apply to all dimensions referring to this domain.

There could be dimensions in the model that do not apply to some data points. For example, a data point representing “Equity instruments” is unlikely to be linked to the “Original maturity” dimension (shares and other ownership rights usually do not have maturity). Therefore, the default member is usually named “Total/Not-applicable”.

Data types of metrics and typed domains are in particular: monetary, decimal, percentage, integer, Boolean, date and URI but can be further extended (by defining new data types or restricting existing data types) if needed. A metric may also be restricted to a specific type of a typed domain or to an enumerated list of members. In the latter case it refers to a relationship set of members, identifies a starting member and whether it is included in the set of allowed values. In specific cases it may also inform how many generations (children, grandchildren, ...) of members form the list of allowed values and take into account also the usable property (that may characterise the use of a member in a hierarchy merely for grouping purposes).

III.2 DPM framework

Framework represents information requirements for a specified scope. Frameworks components and relations between them are presented schematically on Figure 2.

A **taxonomy** is a version of a framework, identified by a reference to the underlying legal acts (name and version of information requirements) plus a date stamp (taxonomy publication date). A taxonomy consists of one or more tables that are usually

gathered in table groups and further referenced from modules. It is possible that a taxonomy refers to and reuses tables from previous versions of a framework.

A **module** represents a set of information requirements that are supposed to be submitted in a single report. Typical factors taken into account when defining the scope of a module include:

- data nature homogeneity,
- frequency of reporting (i.e. scope of data transmitted on monthly, quarterly, yearly basis),
- subject scope (e.g. solo and consolidated data),
- accounting or other regulations impacting definitions of data.

Reporting entity classifies a report for submission according to one of modules predefined in the taxonomy.

A **fixed axis** consists of nodes. Nodes can be concrete or referencing.

A **concrete node** is each header of a fixed axis. Nodes can be arranged in nested structures. In such a case, relationships between nodes identify ordering and the manner of presentation of child nodes before or after (for rows) or to the left or right (for columns) in relation to the parent node. Moreover a concrete node can be classified as abstract if it is included in the table merely for the purpose of organization of headers rather than a resulting in a line containing data.

A **referencing node** points to a relationship set (of metrics or domain members) in a dictionary, specifies the starting node and informs if it included in the set of selected values. The resulting visualisation converts the hierarchy nodes into concrete nodes of an axis. Referencing node is basically an alternative to explicit enumeration of concrete nodes with the benefit of reusing already defined breakdowns and also several constraints (e.g. limited customization of header titles/labels, lack of possibility of inclusion of other codes or marking of unreportable cells and unambiguous treatment of unreported data).

An **open axis** refers to a dimension (usually typed) or other aspects of facts, in particular the temporal reference, entity or unit specific information (for more details see then next section in this document). Nodes (headers) are therefore dynamically constructed based on values contained in a report. In case when a table contains more than one axis of certain kind, the resulting visualisation is a Cartesian product of nodes or values of each axis. This is typically done in so called open tables (i.e. tables with undefined number of rows, when one or more columns are row keys provided in a report) or when there are several axes multiplying the table in sheets.

A concrete node may refer to a metric, dimension member pairs or specific typed dimension values and other aspects of a fact. This reference is inherited from parent nodes to child nodes unless prohibited or overridden by a different metric or member for a given dimension.

Content of a table is additionally defined by hypercubes. A **hypercube** links metrics to dimension member pairs or typed dimensions (and their specific values if applicable). They are constructed as defined in the XBRL Dimensions specification and are technical artefacts. In DPM model reflection of a framework, such as the Annotate Templates it is enough to reflect reportable and prohibited (non-reportable) cells.

Cells in tables appear on and are described by properties (including inheritance) from intersection of row and column headers and information from the sheet (i.e.

particular multiplication of a table). Non-reportable cells (usually marked graphically as criss-crossed or grey shaded and excluded from reporting as illogical or simply unrequested) are a result superposition of the hypercubes (that define only allowed combinations) on the table visualization (based on axes and their content).

Similarly to dictionary elements, framework elements such as frameworks itself, taxonomy, module, table group, table, axis and node are identified by a code/name, human readable label and owner. Axis nodes usually also contain a code (called "rc-code") that facilitates addressing of cells in a table.

III.3 Data point and fact

Relation between a data point and fact is schematically presented on Figure 3.

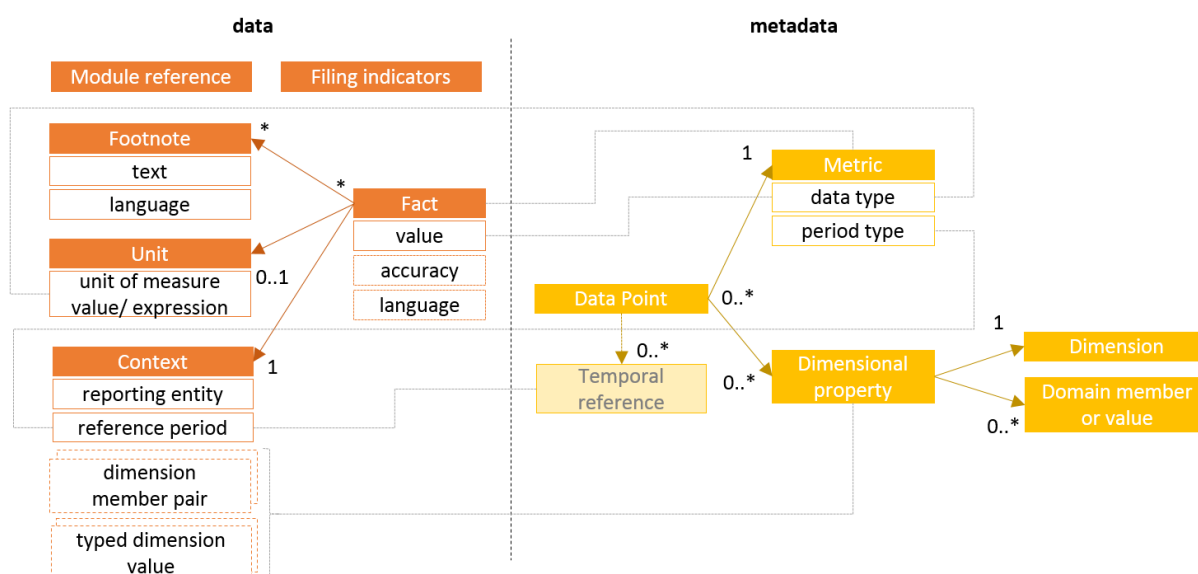


Figure 3. Data point and fact

A **data point** is characterised by a metric and may be further described by dimensional properties. It may also be provided a temporal reference i.e. identification of a period that is different to the default reference period of a report.

A **fact** refers to a data point by applying a metric as defined by a data point and linking to a context that contains dimensional properties corresponding to those defined by a data point.

A **context** apart from dimensional properties also contains identification of a reporting entity (using an identifier value according to the provided scheme) and a reference period that in general informs about the moment or time interval for measurement/expression of a fact value.

Non-numeric facts may contain an attribute informing about the language for its textual value.

Numeric facts contain an attribute expressing data accuracy and refer to declaration of a **unit** of measure.

Footnotes can provide additional textual explanation on facts.

As explained in the previous sections, a report must also identify a module based on which it was created and contain a list of filing indicators referring to reported units (table groups or tables) that are further used as preconditions for evaluations of validation rules.

IV EIOPA Data Point Model

EIOPA Data Point Model follows the organization as presented in the previous section. However it has also many unique features that differentiate it from other existing DPMs (such as the EBA model used in banking supervision). These are in particular:

- two layers approach (MD and HD),
- significant portion of complex open tables (with unknown and potentially large number of rows) which requires simplification of their modelling in order to allow usability,
- high number of entry points (modules) reflecting various reporting scenarios,
- Excel format for definition of the model in form of the DPM Dictionary and Annotated Templates (aiming to resemble the Business Templates from the Solvency II, Pension Funds, Financial Conglomerates (FICOD) and Pan-European Personal Pension Products KID and PR legal acts),
- technical constructs applied in these Excel files in order to extract all DPM metadata in an automated manner to a structured format of a DPM database and subsequently to XBRL taxonomy syntax.

The chapter describes in detail the approach applied in the DPM modelling of Solvency II, Pension Funds, FICOD and Pan-European Personal Pension Products KID and PR information requirements.

IV.1 Input materials: Reporting Templates and Business Logs

The main inputs for definition of the DPM model are the Reporting Templates and the Business Logs provided by EIOPA.

Reporting Templates reflect Solvency II, Pension Funds, FICOD or Pan-European Personal Pension Products KID and PR information requirements arranged in the form of tabular views while the Business Logs specify in more detail manner the requested content by giving the meaning of information described by particular rows and columns of each template.

From the data modelling perspective, they provided all necessary information for identification of the general breakdowns describing the requested data (defined in the DPM Dictionary), current reporting requirements (in the form of sets of data points represented by the DPM Annotated Templates) as well as the checks and constraints on values to be reported⁵.

IV.2 MD and HD versions of the DPM

The main purpose of the DPM methodology is to identify each reportable piece of information (a data point) in a precise and unambiguous manner. As a result the DPM defines usually high number of dimensions. This situation has a number of advantages:

- the model is data centric and independent from the particular views of data (templates),
- each data point is classified in detailed according to all applicable characteristics that are defined separately,
- dependencies between concepts are explicit and clearly identifiable,
- supports change management (based on defining specific differences),
- applied breakdowns can be used for various purposes including data querying for analysis,
- a bridge with other reporting frameworks can be established using specific properties on each data point,
- data model is less subjective and has fewer space for arbitrary modelling decisions (e.g. if a certain property shall be included in the semantics of a metrics or represented by a dimensional property).

⁵ Must be noted that Annotated Templates, due to implementation assumption, could contain more information than Reporting templates (find more details in chapter V).

Detailed definition of each property comes however at cost of readability of a model. It also impacts the technical representation of the model in the XBRL format: instance documents are larger in terms of size and code which hinders performance of their parsing and validation. Additionally the XBRL Formula assertions require to use a high number of dimensions in order to properly filter the facts for evaluation of variables in the context of a report.

To overcome the drawbacks while maintaining of all the benefits the EIOPA DPM applies two layers for data modelling and representation:

- a Highly Dimensional (HD) approach and
- a Moderately Dimensional (MD) approach.

In HD approach the model is defined according the DPM methodology where metrics resemble the very basic properties of a data point that typically determine only its data type. In MD approach the semantics of each metric is extended by inclusion in its definition a number of dimensional properties that in the HD approach are represented by separate and independent dimension-member pairs. Decision on which properties are included in the MD metric is closely aligned with the template view of the required data set (as described in the next paragraphs of this chapter). Other dimensional properties are shared between the two approaches and applied to data points in both versions. This means that MD and HD versions resemble the same model, but MD includes some of the business properties in the definition of a metric while the HD approach keeps all business semantics as dimension-member pairs.

The relation between MD and HD data points is schematically presented in Figure 4.

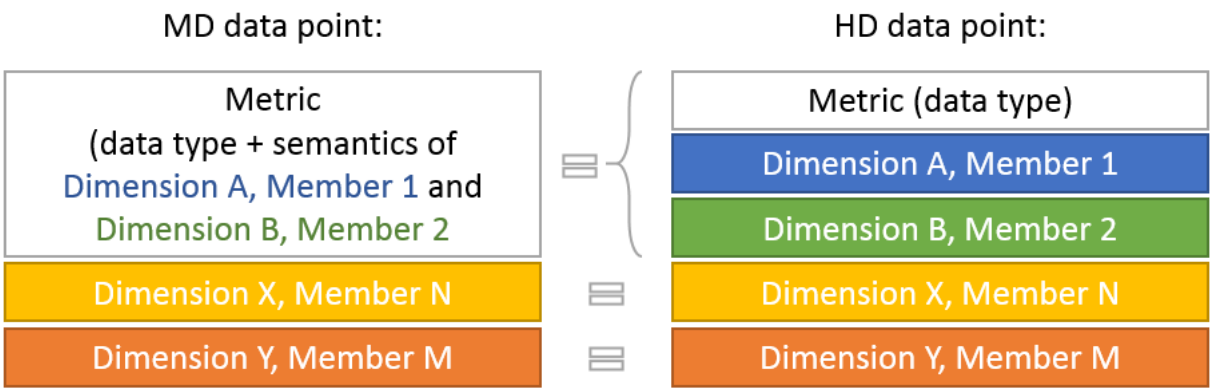


Figure 4. Schematic relation between MD and HD data points

The DPM dictionary contains definitions of properties for both HD and MD approach. The Annotated Templates contain references to the HD components with additional

information (based on the applied font colouring convention) to allow the equivalent MD references to be derived.

The process of deriving the MD model from HD is different for closed and open templates.

For closed tables (i.e. tables with all rows and columns identified and named), the derivation process is determined by the placement of the HD metric either on rows, columns or as the table multiplication (z-axis) property. MD metrics are derived by combination of the HD metric and some of the dimensional annotations. The decision on which annotations are combined is determined by their application in all closed tables of the model. By design it is not possible to include in a metric definition an annotation that is reflected in different sections (i.e. either rows, columns, or table multiplication z-axis properties) of a table (in other words, all properties of a metric must be always defined in a single section of a table). All dimensions that must not be included in the definition of MD metrics in closed tables are marked in the DPM Dictionary as "Dimension in MD closed"⁶.

Open tables (i.e. tables with unknown number of rows) include three types of columns:

- a) columns which are a part of a key for unique identification of each row (and are therefore modelled as typed or explicit dimensions)⁷,
- b) columns which are not part of a key and are modelled as dimensions,

⁶ Dimensions are marked as "Dimension in MD closed" when such dimension is used on a different section (row/columns/table multiplication) than a metric in at least one of the closed tables of the model. In such case the dimension cannot be merged in the MD metric definition. This helps to avoid situations of the same data point being defined differently in the MD model (i.e. using two different MD metrics).

⁷ In some cases, particularly when multiple columns contribute to a key (resulting in a so-called composite natural key), the DPM may include an additional property that should serve solely as a unique key (also known as an artificial key). This property is represented by a typed dimension, whose domain is a set of identifiers for rows defined by each filer in the submitted report.

- c) columns that resemble data points to be reported for each row (annotation of these columns include identification of metrics).

Columns which can be part of the key (a) or are not part of a key but are modelled as dimensions (b) are resembled in the same way in the MD version as they are in the HD version. Columns that resemble data points (c) are in MD version described as a single metric that combines information from the HD metric and all HD dimensional properties. Note that in this case the "Dimension in MD closed" property is not applicable for exclusion of certain dimensions from being included in the MD metric definition as it is very important for the XBRL file size and processing performance that all facts in a row have the same dimensional description (identified by the dimensions which are part of a key).

As a result the same data point appearing in an open and closed table of the model may be theoretically defined in a different manner in the MD approach (using a different metric that in case of open table includes some dimensional annotation in its definition while in a close table this annotation is defined separately to the metric).

In general annotations which identify a default member for a dimension should not be present in the Annotate Templates. If such case occurs that annotation would never be included in the MD metric definition.

MD metric labels are derived from the HD model by concatenating the HD metric label and those HD dimension-member pairs that are included in MD metric definition (as explained in derivation process above). These dimension-member pairs are ordered according to an algorithm (sorted alphabetically by domain code, dimension code and member label) to ensure consistency, and are separated by pipe characters ("|"). As a result, labels of MD metrics follow the general pattern:

Metric: {label of HD metric}|{dimension code}/{label of domain member}|{dimension code}/{label of domain member}|...

For example:

Metric: Monetary|TA/Maximum value|VG/Solvency II|BC/Loss|CC/Facultative

Please note that technical XBRL representation of the Solvency II, Pension Funds and Pan-European Personal Pension Products KID and PR framework components and reporting in XBRL format is made only in the MD version of the model; the HD version is defined for reference purposes only. Since 2.8.0 release a new format, containing MD

model, of excel files was introduced. FICOD model, developed after aforementioned change, is reflected solely in MD version.

IV.3 Structure of the Solvency II, Pension Funds, PEPP KID, PEPP PR and FICOD DPM

There is no single predefined format for representation of the DPM. The ones commonly used is an Excel workbook (in this format the DPM is usually created and edited)⁸, a database (used for maintenance and quality/consistency checks) and an XBRL taxonomy (applied for reporting in XBRL). EIOPA applies all these three formats. The latter two are IT artefacts explained in separate documentations. This document focuses on description of an Excel format where the business users define the DPM.

As described in the section III of this document, a DPM consists of Dictionary and Framework. The latter can be organized for instance in a form of an Analysis Matrix, as in case of the EBA, or as Annotated Templates in case of EIOPA. Annotated Templates have several advantages over the Analysis Matrix:

- they are close to the Business Templates,
- each table is modelled at once (not by row/columns/table multiplication approach),
- it is possible to identify crossed-out cells in a single view.

The original disadvantage of the Annotated Templates was high flexibility of its structure which made it complex to develop an automated process of XBRL taxonomy development. This obstacle has been overcome in the current DPM Annotated Templates by applying named ranges and cell styles.

In order to help to trace differences in DPM Dictionary and Annotated Templates following colour convention was used:

New information. For example new entry point, template or table column.
Information changed (other than label). For example templates affected by change in modelling, remodeling of particular column or row of existing table.
Deleted information. For example removed annotation.
Label change (not affected template modelling).

⁸ Excel format is commonly known to the business experts developing the model and open source or inexpensive commercial tools allow editing and reviewing of its content.

IV.3.1 EIOPA DPM Dictionary

EIOPA DPM Dictionary is defined in the form of an MS Excel workbook and contains the definition of the Solvency II, Pension Funds, Pan-European Personal Pension Products KID, Pan-European Personal Pension Products PR and Financial Conglomerates regimes. It consists of numerous worksheets as described below and presented on screenshot on Figure 5:

- worksheet listing all owners together with their codes⁹,
- worksheet listing all domains together with their codes and types (explicit/typed),
- worksheet listing all dimensions together with their codes and reference to domains,
- two worksheets listing metrics, one for HD and one for MD version of the model; declaration of a metric includes identification of the constraint towards the reportable values to a specified type (e.g. monetary, string, etc.) or enumeration (by identification of the hierarchy and optionally also the starting member whose descendants – taking into account the usable property – form the list of allowed values to be reported),
- one worksheet for each explicit domain defining (among others):
 - o unstructured list of all domain members (of which at least one is marked as a default member),
 - o relationships between domain members (arithmetical if possible).

[illegible]

⁹ As explained in section III.1 of this document Owner is an authority who defines the concepts in the dictionary and is responsible for their maintenance.

Figure 5. Structure of EIOPA DPM Dictionary

Dimensions in the DPM are used not only to reflect typical breakdowns (i.e. "Currencies", "Lines of business") but certain notion of data points (e.g. "Consolidation scope") or expression of temporal characteristics ("Instant or duration").

All concepts in dictionary are described with information helpful for maintenance and versioning:

- creation date,
- validity date is the last reference date for which the concept is used in Annotated Templates¹⁰,

¹⁰ For instance in 2.8.0 release validity dates are specified as follows:

- 2013-12-31 for concepts not used in 1.5.2.c release nor in 2.0.1 release of Annotated Templates. Validity date can be earlier than creation date for concepts that were never used in production releases,

- 2015-09-30 for concepts used in 1.5.2.c release but not in 2.0.1 release of Annotated Templates,

- 2016-07-15 for concepts used in 2.0.1 release but not in 2.1.0 release of Annotated Templates,

- 2017-07-15 for concepts used in 2.1.0 release but not in 2.2.0 release of Annotated Templates,

- 2018-07-15 for concepts used in 2.2.0 release but not in 2.3.0 release of Annotated Templates,

- 2019-07-15 for concepts used in 2.3.0 release but not in 2.4.0 release of Annotated Templates,

- 2020-07-15 for concepts used in 2.4.0 release but not in 2.5.0 release of Annotated Templates,

- 2021-07-15 for concepts used in 2.5.0 release but not in 2.6.0 release of Annotated Templates,

- 2021-08-06 for concepts used in 2.6.0 release but not in 2.6.1 release of Annotated Templates,

- last modified date (i.e. date of last upgrade to the label).

IV.3.1.1 Domains worksheet

Domains worksheet (Figure 6) contains among others information about domains code/name, label (in English), domain type (primary, explicit or typed) and owner. Primary domain type is used for metrics. Data type is identified for typed domains.

Domain code/name	Domain label	Domain type	Owner	Prefix	Namespac	Locatic	Dataty	Creation date	Validity date	Last mod	Comment
1 met	Metrics	primary	s2c					2014-07-07			
2 BC	Basic concepts	explicit	s2c					2014-07-07			
3 MC	Main categories	explicit	s2c					2014-07-07			
4 AM	Amount types	explicit	s2c					2014-07-07			
5 VM	Valuation methods	explicit	s2c					2014-07-07			
6 DI	Instant or duration	explicit	s2c					2014-07-07			
7 TR	Treatment of risk mitigation	explicit	s2c					2014-07-07			
8 TB	Type of businesses	explicit	s2c					2014-07-07			
9 PU	Purposes of assets/portfolio	explicit	s2c					2014-07-07			
11 SE	Sectors	explicit	s2c					2014-07-07			
13 CG	Collaterals/Guarantees	explicit	s2c					2014-07-07			
14 LB	Lines of businesses	explicit	s2c					2014-07-07			
15 EL	Eligibility	explicit	s2c					2014-07-07			
16 CS	Consolidation scopes	explicit	s2c					2014-07-07			
17 CM	Controlling or minority interests	explicit	s2c					2014-07-07			
18 CU	Currencies	explicit	s2c					2014-07-07			
19 GA	Geographical areas	explicit	s2c					2014-07-07			
20 PI	Percentage intervals	explicit	s2c					2014-07-07			
21 TS	Types of string	explicit	s2c					2014-07-07			
22 LT	Types of trigger	explicit	s2c					2014-07-07			
23 TD	Types of date	explicit	s2c					2014-07-07			
24 NT	Types of number	explicit	s2c					2014-07-07			
25 BR	Brackets	explicit	s2c					2014-07-07			
26 PP	Types of percentage	explicit	s2c					2014-07-07			
27 DC	Types of decimal	explicit	s2c					2014-07-07			
28 CE	Types of income statement concepts	explicit	s2c					2014-07-07			
29 TI	Time intervals	explicit	s2c					2014-07-07			
30 RT	Risk types	explicit	s2c					2014-07-07			
31 SC	Status of claim	explicit	s2c					2014-07-07			
32 PC	Product characteristics	explicit	s2c					2014-07-07			
33 EX	Exposure types	explicit	s2c					2014-07-07			
34 AP	Approaches used	explicit	s2c					2014-07-07			
35 ID	Codes	typed	s2c				string	2014-07-07			
36 NA	Names	typed	s2c				string	2014-07-07			
37 NB	Integer numbers	typed	s2c				string	2014-07-07		2017-07-15	
38 ER	Ratings	typed	s2c				string	2014-07-07			
39 RA	Agencies	typed	s2c				string	2014-07-07			
40 TY	Types	typed	s2c				string	2014-07-07			

Figure 6. Structure of domains worksheet in EIOPA DPM Dictionary

IV.3.1.2 Dimensions worksheet

Dimensions worksheet (Figure 7) contains among others information about its code/name, label (in English), applicable domain code, owner, dimension in MD closed information.

- 2022-07-15 for concepts used in 2.6.0 and 2.6.1 release but not in 2.7.0 release of Annotated Templates,

- 2023-07-15 for concepts used in 2.7.0 but not in 2.8.0 release of Annotated Templates.

Applicable domain code identifies the domain that each dimension relates to. There must be one and only one applicable domain identified for each dimension but at the same time more than one dimension can be applicable for a single domain.

“Yes” in “dimension in MD Closed” column identifies those dimensions that can’t be included into MD metrics applicable in closed tables (see *IV.2 MD and HD versions of the DPM*).

#	Dim	Dimension label	Applicable domain code	Own	Dimension in MD Closed	Restriction on content	Pref	Namespac	Creation d	Validity date	Last modif
1	BC	Basic concepts	BC	s2c					2014-07-07		
2	AL	Type of assets and/or liabilities	MC	s2c					2014-07-07		
3	TT	Type of transaction	MC	s2c					2014-07-07		
4	GR	Types of guarantees received [on- and off- balance]	MC	s2c					2014-07-07		
5	AS	Type of assets	MC	s2c					2014-07-07		
6	LB	Type of liabilities	MC	s2c					2014-07-07		
7	OB	Type of off balance sheets concepts	MC	s2c					2014-07-07		
8	LS	Long or short positions	MC	s2c					2014-07-07	2013-12-31	
9	OS	Types of sum insured	MC	s2c					2014-07-07		
10	OZ	Sum insured by the reporting entity including technical provisions [other than local GAAP specific]	MC	s2c					2014-07-07	2013-12-31	
11	OF	Own funds	MC	s2c					2014-07-07		
12	PF	Types of performance	MC	s2c					2014-07-07		
13	VG	Valuation general	AM	s2c	yes				2014-07-07		
14	TA	Types of amount	AM	s2c	yes				2014-07-07		
15	DD	Discounted or undiscounted	AM	s2c					2014-07-07		
16	VP	Valuation of provisions	AM	s2c					2014-07-07		
17	AD	Prospective or retrospective	AM	s2c	yes				2014-07-07	2016-07-15	
18	TQ	Type of capital requirement	AM	s2c					2014-07-07	2013-12-31	
19	VM	Valuation method	VM	s2c	yes				2014-07-07		
20	VL	Valuation of provisions [general]	VM	s2c	yes				2014-07-07		
21	AG	Changes in own funds	VM	s2c	yes				2014-07-07		
22	HH	Changes in technical provisions	VM	s2c	yes				2014-07-07		
23	SY	Status of share payment, initial fund or mutual members account	VM	s2c					2014-07-07		
24	DU	Dated or undated	VM	s2c					2014-07-07		
25	XS	Changes in excess of assets over liabilities	VM	s2c					2014-07-07		
26	EA	SCR calculation	VM	s2c	yes				2014-07-07		
27	DI	Instant or duration	DI	s2c	yes				2014-07-07		
28	RR	Valuation of recoverables	VM	s2c					2014-07-07		
29	IT	Treatment of risk mitigation	TB	s2c					2014-07-07		
30	CC	Ceded and not ceded	TB	s2c					2014-07-07		
31	HS	Types of hedging strategies	TB	s2c					2014-07-07	2013-12-31	
32	AX	Applicable standard	AM	s2c	yes				2014-07-07		
33	TU	Type of underwriting model	TB	s2c					2014-07-07	2013-12-31	
34	TR	Types of reinsurance [traditional or not]	TB	s2c					2014-07-07	2013-12-31	
35	RX	Type of reinsurance treaty	TB	s2c					2014-07-07	2013-12-31	
36	XL	XL premiums	AM	s2c					2014-07-07	2013-12-31	
37	IY	Insurance/trade	PU	s2c					2014-07-07	2013-12-31	
38	IO	Investment or own use	PU	s2c					2014-07-07		

Figure 7. Structure of dimensions worksheet in EIOPA DPM Dictionary

IV.3.1.3 Metrics worksheet

There are two worksheets dedicated to metrics: met HD and met MD (Figure 8). The structure of those worksheets is the same. Both contain among others information about labels (in English), names, owners, data types, domains, hierarchies, and period types¹¹. MD metrics labels are derived from HD components according to procedure described in section IV.2.

Domain information is applicable only to enum:enumerationItemType metrics. Two additional columns are referenced in those cases:

¹¹ All EIOPA DPM metrics are of instant period type. DI domain is used to specify period type attribute.

- [illegible]

IV.3.1.4 Domain worksheet

- unstructured list of elements, including its label (in English), name and owner. This section is also used to identify a default member ("Yes" in "Default" column) and to count, how many times each domain member is being referenced from relationship sets section ("Count" column),
- information describing the relationship sets that are defined between domain members¹².

¹² This section is reflected also for metrics but in fact is not used there at the moment.

domain members in a hierarchy described using “Sign” and “Weight” columns. If a hierarchy is referenced by a metric, then usable attribute (in “Usable” column) can be used to identify those domain members that can’t be chosen as potential value of this particular metric¹³.

For each relationship set an owner is identified, as well as applicable dimension code. If a relationship set is referenced exclusively by a metric (not dimension) then N/A is specified (for technical reasons).

Label	Name	Default	Owner	Creation date	Validity date	Last mod	Count	Comment	Hierarchy	Name	Hierarchy Sign	Weight	Owner	Usable	Applicable	Applicable sheets for dropdowns	Creation date	Validity date
Total/NA	x0	yes	s2c	2014-07-07	2013-12-31		0		1: Collateral/Guarantee	x0	Total/NA =		s2c		N/A		2014-07-07	
Collateral	x1		s2c	2014-07-07	2013-12-31		1		Collateralised/guaranteed	x6	Collateral =	+					2014-07-07	2013-12-31
Collateral for reinsurance accepted [CR]	x2		s2c	2014-07-07			1		Collateralised	x5	Collateralised =	+					2014-07-07	2013-12-31
Collateral for securities borrowed [CB]	x3		s2c	2014-07-07			1		Guaranteed	x8	Guaranteed =	+					2014-07-07	2013-12-31
Collateral pledged [CP]	x4		s2c	2014-07-07	2013-12-31		1		Not collateralised/guaranteed	x16	Not collateralised/guaranteed =	+					2014-07-07	2013-12-31
Collateralised	x5		s2c	2014-07-07	2013-12-31		1		2: Being collateral or not	x6	1 - Assets in the balance sheet that are collateral pledged		s2c		N/A	5.06.02 (201), 5E.06.02 (201)	2014-07-07	
Collateralised/guaranteed	x6		s2c	2014-07-07	2013-12-31		1		Collateral pledged [CP]	x2	2 - Collateral for reinsurance accepted						2014-07-07	
Full capital protection	x7		s2c	2014-07-07	2013-12-31		1		Collateral for reinsurance accepted [CR]	x3	3 - Collateral for securities borrowed						2014-07-07	
Guaranteed	x8		s2c	2014-07-07	2013-12-31		1		Repos [R]	x22	4 - Repos						2014-07-07	
Guaranteed minimum accumulation benefit [GMAx9]	x9		s2c	2014-07-07			2		Not collateral	x15	9 - Not collateral						2014-07-07	
Guaranteed minimum death benefit [GMDx10]	x10		s2c	2014-07-07			2		3: Collateral	x0	Total/NA =		s2c		N/A		2014-07-07	
Guaranteed minimum income benefit [GMIx11]	x11		s2c	2014-07-07			2		Total/NA	x18	On policies =	+					2014-07-07	
Guaranteed minimum withdrawal benefits [GMWx12]	x12		s2c	2014-07-07			2		On policies	x19	Other than on policies =	+					2014-07-07	
No [N]	x13		s2c	2014-07-07			1		Other than on policies and not collateralised	x24	SPV sufficiently collateralised		s2c		N/A		2014-07-07	
No capital protection	x14		s2c	2014-07-07			1		4: SPV sufficiently collateralised or not	x23	SPV not sufficiently collateralised						2014-07-07	
Not collateralised/guaranteed	x15		s2c	2014-07-07	2013-12-31		1		SPV not sufficiently collateralised	x23	SPV not sufficiently collateralised						2014-07-07	
Not sensitive [NS]	x16		s2c	2014-07-07	2013-12-31		1		5: Capital protection	x7	1 - Full capital protection		s2c		N/A	5.07.01 (201)	2014-07-07	
On policies	x17		s2c	2014-07-07	2015-09-30		1		Full capital protection	x21	2 - Partial capital protection						2014-07-07	
Other than on policies and not collateralised	x18		s2c	2014-07-07	2015-09-30		1		Partial capital protection	x14	3 - No capital protection						2014-07-07	
Partial [P]	x19		s2c	2014-07-07	2015-09-30		1		6: Types of guarantee (Preparatory scope)	x0	Total/NA		s2c		N/A		2014-07-07	2015-09-30
Partial capital protection	x20		s2c	2014-07-07			1		Guaranteed minimum death benefit [GMDx10]	x10	Guaranteed minimum death benefit [GMDx10]						2014-07-07	
Repos [R]	x21		s2c	2014-07-07			1		Guaranteed minimum accumulation benefit [GMAx9]		Guaranteed minimum accumulation benefit [GMAx9]						2014-07-07	
SPV not sufficiently collateralised	x22		s2c	2014-07-07			1		Guaranteed minimum income benefit [GMIx11]	x11	Guaranteed minimum income benefit [GMIx11]						2014-07-07	
SPV sufficiently collateralised	x23		s2c	2014-07-07			1		Guaranteed minimum withdrawal benefits [GMWx12]		Guaranteed minimum withdrawal benefits [GMWx12]						2014-07-07	
Yes [Y]	x24		s2c	2014-07-07			1		7: Hedge application	x25	1 - Hedged		s2c		N/A	5.15.02 (201)	2014-07-07	
Collateralisation performed on a portfolio basis	x25		s2c	2014-07-07			2		Yes [Y]	x13	2 - Not hedged						2014-07-07	
Collateralisation performed on a single contract	x26		s2c	2014-07-07			2		No [N]	x20	3 - Partially hedged						2014-07-07	
Encumbered	x27		s2c	2015-09-30			1		Partial [P]	x17	4 - Guarantee not sensitive to						2014-07-07	
Unencumbered	x28		s2c	2015-09-30			1		Not sensitive [NS]								2014-07-07	
No collateral	x29		s2c	2015-09-30			1										2014-07-07	

Figure 9. Structure of domain worksheet in EIOPA DPM Dictionary

Hierarchy node label provides labels that should be used when particular hierarchy is referenced as a dropdown list.

IV.3.2 EIOPA Annotated Templates

The Solvency II, Pension Funds, Pan-European Personal Pension Products , PR and Financial Conglomerates Annotated Templates reflect DPM framework (see section III.2). They provide a mapping between the Reporting Templates and DPM dictionary.

The Annotated Templates contain the HD model only and enough information to derive the MD from it (see *IV.2 MD and HD versions of the DPM*). This means that the Annotated Templates do not have to duplicate information (which must be kept in sync between the two models) causing a maintenance burden and a risk of errors.

¹³ This mechanism is used for example for NACE codes when it was beneficial to reflect entire structure of those codes including those, that can’t be reported according to Solvency II rules. Those cases are identified with „no“ in „Usable“ column.

Annotated Templates are defined in the form of an Excel workbook containing a number of worksheets. In general one worksheet describes one Business Template (however more than one graphical table may be annotated in one worksheet).

DPM qualifiers used in annotation represent the codes or labels of concepts defined in the dictionary. They may be associated with each row, column, and entire table (if applicable). Details explaining the DPM qualifiers are described in the next sections of this chapter.

IV.3.2.1 Organization of Annotated Templates

Organization of Annotated Templates follows the business requirements, e.g. Implementing Technical Standard (ITS). The general assumption is to assign the same template code when a template is used, without any changes, across different variants and entry points (modules). For example, S.02.02 is the same for solo and group variants, therefore in the Annotate Templates codification there is one template S.02.02.01 used in two entry points (01 and 04).

Table codes in Annotated Templates use the predefined structure {AA.XX.YY.ZZ.WW} comprising the following elements:

- AA: an alphanumeric code for the global reporting package. For Solvency II reporting it is either regular *S* (for regular Solvency II) or *SR* (for ring-fenced funds). For the Pension Funds the dedicated code is *PF*. For the Pan-European Personal Pension Products KID the dedicated code is *PEP*, while for PEPP PR it is *PP*. Other frameworks like the Solvency II ECB add-ons, Pension Funds ECB add-ons or Special Purpose Vehicles (SPVs) have different prefixes:
 - SE for the Solvency II templates extended to meet the ECB add-on reporting requirements,
 - E for the ECB add-on specific templates added on top of the Solvency II reporting requirements,
 - SPV for the Special Purpose Vehicles specific templates,
 - PFE for the Pension Funds templates extended to meet the ECB add-on reporting requirements,
 - EP for the ECB add-on specific templates added on top of the Pension Funds reporting requirements,

- T, PT, PET, FT for Technical Tables which are not part of a specific business regulation (applicable to Solvency II, Pension Finds and PEPP KID, PEPP PR and FICOD frameworks respectively)¹⁴.
- XX: a numeric code for the templates group, for example 01 (for Basic Information), 02 (for Balance Sheet), etc.,
- YY: a numeric code for the specific template (sequential code kept stable over time),
- ZZ: two digits assigned to an entry point (reporting obligation) which can be reused by other entry points (with a higher number) if the template is the same¹⁵ as presented on Figure 10.
 - the annual individual templates are considered the “default” one for the Solvency II package (as it is the largest package) and has code “01”¹⁶;
 - for other Solvency II entry points it is assessed if the template with code “01” can be reused; if not, the template is assigned a sequential code: “02”; subsequent entry points may reuse template “01” or “02” if they are identical; if not the template is assigned another sequential code “04” and so on (see example for S.01.03 in Figure 10),
- WW: table number within an Annotated Template (Excel Worksheet); it is related to the XBRL taxonomy implementation; EIOPA has made a commitment to keep the code stable as long as there are no business changes to the particular table requirements (if there are substantial modifications, a new table with a new code will be assigned and the previous table will become obsolete or will be replaced)¹⁷.

¹⁴ Table with this prefix was introduced to address potential mistakes in the DPM resulting in missing datapoint containers to report necessary information.

¹⁵ A similar approach was used for this code in the IT implementation of the codification for the Solvency II Preparatory Phase.

¹⁶ The default variant for the Pension funds templates is .24, .33 for PEPP PR and .34 for PEPP KID.

¹⁷ This helps, for example, during an IT mapping exercise to identify tables that need to be remapped because something has changed.

IV.3.2.3 Annotation convention

Annotation of Business Templates is conducted through assignment of metrics and other business properties (dimension-member pairs) to each identifiable data cell by their application to the entire table, its row or column (and hence to a data cell which is on the intersection). It is possible to apply multiple sets of characteristics to each data cell.

Characteristics applicable to data cells are arranged graphically in either subsequent vertical columns (below each column of an annotated template) or horizontal rows (on the right-hand side of each row of an annotated template). Characteristics applicable to the entire table are described in a separate location on the worksheet (as a "Z axis:" property usually above the table). In case of semi open tables (i.e. which rows or columns are multiplied by a specified explicit dimension members hierarchy) the expandable rows or columns are annotated as "X axis:" or "Y axis:".

5.25.02.01

Solvency Capital Requirement – for undertakings using the standard formula and partial internal model

5.25.02.01.01

Component specific information

Unique number of component	Component Description	Calculation of the Solvency Capital Requirement	Allocation from adjustments due to RFF and Matching adjustments	Consideration of the future management actions regarding technical provisions and/or deferred taxes	Amount modelled
CO010	CO020	CO030	CO040	CO050	CO070
natural key	Metric: String	Metric: Monetary	Metric: Monetary	Metric: Consideration of the future management actions	Metric: Monetary
Nat code of component	U/Partial internal model	U/Standard formula or partial internal model	U/Standard formula or partial internal model	U/Partial internal model	U/Partial internal model
mandatory	TS/Description of component	BC/Solvency capital requirement [SOL]	BC/Solvency capital requirement [SOL]	BC/Solvency capital requirement [SOL]	BC/Solvency capital requirement [SOL]
		VII/Solvency II	VII/Solvency II	VII/Solvency II	VII/Solvency II
		II/After risk mitigation effect	II/After risk mitigation effect	II/After risk mitigation effect	II/After risk mitigation effect
		EA/Including the loss-absorbing capacity of technical provisions and deferred taxes	EA/Including the loss-absorbing capacity of technical provisions and deferred taxes	EA/Including the loss-absorbing capacity of technical provisions and deferred taxes	EA/Including the loss-absorbing capacity of technical provisions and deferred taxes

5.25.02.01.02

Z Axis:

VII/Solvency II

Calculation of Solvency Capital Requirement

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- set of explicit dimension-member pairs following the pattern {dimension code}/"All members" with identification of a subdomain that defines applicable domain members,
- typed dimensions annotated as {dimension code}:{label of dimension}, i.e. "NF: Number of fund".

Note that when there are multiple variants of a template which differ only by the "Z axis:" property, they can be combined onto one sheet using multiple "Z axis:" sections.

For open tables, the columns and z-axes which, if reported, uniquely identify the row are annotated with identification of the type of key:

- **natural key** if a column is provided by Business templates and is required to uniquely identify the row,
- **artificial key**, when a column was introduced to Annotated templates in addition to a number of potential **natural keys** to replace them in a 'key' function (i.e. 'XF: S.10.01.zz.01 line identification', where 'XF' is a code of typed dimension; 'zz' specifies that the line identification code is attributable to each variant of particular table),
- **foreign key** to identify the relation between tables that were normalized (i.e. **foreign key to S.06.02.01.02**). In a table where information is classified as **foreign key** such information can be reported multiple times. In a table where the foreign key refers to (S.06.02.01.02 in provided example) information can be reported just once.

Additional information provided for columns of open tables modelled with typed or explicit dimensions is if those columns are "mandatory" or "optional"¹⁸. Information in "mandatory" column is expected to be provided for each row when the table is reported. Information in "optional" columns doesn't have to be provided for all rows and detailed scenarios are explained in the legal documentation.

Blue font identifies the HD annotation that is replaced by the MD metric (for each row, column or table "Z axis:" property. Black font identifies dimensional annotation applicable to both MD and HD approaches.

IV.3.2.4 Named ranges and cell styles

¹⁸ The Annotated Templates do not provide for now any information if columns modelled as MD metric are "mandatory" or "optional".

Table 2. Examples of named ranges

Item	Explanation	Example
AA.XX.YY.ZZ	The IT code given to the specific table.	S.01.02.01
AA.XX.YY.ZZ.NN	The IT code given to the specific sub-table.	S.01.02.01.01
AA.XX.YY.ZZ.NN.TD	Covers rectangular area enclosing the data cells.	S.01.02.01.01.TD
AA.XX.YY.ZZ.NN.TL	Concerns the business labels, located on the far-left side of a table.	S.01.02.01.01.TL
AA.XX.YY.ZZ.NN.TL C	The business labels codes, located on the right side of the business labels .TL column.	S.01.02.01.01.TLC
AA.XX.YY.ZZ.NN.TT	The business labels on the top of a table.	S.01.02.01.01.TT
AA.XX.YY.ZZ.NN.TT C	The business labels codes, located below of the business labels .TT row.	S.01.02.01.01.TTC
AA.XX.YY.ZZ.NN.TC	The caption of the table.	S.01.02.01.01.TC
AA.XX.YY.ZZ.NN.TK	The line of identification labels for the table.	S.01.02.01.01.TK
AA.XX.YY.ZZ.NN.TK C	Codes for the line of the identification labels.	S.01.02.01.01.TKC
AA.XX.YY.ZZ.NN.X	X axis annotations produced by the DPM analysis.	S.01.02.01.01.X
AA.XX.YY.ZZ.NN.Y	Y axis annotations produced by the DPM analysis. In case of open table create a unique key of the row.	S.01.02.01.01.Y
AA.XX.YY.ZZ.NN.Z	Z axis annotations produced by the DPM analysis.	S.01.02.01.01.Z
AA.XX.YY.ZZ.NN.XA X	The second X axis	S.01.02.01.01.XAX
AA.XX.YY.ZZ.NN.YA X	The second Y axis	S.01.02.01.01.YAX
AA.XX.YY.ZZ.NN.ZH I	The second Z axis	S.01.02.01.01.ZHI
AA.XX.YY.ZZ.NN.YH I	Part of the key in the open table, which used a dropdown list.	S.01.02.01.01.YHI

To allow the automated process of parsing of the Annotated Templates to a structured format (database, XBRL, etc.), each template and table is described using MS Excel named ranges and (if applicable) cell styles. Examples and explanation of some named ranges is provided in Table 2. Content of each table (identified as '.TD' named range) is described with one of two cell styles:

- 'DPM_EmptyCell' for not reportable cells,
- 'DPM_CellCode' for reportable cell.

Location of named ranges for different use cases is presented in Figure 12.

S.12.03.01.04				S.XX.YY.ZZ			.X			.XAX					
Z axis:				S.XX.YY.ZZ.NN			.Y			.YAX					
RC/Other than reporting currency							.TC			.TL			.YHI		
EE/Other than home country							.TD			.TLC			.Z		
BL/Life and Health SLT							.TK			.TT			.ZHI		
VG/Solvency II							.TKC			.TTC					
VL/Best estimate															
X axis:															
OC/All members		Other than reporting currency	R0010	CU_5											
Y axis:															
LG/All members		Other than home country	C0020	GA_1B											
By country (other than home country) and by currency (other than reporting currency)															
				Part of the Best Estimate written in the currencies											
				C0050											
Total value of Best Estimate in countries other than home country		R0040			Metric: Monetary		BC/Liability		LB/Gross technical provisions [other than local GAAP specific]						

S.16.01.01											
F4											
Information on annuities stemming from Non-Life Insurance obligations											
S.16.01.01.01											
Z Axis:											
TB/Direct Business											
BL/Annuities stemming from non-life insurance contracts											
VG/Solvency II											
RB/All members		The related non-life line of business	Z0010	LB_30							
AX/All members		Accident year / Underwriting year	Z0020	AM_B							
OC/All members		Currency	Z0040	CU_1							
Information on year N:											
		C0010									
The average technical rate		R0010	H1	TA/Average [weighted]	Metric: Pure	PP/Percent of technical rate					
The average duration of the obligations		R0020	I1	TA/Average [weighted]	Metric: Decimal	DC/Residual modified duration of obligations					
The weighted average age of the beneficiaries		R0030	J1	TA/Average [weighted]	Metric: Decimal	DC/Age of beneficiaries [years]					
				RM/N							
S.36.01.01											
IGT3											
IGT - Internal Reinsurance											
S.36.01.01.01											
IGT - Internal Reinsurance											
ID of intergroup transaction	Line of business	Identification code of cedant	Identification code of reinsurer	Name of cedant	Name of reinsurer	Validity period (start date)	Validity period (expiry date)	Currency of contract/treaty	Type of reinsurance contract/treaty	Maximum cover by reinsurer under contract/treaty	
C0010	C0160	C0030	C0060	C0020	C0050	C0080	C0090	C0100	C0110	C0120	
		CE	RE	BE	RE	FE	GE	RE	RE	RE	
natural key	*natural key*			Metric: String	Metric: String	Metric: Date	Metric: Date	Metric: Placement currency/currency of contract	Metric: Type of reinsurance contract/treaty (IG full scope)	Metric: Monetary	
GK: ID of intergroup transaction	BL/All members	IX: Identification code of investor/buyer/transferor/payer/reinsured/beneficiary		TX: Identification code of issuer/seller/transferor/receiver/reinsurer/provider		TI/Name of investor/buyer/transferor/payer/reinsured/beneficiary		TI/Name of issuer/seller/transferor/receiver/reinsurer/provider		TA/Maximum cover	
	LB_30					TD/Start date		TD/End date		BC/Reinsurance contract/treaty cover conditions	

Figure 12. Location of named ranges for different use cases

V Particularities of the DPM technical implementation

The EIOPA DPM and XBRL Taxonomies should be as close as possible to Business templates and Business logs. However, some differences occurred due to technical restrictions coming from the particular technical implementation (DPM and XBRL) or in order to facilitate the reporting. This chapter aims to document the main differences, some of them may be also amended in the Business templates and Business logs in future.

V.1 Differences between Reporting Templates and Annotated Templates

V.1.1 Introduction of “*artificial keys*”

In case of each open table it is necessary to identify at least one column constituting unique key for a row. The preferred situation is when there is a column provided in Business templates and described in Business logs that could be used as *natural key*. However in some cases it is necessary to introduce *artificial key* column not present in Business templates¹⁹. In general there could be two situations like that:

- it is necessary due to table construction but potential candidate for *natural key* is not recommended from implementation perspective. For example “Description (...)” type of column, like C0010 defined in S.23.04 business templates, provides too much flexibility to be efficiently used as a unique key of a row,
- set of „natural keys” to uniquely identify a row would be very complex (i.e. S.06.02 business templates).

V.1.2 Using URIs, being combination of “code” and “type of code”

Information defined in Business templates separately for „code” (URN) and „type of code” (URL) could be merged in Annotated templates constituting „type of code”/“code” information (URI). Such an approach is used in EIOPA DPM for entity codes and instrument codes.²⁰ As a result column from Business templates representing „type of code” is not reflected in Annotated templates for those cases.

¹⁹ See IV.3.2.1 for details.

²⁰ See Filing rules, V.1 and V.2 for details.

V.1.3 Splitting templates

According to DPM methodology it is currently necessary to separate closed and open or semi-open parts of Business Templates. As a result it could be perceived as another difference between Business and Annotated templates. However it must be noted that splitting Business templates no new information is requested by Annotated templates (see Figure 13).

S.04.02.01 Information on class 10 in Part A of Annex I of Solvency II Directive, excluding carrier's liability				
S.04.02.01.01 Information on class 10 in Part A of Annex I of Solvency II Directive, excluding carrier's liability. Part 1				
		Undertaking		
		FPS		
		C0010		
Frequency of claims for Motor vehicle liability (except carrier's liability)	R0020			
Average cost of claims for Motor vehicle liability (except carrier's liability)	R0030			
		TZ/Free to provide services by undertaking		
		LA/EEA countries [other than home country]		
		TA/Average		
		VG/Statutory accounts		
		Metric: Monetary		
		CB/Motor vehicle liability insurance (except carrier's liability)		
		CB/Motor vehicle liability insurance (except carrier's liability)		
		NT/Frequency of claims		
		BC/Cost of claims		
S.04.02.01.02 S.04.02.01.02 Information on class 10 in Part A of Annex I of Solvency II Directive, excluding carrier's liability. Part 2				
		By EEA Member		
		Branch		
		FPS		
		C0020		
Frequency of claims for Motor vehicle liability (except carrier's liability)	R0020			
Average cost of claims for Motor vehicle liability (except carrier's liability)	R0030			
		TZ/Typical branch activity		
		LA/EEA		
		LA/Local		
		TZ/Free to provide services by the branch		
		LA/EEA		
		LA/Not local [EEA]		
		TA/Average		
		VG/Statutory accounts		
		Metric: Monetary		
		CB/Motor vehicle liability insurance (except carrier's liability)		
		CB/Motor vehicle liability insurance (except carrier's liability)		
		NT/Frequency of claims		
		BC/Cost of claims		
Annex I S.04.02.01 Information on class 10 in Part A of Annex I of Solvency II Directive, excluding carrier's liability				
		Undertaking		
		FPS		
		C0010		
		By EEA Member		
		Branch		
		FPS		
		C0020		
		C0030		
		Branch		
		...		
		FPS		
Country	R0010			
Frequency of claims for Motor Vehicle Liability (except carrier's liability)	R0020			
Average cost of claims for Motor Vehicle Liability (except carrier's liability)	R0030			

Figure 13. Example of Business Template that needs to be split in Annotated Templates for modelling reasons

V.1.4 Necessity to reorganize the columns in open tables

Organization of open tables in Annotated templates due to technical constrains must follow predefined order: (1) typed dimensions, (2) explicit dimensions and (3) MD metrics. Inside of each of three components of Annotated templates above order from Business templates is being followed however it can be perceived as another discrepancy between Business and Annotated templates (see Figure 14).

Legal name of each undertaking	Identification code of the undertaking	Type of code of the ID of the undertaking	Method of group solvency calculation used	Total amount of TP		Technical Provisions - Non-Life (excluding Health)			Technical Provisions - Health (similar to non-life)		
				Amount of TP gross of IGT	Amount of TP net of IGT	Amount of TP gross of IGT	Amount of TP net of IGT	Net contribution to Group TP (%)	Amount of TP gross of IGT	Amount of TP net of IGT	Net contribution to Group TP (%)
C0010	C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0110	C0120

Figure 15. Example of Business Template and Annotated template where redundant information (C0010) was removed from annotated template

V.1.6 'Link' metric

According to DPM methodology each datapoint must include one and only one metric. As a result it is challenging to reflect a simple relation between two or more information modelled as typed dimension. As such challenge existed, for instance in the Solvency II reporting tables, EIOPA decided to solve it in the DPM by attaching a meaningless metric to set of typed dimensions if necessary. Such a metric is created based on Boolean data type where the only acceptable value is 'true' - to reflect the existence of mentioned relation (see: Figure 16).

S.14.01.01.04

Information on products and homogeneous risk groups

Product ID code	HRG code	Link
C0220	C0230	C0250

*foreign key to
natural key|"mandatory" S.14.01.01.03*|"natural key*|"mandatory"
Metric: Link
IP: ID code of product HX: ID code of HRG

Figure 16. Example of application of Metric: Link. This case is not present in 2.8.0 EIOPA DPM/XBRL Taxonomy release.

V.1.7 Differences in columns meaning

In the template S.21.02, cell C0080 labelled as "Currency" is modelled as 'Original currency of exposure/transaction/instrument' to avoid a clerical error requesting the reporting currency that is provided already in the Basic information template.

V.1.8 Technical rows in Basic information templates

In order to minimize the risk of a necessity to publish a hotfix release, especially when identical data points were wrongly identified, set of three technical containers was added to the Basic information templates. Those containers, titled “Ad hoc XBRL technical field 1”, “Ad hoc XBRL technical field 2” and “Ad hoc XBRL technical field 3” should be used only on the EIOPA request and in the manner specified in the “List of known issues” document.

V.2 Differences between DPM Dictionary and Business logs

V.2.1 Differences in enumerations

Enumerations provided by Business logs should be reflected in DPM Dictionary as hierarchy node labels. However Business logs dedicated to SPV reporting specify in Content table option “9” for cases when particular table doesn’t have to be reported. For all other entry points it is option “0” that is supposed to be used. To assure internal consistency of DPM “0 - Not reported (in this case special justification is needed)” needs to be provided when according to Business logs “9 - Not reported (in this case justification is required)” should be chosen. This issue relates to SPV.01.01.20.01 table only ([Table 3](#)).

Table 3. Differences in enumerations between Business logs and DPM Dictionary

Table	Row code	Business logs	DPM Dictionary
SPV.01.01.20.01	R0020	1 - Reported 9 - Not reported (in this case justification is required)	1 - Reported 0 - Not reported (in this case special justification is needed)
SPV.01.01.20.01	R0030	1 - Reported 2 - Not reported o/a no off-balance sheet items 9 - Not reported other reason (in this case justification is required)	1 - Reported 2 - Not reported as no off-balance sheet items 0 - Not reported other reason (in this case special justification is needed)
SPV.01.01.20.01	R0040	1 - Reported 9 - Not reported (in this case justification is required)	1 - Reported 0 - Not reported (in this case special justification is needed)
SPV.01.01.20.01	R0050	1 - Reported 9 - Not reported (in this case justification is required)	1 - Reported 0 - Not reported (in this case special justification is needed)

V.3 Specific DPM-based solutions applied

V.3.1 Addressing RFFs/MAPs/Remaining part reporting scenarios

Some of EIOPA templates are dedicated to report information (i) for potentially unlimited number of ‘Ring fenced funds’, (ii) potentially unlimited number of ‘Matching adjustment portfolios’ and (iii) single ‘Remaining part’. Codes of such templates start with ‘SR’. To

make the number of technical tables as low as possible EIOPA decided, comparing to the approach used for Preparatory phase, to use a mechanism that would allow to apply the same technical table to all of three scenarios above. As it could be necessary to multiply each template which code starts with 'SR' at least two dimensions are used on the Z-axis:

- one explicit dimension to specify if the table is reported for RFF, MAP or Remaining part²¹,
- one typed dimension to identify the code of RFF, MAP or Remaining part²².

See Figure 17 as an example of organization of Z-axis in case of templates dedicated to RFF/MAP reporting.

SR.02.01.01		
Balance sheet		
SR.02.01.01.01		
Z Axis:		
PQ/All members	Ring Fenced Fund or rema	Z0020
NF: Number of fund	Fund number	Z0030
Balance sheet		
Assets	Solvency II value	
	C0010	
	Statutory accounts value	
	C0020	
	R0010	
	R0020	
	R0030	
Deferred tax assets	R0040	
	R0050	

Figure 17. Organization of Z-axis in case of templates dedicated to RFF/MAP reporting

V.3.2 Application of Article 112

Article 112 provides to NCAs a possibility to request from filer figures calculated according to standard formula even when more complex approaches were already approved²³. This option was introduced by EIOPA to the DPM using 'AO' dimension on a Z-axis. This dimension refers to hierarchy of 'AO' domain with two potential options:

²¹ In some tables also other option is possible: 'Ring fenced fund or Matching adjustment portfolio'.

²² Must be noted that the scope of 'Remaining part' is the same, no matter of number of RFFs or MAPs reported.

²³ Under this scenario for example template S.25.01 could be requested together with S.25.05, but S.25.01 according to article 112.

- 'No', that is default value applicable implicitly across all the tables,
- 'Yes', that identifies the application of article 112.

See Figure 18 as an example of organization of Z-axis in case of templates for which article 112 could be potentially applied.

S.25.01.01.01		Z Axis:		
VG/Solvency II		Article 112		
AO/All members		Z0010		
		AO_1		
Basic Solvency Capital Requirement				

Figure 18. Organization of Z-axis in case of templates for which article 112 could be potentially applied

V.3.3 Splitting of information between open and closed tables

Modelling Solvency II, Pension Funds, Financial Conglomerates and Pan-European Personal Pension Products KID and PR reporting requirement quite often it was necessary to split between different tables information that initially was perceived to be homogenous. The reason was that for some facts business table was supposed to be closed (i.e. small explicit list of countries), for the other – open (i.e. list of other countries). At the same time it was a role of DPM not to allow reporting of countries from closed table in the open one. To solve the challenge EIOPA decided in the second case to refer from a dimension on an open axis to the dedicated subset of countries. Figure 19 presents the organisation of template dedicated to 'Health Catastrophe risk - Concentration accident'.

S.27.01.01.21		Health Catastrophe risk - Concentration accident				
		Largest known accident risk concentration	Average sum insured	Catastrophe risk charge before risk mitigation	Estimated risk mitigation	Catastrophe risk charge after risk mitigation
		C1310	C1320	C1330	C1340	C1400
Health Catastrophe risk - Concentration accident						
Republic of Austria		R3700				
Kingdom of Belgium		R3720				
Republic of Bulgaria		R3730				
United Kingdom of Great Britain and Northern Ireland		R4000				
		RT/Health accident concentration risk	RT/Health accident concentration risk (accident)	EA/Including RT/Health accident concentration risk (accident)	EA/Including RT/Health accident concentration risk (accident)	EA/Including RT/Health accident concentration risk (accident)
		Metric: Pure	Metric: Monetary	Metric: Monetary	Metric: Monetary	Metric: Monetary
		PT/Largest accident risk concentration of an insurer	BC/Exposure	BC/Solvency capital requirement [SCR]	BC/Solvency capital requirement [SCR]	BC/Solvency capital requirement [SCR]
				RT/Risk mitigation	RT/Risk mitigation cost for reinstatement	RT/Risk mitigation cost for reinstatement premium and other than from finite reinsurance
S.27.01.01.23		Health Catastrophe risk - Concentration accident				
		Largest known accident risk concentration	Average sum insured	Catastrophe risk charge before risk mitigation	Estimated risk mitigation	Catastrophe risk charge after risk mitigation
		C1310	C1320	C1330	C1340	C1400
Health Catastrophe risk - Concentration accident						
Other countries to be considered in the Concentration accident		R4000				
		RT/Health accident concentration risk	RT/Health accident concentration risk (accident)	EA/Including RT/Health accident concentration risk (accident)	EA/Including RT/Health accident concentration risk (accident)	EA/Including RT/Health accident concentration risk (accident)
		Metric: Pure	Metric: Monetary	Metric: Monetary	Metric: Monetary	Metric: Monetary
		PT/Largest accident risk concentration of an insurer	BC/Exposure	BC/Solvency capital requirement [SCR]	BC/Solvency capital requirement [SCR]	BC/Solvency capital requirement [SCR]
				RT/Risk mitigation	RT/Risk mitigation cost for reinstatement	RT/Risk mitigation cost for reinstatement premium and other than from finite reinsurance

Figure 19. Organisation of template dedicated to 'Health Catastrophe risk - Concentration accident' reporting for both: closed and open list of countries

V.3.4 Introduction of T.99.01.01 technical template

One of the issues which may prevent to report all requested data could be due to the DPM modelling describing two separate business concepts as a single datapoint. As a consequence there would be just a single container while filer would have to report two separate facts.

T.99.01.01
Technical table

T.99.01.01.01
Technical table

Table	X axis	Y axis	Z axis	Comment	Monetary	String	Date	Integer	Decimal	Pure	Boolean
C0010	C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100	C0110	C0120
*artificial	*artificial	*artificial	*artificial	Metric: String	Metric: Monetary	Metric: String	Metric: Date	Metric: Integer	Metric: Decimal	Metric: Pure	Metric: Boolean

YM: T.99.01.01.01 line
Identification (Table)

YN: T.99.01.01.01 line
Identification (X axis)

YO: T.99.01.01.01 line
Identification (Y axis)

YR: T.99.01.01.01 line
Identification (Z axis)

TS/Comment to
technical table

Figure 20. T.99.01.01.01 technical table

In order to provide a workaround (instead issuing a full taxonomy hotfix with more impact on systems) a technical container to be used for such a case was defined: T.99.01.01 (Figure 20). Systems should be designed taking into account that this table may need to be used, however if the needs arrive a full description of how to use it to overcome the specific issue would be published by EIOPA. In order to prevent the unintentional use of this table T.99, as normally is no to be used, the taxonomy includes a set of validations (TV60-TV65²⁴) preventing reporting of data which will be deactivated only if the needs arrive. Please also note that in no case new business data is required, but this is only allowing to submit the required data that when is not possible to be done with the regular tables.

As an overview of the functionality of the table please note that it consists of three sets of information:

- reference to potential placeholder for a given fact. It is organized as a combination of four typed dimension:
 - dimension defining the table where the fact should have been displayed, e.g. 'S.02.01.01.01',

²⁴ Note, that most technical validations were reassessed and recodified to Business Validations (BV)

- dimension defining a column (X axis), e.g. 'C0010',
 - dimension defining a row (Y axis), e.g. 'R0020'²⁵,
 - dimension giving information on the Z axis²⁶.
- fact itself in a column dedicated to particular datatype of potential fact to be reported,
 - comments.

The solution is flexible enough to explicitly define and provide any missing fact. Equivalent tables were introduced for the PF and PEP models.

VI Differences introduced with adopting ATOME: Matter

Starting from 2.8.0 release EIOPA generates the XBRL taxonomy using metadata management platform. Excel files are not treated anymore as a dedicated input to this process, but only as one of outputs, next to DB or XBRL taxonomy. Although the DPM metamodel stays the same, organization of the output Excel files was modified and improved. In this chapter the changes in the DPM Dictionary and Annotated Templates structure will be described in detail.

VI.1.1 Changes in EIOPA DPM Dictionary

EIOPA DPM Dictionary follows most of the layout defined in the previous releases. The dictionary elements are presented in multiple worksheets.

VI.1.1.1 Primary items

The main differences for metrics can be summarised briefly as follows:

²⁵ In case of open tables detailed solution regarding Y axis for given issue will be described in the 'List of known issues' document available on EIOPA webpage.

²⁶ In case where it would be necessary to provide information about Z-axis detailed solution for given issue will be described in the 'List of known issues' document available on EIOPA webpage.

- Metric MD and HD are now presented in single worksheet with an additional dedicated column to distinguish them and are now linked to their assigned owner,
- Column 'Name' was rephrased to 'Code', to clarify content of this field and reduce the confusion among users when comparing to 'Label' column²⁷,
- The domain information is provided only to enum:enumerationItemType metrics. Six additional columns, grouped in pairs, are referenced in those cases:
 - Referenced domain owner and code – identifying a domain from which the list is provided, together with its assigned owner,
 - Referenced hierarchy owner and code – identifying a relationship set of domain members that are potential value of a metric. The set can be of nested structure,
 - Referenced member owner and code (optional) - it identifies, in case of nested relationship, sets starting nodes that are excluded from the set of selected values (i.e. if it is x0, then it means that children of x0 ("Total/NA") are available values, but x0 ("Total/NA") itself is not),
 - Is starting included column – connected with the referenced member column; indicates if the sets starting nodes are included in the set. In case of FALSE value, the Referenced member (owner) columns should be filled.
- Due to the limitations of the enumeration metric allowing only single choice options, a number of xbrli:stringItemType metrics were created to refer to specific hierarchies, allowing the possibility of reporting multiple choice values. Information on which metrics are multiple choice ones, was indicated by the red font of hierarchy reference. In the current approach, this information can be found in the "description" column and is described as Multiple-choice list based on hierarchy {domain code}_{hierarchy number}.

²⁷ This change is consisted in other sections of the dictionary

Figure 21. Structure of metrics worksheet in EIOPA DPM Dictionary

Domain presentation stayed largely unchanged, with the removal of redundant Namespace field.

Figure 22. Structure of domains worksheet in EIOPA DPM Dictionary

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The main amendment concerns the mention of “dimension in MD” in the description column. Given the changes in the Annotated templates and the fact, that this excel is an output of the XBRL generation process, not the input, the information is provided after the model is created. It is worth to note however, that the rules for Dimension to be assigned as not applicable or “Dimension in MD closed” have not changed²⁸.

Label (en)	Code	Description (en)	Owner	Domain owner	Domain code	Creation date	Valid from	Valid to	Last modification
Availability of excess of assets over liabilities for RIF or MP	AA		i2i	i2i	EL	07/07/2014			30/09/2015
Risk scenario	AB		i2i	i2i	RT	07/07/2014		31/12/2013	
SPV authorisation conditions	AC		i2i	i2i	TB	07/07/2014		31/12/2013	
Prospective or retrospective	AD	Dimension in MD Closed	i2i	i2i	AM	07/07/2014		15/07/2017	
Article 346	AE		i2i	i2i	AP	30/09/2015		31/12/2013	
Currency conversion approach	AF	Dimension in MD Closed	i2i	i2i	CA	30/09/2015			
Changes in own funds	AG	Dimension in MD Closed	i2i	i2i	VM	07/07/2014			
Country of authorisation	AH		i2i	i2i	GA	07/07/2014		31/12/2013	
Type of claim	AI		i2i	i2i	SC	07/07/2014			
Type of assets and/or liabilities	AL		i2i	i2i	MC	07/07/2014			
Article 112	AO	Dimension in MD Closed	i2i	i2i	AD	07/07/2014			
Age of PEPF saver	AP	Dimension in MD Closed	i2i	i2i	TI	15/07/2021			
Securitisation assets related and not related to cedant held in trust with other third party than cedant/sponsor	AR		i2i	i2i	PU	07/07/2014		31/12/2013	
Type of assets	AS		i2i	i2i	MC	07/07/2014			
Article 147	AT		i2i	i2i	AD	30/09/2015		31/12/2013	
Applicable standard	AX	Dimension in MD Closed	i2i	i2i	AM	07/07/2014			
Activity of broker	AY		i2i	i2i	TB	07/07/2014		31/12/2013	
Group identification code	AZ	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014		30/09/2015	
Assets value brackets	BA		i2i	i2i	BR	04/11/2018			
Basic concepts	BC		i2i	i2i	BC	07/07/2014			
Solvency II own funds eligibility	BE		i2i	i2i	EL	07/07/2014			
Countries by amount of gross premiums written	BI	Dimension in MD Closed	i2i	i2i	GA	07/07/2014			
Line of business (general)	BL	Dimension in MD Closed	i2i	i2i	LB	07/07/2014			
Types of boolean	BX		i2i	i2i	BT	07/07/2014			
Code broker	CA	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014			
Insurance classes	CB		i2i	i2i	LB	07/07/2014			
Ceded and not ceded	CC		i2i	i2i	TB	07/07/2014			
Currency delivered/settlement/obligation currency	CD	Dimension in MD Closed	i2i	i2i	CU	07/07/2014		31/12/2013	
Identification code of entity	CE	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014			
CIC code	CF	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014		31/12/2013	
Collateral/guarantee	CG		i2i	i2i	CG	07/07/2014		30/09/2015	
Change of status during the period	CH		i2i	i2i	SC	07/07/2014			
Code of guarantee	CI	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014			
Country of custody	CJ		i2i	i2i	GA	07/07/2014		31/12/2013	
5.23.04.22.01 line identification	CK	Dimension in MD closed property is not applicable	i2i	i2i	CN	07/07/2014		15/07/2017	
Composite limited CIC code of underlying	CL	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014		31/12/2013	
Method of consolidation	CM	Dimension in MD Closed	i2i	i2i	CS	30/09/2015			
Content	CN		i2i	i2i	CN	07/07/2014		31/12/2013	
Counterparty ID	CO	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014		31/12/2013	
5.23.04.22.02 line identification	CP	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014		15/07/2017	15/07/2018
Currency received	CQ	Dimension in MD Closed	i2i	i2i	CU	07/07/2014		31/12/2013	
Consolidation scope	CS	Dimension in MD Closed	i2i	i2i	CS	07/07/2014			
Counterparties	CT		i2i	i2i	SE	07/07/2014			
Code collateral/guarantee provider	CV	Dimension in MD closed property is not applicable	i2i	i2i	ID	07/07/2014			30/09/2015

Figure 23. Structure of dimensions worksheet in EIOPA DPM Dictionary

VI.1.1.4 Domain worksheet

Domain worksheet follows the current structure, both for list of domain members and hierarchical relations between them. Each relationship set (hierarchy) is described by its domain code, number, and label (i.e. “2: Tiers” in EL domain). The relationship set structure remained unchanged. The only notifiable differences are the removal of the information on applicability of specific dimension or assignment to certain tables and information on the usability of certain hierarchy nodes. The information about the association of a subdomain with certain dimensions was indicative from the outset and was intended to give context for its creation. It did not, however, affect the operation of the model itself²⁹. Similarly, the information about the use of a given hierarchy as a semi-open axis in a specific table. Both pieces of information were therefore of limited analytical value, while carrying a significant risk of error and imposing an additional

²⁸ The rules are described in detail in section IV.2 MD and HD versions of the DPM.

²⁹ Although it was reflected in the xBRL taxonomy in the form of dedicated label.

maintenance burden³⁰. The other difference can be found in the explicit use of usable attribute for both values. The non-usable cases are identified with „FALSE” in „Usable” column, while the rest of the elements have “TRUE” attribute assigned.

Label (en)	Code	Description (en)	Owner	Default	Creation date	Valid from	Valid to	Last modification	Hierarchy (en)	Hierarchy member code	Hierarchy member owner	Hierarchy node label (en)	Hierarchy node description (en)	Sign	Weight	Usable	Hierarchy creation date
Unencumbered	x25		a25		30-09-2015				CG-10: Internal L&B premium risk indicator	x25	a25						15-07-2023
On price	x18		a25		07-07-2014		30-09-2015		Yes [Y]	x25	a25	1 - Assigned to premium risk				TRUE	07-07-2014
Not collateral	x15		a25		07-07-2014				No [N]	x13	a25	2 - Not assigned to premium risk				TRUE	07-07-2014
Guaranteed minimum withdrawal benefits (SMWB)	x12		a25		07-07-2014				CG-14: Unlimited guarantees provided	x40	a25	0 - No unlimited guarantees provided				TRUE	15-07-2023
Partial [P]	x20		a25		07-07-2014				Unlimited guarantees provided from group	x43	a25	1 - Unlimited guarantees provided only to entities of the same group				TRUE	15-07-2023
Other	x28		a25		30-09-2015				Underwriting is not a part of group	x42	a25	2 - Unlimited guarantees provided only to entities not belonging to the same group				TRUE	15-07-2023
Yes [Y]	x29		a25		07-07-2014				Unlimited guarantees provided	x45	a25	3 - Unlimited guarantees provided to entities of the same group and to entities not belonging to same group				TRUE	15-07-2023
SPV not sufficiently collateralised	x23		a25		07-07-2014				CG-15: Unlimited guarantees received	x39	a25	0 - No unlimited guarantees received				TRUE	15-07-2023
Without mortgages	x5001		a25		01-11-2018				No unlimited guarantees received from group	x41	a25	1 - Unlimited guarantees received only from entities of the same group				TRUE	15-07-2023
Unlimited guarantees received from group	x41		a25		15-07-2023				Underwriting is not a part of group	x42	a25	2 - Unlimited guarantees received only from entities not belonging to the same group				TRUE	15-07-2023
Encumbered	x29		a25		30-09-2015				Unlimited guarantees received	x44	a25	3 - Unlimited guarantees received from entities of the same group and from entities not belonging to the same group				TRUE	15-07-2023
Collateral for securities borrowed (CB)	x3		a25		07-07-2014				CG-12: Internal L&B premium risk indicator	x25	a25	1 - Assigned to reserve risk				TRUE	15-07-2023
Full capital protection	x7		a25		07-07-2014				Yes [Y]	x13	a25	2 - Not assigned to reserve risk				TRUE	15-07-2023
No unlimited guarantees provided	x40		a25		15-07-2023		30-09-2015		Guaranteed	x6	a25	1 - Provides a guarantee. At retirement you will at least be able to recoup all the money you put in over time (minus any costs and chs.				TRUE	07-07-2014
Other than on price and not collateralised	x19		a25		07-07-2014				CG-10B: Are my savings guaranteed	x26	a25	2 - Does not provide a guarantee, but takes the form of a risk-mitigation technique consistent with the objective to allow the PSPF act.				TRUE	15-07-2023
Collateral for reinsurance accepted (CR)	x2		a25		07-07-2014				No guaranteed	x7	a25					TRUE	07-07-2014
Guaranteed	x8		a25		07-07-2014				CG-10C: Collateralised with mortgage or not	x27	a25					TRUE	07-07-2014
No [N]	x13		a25		07-07-2014				Total risk	x7	a25	Without mortgages				TRUE	07-07-2014
SPV sufficiently collateralised	x23		a25		07-07-2014				Without mortgages	x5001	a25	Without mortgages				TRUE	07-07-2014
Guaranteed minimum accumulation benefit (SMAB)	x9		a25		07-07-2014				CG-11: Collateral portfolio (Full scope)	x43	a25	1 - Collateral calculated on the basis of net positions resulting from a set of contracts				TRUE	07-07-2014
Collateral	x1		a25		07-07-2014		31-12-2013		Collateralisation performed on a portfolio basis	x28	a25	2 - Collateral calculated on the basis of a single contract				TRUE	07-07-2014
Underwriting is not a part of group	x42		a25		15-07-2023				No collateral	x31	a25	10 - No collateral				TRUE	07-07-2014
Collateral pledged (CP)	x4		a25		07-07-2014				CG-10: Encumbrance	x29	a25					TRUE	07-07-2014
For capital protection	x14		a25		07-07-2014				Encumbered	x29	a25					TRUE	07-07-2014
Collateralised/guaranteed	x6		a25		07-07-2014				CG-9: Types of guarantee (Full scope)	x29	a25					TRUE	07-07-2014
Unlimited guarantees provided	x45		a25		15-07-2023				Guaranteed minimum death benefit (SMDB)	x10	a25	1 - Guaranteed minimum death benefit				TRUE	07-07-2014
Guaranteed minimum income benefit (SMIB)	x11		a25		07-07-2014				Guaranteed minimum accumulation benefit (SMAB)	x9	a25	2 - Guaranteed minimum accumulation benefit				TRUE	07-07-2014
Total risk	x7		a25		07-07-2014				Guaranteed minimum withdrawal benefits (SMWB)	x12	a25	3 - Guaranteed minimum income benefit				TRUE	07-07-2014
Collateralisation performed on a portfolio basis	x28		a25		07-07-2014				Other	x28	a25	4 - Guaranteed minimum withdrawal benefits				TRUE	07-07-2014
Collateralisation performed on a single contract basis	x27		a25		07-07-2014				CG-5: Collateral portfolio	x43	a25					TRUE	07-07-2014
Not collateralised/guaranteed	x10		a25		07-07-2014		31-12-2013		Collateralisation performed on a portfolio basis	x28	a25					TRUE	07-07-2014
Unlimited guarantees provided from group	x43		a25		15-07-2023				Collateralisation performed on a single contract basis	x27	a25					TRUE	07-07-2014
Collateralised	x6		a25		07-07-2014				CG-7: Hedge application	x25	a25	1 - Hedged				TRUE	07-07-2014
									Yes [Y]	x13	a25	2 - Not hedged				TRUE	07-07-2014
									No [N]	x31	a25	3 - Partially hedged				TRUE	07-07-2014
									Partial [P]	x20	a25	4 - Guarantee not sensitive to				TRUE	07-07-2014
									Not sensitive [NS]	x17	a25					TRUE	07-07-2014
									CG-6: Types of guarantee (Reparatory scope)	x5	a25					TRUE	07-07-2014
									Total risk	x7	a25					TRUE	07-07-2014
									Guaranteed minimum death benefit (SMDB)	x10	a25					TRUE	07-07-2014
									Guaranteed minimum accumulation benefit (SMAB)	x9	a25					TRUE	07-07-2014
									Guaranteed minimum withdrawal benefits (SMWB)	x12	a25					TRUE	07-07-2014
									Other	x28	a25					TRUE	07-07-2014

Figure 24. Structure of domain worksheets in EIOPA DPM Dictionary

VI.1.2 General remarks to the Annotated Templates

Most of the changes to the structure of the Annotated Templates is a consequence of the new approach to the XBRL taxonomy generation, where Annotated Templates in MS Excel are outputs, not inputs. Part of the changes in their layout is the switch from presenting the annotated metrics as Highly Dimensional to Moderately Dimensional approach. Due to this fact, the whole process of deriving a different version of the model has been reversed³¹. The new process involves breaking down the MD into an HD metric and dimension-domain member pairs, separated by a vertical bar. EIOPA would like to point out that, despite the change, the process described in section IV.2 is still correct. The aim was to allow the model to be presented in the same way both in MS Excel and XBRL Taxonomy, where the second one is purely MD-oriented. As a result, it is expected to be more familiar to the filers and less error prone, as colour coding from the previous approach could bring some ambiguity and lead to omissions.

VI.1.2.1 Organisation of Annotated Templates

³⁰ Still, this kind of information can be extracted for example from the DPM DB.

³¹ A description of the MD and HD models, including the procedure for creating the former, is provided in detail in section IV.2 MD and HD versions of the DPM

[illegible]

The presentation of closed tables is mostly unchanged. The only noticeable differences are presentation of the z-axes and the relations between different rows. In the previous approach, these relationships were presented using indentation, which posed a number of potential problems. Users could miss a particular indentation or get confused about the specific row level (which was particularly possible when there were more multiple indentations). Currently, this relationship is reflected through the different columns. Reported rows extend from the left side of the table up to the row code. The parent-child relationship is reflected by moving to the right towards the row code. Abstracts, on the other hand, are distinguished by their vertical structure, modelling and either the absence of their own code or code starting with 'A' (regardless of framework).

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By placing a single table in a dedicated worksheet, the table's components can now be explicitly identified and, consequently, named ranges and cell styles have been rendered redundant and removed.

An example illustrating how annotations have been applied to the templates is presented on Figure 11. As described in the III.2 DPM framework section, annotations can be applied to columns, rows, or the whole tables ("Z axis:"). Therefore, annotations in the new approach, may refer to:

- MD metrics, identified by the owner "s2md"³⁴ then word "Metric" followed by colon and dimension domain member pairs separated by vertical bar e.g. "[Metric:Monetary|DD/Undiscounted|BC/Claims paid](#)",
- Dimension-member pairs for explicit dimensions, outside of the MD metric, according to the pattern where the dimension is described as a column or row header (for the X and Y axes respectively) following "s2c_dim:" {dimension code} "{dimension label}" pattern and the domain members described "s2c" {domain code}: {domain member code}, opening bracket {label of domain member} closing bracket, i.e. "s2c AP:x2 (Partial internal model)",
- set of explicit dimension-member pairs with identification of a subdomain that defines applicable domain members, following the pattern "s2c exp:" {domain code}-{Hierarchy number} "{Hierarchy label}" followed by information on starting domain member, „s2c_exp:LB - 52 (Line of business (general))[210]) starting with x0 (Total/NA)",
- typed dimensions annotated as "s2c_dim:"{dimension code} "{label of dimension}"", e.g. "s2c_dim:NF (Number of fund)". In case of open tables, the annotation is stored within Excel note.

Note that when there are multiple variants of a template, which differ only by the "Z axis:" property, they can be combined onto one sheet using multiple "Z axis:" sections.

³⁴ Standing for Solvency II Moderately Dimensional

5.16.01.01.02 - Annuities information

		s2c_dim:RB (Related line of business)	s2c_dim:AX (Applicable standard)	s2c_dim:CU (Original/exposure currency)	s2c_dim:AF (Currency conversion approach)
Sheets (TemporaryAxisCode_215362)	2 Axis (20001): s2c_dim:RB (Line of business [general]) s2c_dim:AX (Annuities stemming from non-life insurance contracts) s2c_dim:TB (Insurance/reinsurance business) s2c_dim:28 (Direct Business)				
	The related non-life	s2c_exp:LB - 31 (Line			
	Accident year /		s2c_exp:AM - 8		
	Currency (20030)			s2c_exp:CU - 1	
Currency conversion					s2c_exp:CA - 1

			Undiscounted annuity	Undiscounted annuity	Annuity payments	Undiscounted annuity	Number of annuities	Best Estimate for	Undiscounted	s2c_dim:RM (Previous months/years)
			C0020	C0030	C0040	C0050	C0060	C0070	C0080	
Prior years	N-14	R0040								s2c TI:x50 (N-15 and
	N-13	R0050								s2c TI:x49 (N-14)
	N-12	R0060								s2c TI:x48 (N-13)
	N-11	R0070								s2c TI:x47 (N-12)
	N-10	R0080								s2c TI:x46 (N-11)
	N-9	R0090								s2c TI:x44 (N-10)
	N-8	R0100								s2c TI:x38 (N-9)
	N-7	R0110								s2c TI:x57 (N-6)
	N-6	R0120								s2c TI:x56 (N-7)
	N-5	R0130								s2c TI:x55 (N-6)
	N-4	R0140								s2c TI:x54 (N-5)
	N-3	R0150								s2c TI:x53 (N-4)
	N-2	R0160								s2c TI:x52 (N-3)
	N-1	R0170								s2c TI:x51 (N-2)
	N	R0180								s2c TI:x42 (N-1)
Total		R0190								s2c TI:x41 (N)
		Metrics	s2md met:mi84	s2md met:mi87	s2md met:mi83	s2md met:mi84	s2md met:ii19	s2md met:mi64	s2md met:mi84	
		s2c dim:TK (Time	s2c TF:x4 (N-1Y)							
		s2c dim:VG	s2c AM:x80 (Solvency	s2c AM:x80 (Solvency	s2c AM:x80 (Solvency	s2c AM:x80 (Solvency		s2c AM:x80 (Solvency	s2c AM:x80 (Solvency	
		s2c dim:DI (Instant or	s2c DI:x5 (Year to	s2c DI:x5 (Year to	s2c DI:x5 (Year to					
		s2c dim:VL						s2c VM:x5 (Best		
		s2c dim:TA (Types of							s2c AM:x30	

Figure 28. Example annotated table