ESEF XBRL Taxonomy Documentation

Structure and content of the ESEF XBRL Taxonomy

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2 Introduction

This document presents and explains the architecture and content of the ESEF XBRL Taxonomy and provides information about the XBRL features applied.

The expected direct audience of this document are software developers working for issuers subject to the requirements of the amended Transparency Directive[1], and more particularly to the reporting requirements contained in the regulatory technical standard (RTS) on the European Single Electronic Format (ESEF)[2] prepared by ESMA.

Given the fact that this taxonomy will form the basis for reporting by companies in fulfilment of their obligations set out in Transparency Directive, it will also be of interest to software developers working directly or indirectly for other market participants involved in the financial information reporting process as well as to Officially Appointed Mechanisms.

This document assumes that the targeted audience has a solid knowledge of the architecture and content of the IFRS Taxonomy prepared by the IFRS Foundation and of the accompanying guidance material available on the IFRS Foundation website[3].

3 ESEF Taxonomy

3.1 General design

The ESEF Taxonomy includes minimum changes (extensions or customisations) compared to the IFRS Taxonomy prepared by the IFRS Foundation.

To reflect the principle-based nature of IFRS Standards, ESMA decided to enable preparers to create extensions in a controlled manner. Therefore, contrarily to fixed taxonomies, the ESEF Taxonomy is flexible and it is intended to be used as a starting point for issuers to create their own taxonomies. For further information on the rationale of the choices made with regards to extensibility of the taxonomy and to the rules for creating and anchoring extensions, please refer to the Final Report on the RTS on ESEF (and in particular, Annex III) and to the ESEF Reporting Manual[4].

3.2 XBRL Specifications applied

The ESEF taxonomy applies the following XBRL Specifications and Registries:
- XBRL 2.1

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[1] Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 as amended by Directive 2013/50/EU

[2] Commission Delegated Regulation (EU) 2018/815 of 17 December 2018 supplementing Directive 2004/109/EC of the European Parliament and of the Council with regard to regulatory technical standards on the specification of a single electronic reporting format

[3] Please refer to the IFRS Taxonomy webpage available at: https://www.ifrs.org/issued-standards/ifrs-taxonomy

[4] ESEF Reporting Manual: Preparation of annual financial reports in Inline XBRL, ESMA32-60-254, 18 December 2017

- Dimensions 1.0

- Generic Link 1.0

- Generic Labels 1.0

- Formula 1.0

- Taxonomy Packages 1.0

- LRR

- DTR

- Functions registry

3.3 Relation to other taxonomies

3.3.1 IFRS Taxonomy

The IFRS Taxonomy used within the ESEF Taxonomy is the FULL IFRS Taxonomy i.e. the taxonomy which applies to financial statements prepared in accordance with the full IFRS Standards.

The ESEF Taxonomy directly imports all FULL IFRS Taxonomy elements and links to their references and labels in the English language (including, among other things, documentation). On the other hand, the IFRS Taxonomy presentation, definition and calculation relationships are customised in the ESEF Taxonomy rather than directly imported.

3.3.2 LEI taxonomy

The RTS on ESEF requires that issuers identify themselves using the Legal Entity Identifier (LEI). Therefore, the XBRL International LEI taxonomy[5] is imported in the ESEF taxonomy to provide the means to report and verify the validity of the LEI used by the issuer to identify itself in the Inline XBRL document.

3.4 Structure and content

3.4.1 Root location and namespaces URI

The root URI applied to folder path and XML namespaces is *http://www.esma.europa.eu/taxonomy* followed by a taxonomy version date (*{date}*) component in YYYY-MM-DD format.

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[5] Current draft version of the ESEF taxonomy references Legal Entity Identifier Taxonomy 2018-11-01 (CR) https://taxonomies.xbrl.org/taxonomy/68. It is expected to be updated to final (REC) version when available.

3.4.2 Technical constructs

A schema file *technical.xsd* is defined in *http://www.esma.europa.eu/taxonomy/ext/* folder and contains declarations of data types, role types and other constructs to be used for example to facilitate XBRL validation of exchanged XBRL instance documents.

This technical file is imported and its content is applied in the ESEF Taxonomy files described in the next sections of this document.

3.4.3 Taxonomy files

The ESEF Taxonomy contains a limited number of files compared to the IFRS Taxonomy, without impact on the actual content. The list of ESEF Taxonomy files, their role and content, are presented in Table 1.

TABLE 1. ESEF TAXONOMY FILES, THEIR ROLE AND CONTENT.

File name	Content and role
esef_cor.xsd	▪ Imports IFRS core schema (*full_ifrs-cor_20YY-MM-DD.xsd*) containing FULL IFRS Taxonomy elements declaration; ▪ Links all FULL IFRS taxonomy reference linkbase files (e.g. *ref_ias_1_20YY-MM-DD.xml*); ▪ Imports LEI XBRL Taxonomy; ▪ Imports ESEF Taxonomy technical schema file (*technical.xsd*); ▪ Defines ESEF extension elements (guidance elements, placeholders[6], etc.) and extended link roles used in referred definition linkbase; ▪ Refers to a definition linkbase file *esef_cor-dim.xml* and a linkbase file with assertions *esef_cor-for.xml,* ▪ Serves as an entry point importing the necessary IFRS and ESEF Taxonomy content to be applied as a starting point for issuers' extension;
esef_all.xsd	▪ Defines roles to be applied on extended links of the ESEF Taxonomy linkbases documenting relationships between elements and supporting browsing of the taxonomy content; ▪ Refers to ESEF Taxonomy linkbases: presentation (*esef_all-pre.xml*), calculation (*esef_all-cal.xml*), definition (*esef_all-def.xml*) and assertions (*esef_all-for.xml*); ▪ Serves as a reference entry point to be used by issuers' or the supporting software for browsing the content of the ESEF Taxonomy;
esef_cor-lab-{lg}.xml	▪ Contains labels of ESEF Taxonomy elements defined in *esef_cor.xsd* schema file; ▪ To be referenced indirectly by means of XBRL Taxonomy Packages specification;

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[6] Please note that placeholders are presented in the table of Annex IV to the RTS on ESEF

File name	Content and role
	▪ *{lg}* is ISO 639-1 language code (e.g. *"en"* for English); standard and documentation labels are available in all official EU languages;
esef_cor-gen-{lg}.xml	▪ Contains labels of ESEF Taxonomy role types defined in *esef_cor.xsd* and *technical.xsd* schema files and error messages for assertions declared in *esef_cor-for.xml* linkbase; ▪ To be referenced indirectly by means of XBRL Taxonomy Packages specification; ▪ *{lg}* is ISO 639-1 language code (e.g. *"en"* for English); standard and documentation labels are available in all official EU languages;
esef_all-gen-{lg}.xml	▪ Contains labels of ESEF Taxonomy role types defined in *esef_all.xsd* schema file and error messages for assertions declared in *esef_all-for.xml* linkbase; ▪ To be referenced indirectly by means of XBRL Taxonomy Packages specification; ▪ *{lg}* is ISO 639-1 language code (e.g. *"en"* for English); standard and documentation labels are available in all official EU languages;
esef_cor-dim.xml	▪ Referenced from *esef_cor.xsd*; ▪ Contains an extended link role defining default members for dimensions; ▪ Contains extended link roles preventing all non-abstract items from being reported (unless dimensionally qualified in the extension taxonomy) by linking them to a hypercube referring to an empty dimension for scenario and segment containers; ▪ Provides a placeholder to attach in the preparer's extension taxonomy line items used to tag data that are not dimensionally qualified;
esef_all-pre.xml, *esef_all-cal.xml,* *esef_all-def.xml*	▪ Referenced from *esef_all.xsd*; ▪ Contain relationships - customisation of the IFRS Taxonomy linkbases to include guidance and other ESMA extension elements; ▪ *esef_all-pre.xml* includes a section (extended link role) identifying the elements that must be used in tagging when corresponding data is present in the report;
esef_cor-for.xml	▪ Referenced from *esef_cor.xsd*; ▪ Defines XBRL assertions that can be performed on a report for some quality check and compliance tests with filing manual rules;
esef_all-for.xml	▪ Referenced from *esef_all.xsd*; ▪ Assertions providing additional documentation (not included in *esef_cor-for.xml*) on relations between taxonomy elements (as per the IFRS Taxonomy formulas);

The structure of the ESEF Taxonomy files, the dependencies between them and the relation to IFRS and other taxonomy files is presented on Figure 1 below.

FIGURE 1. STRUCTURE OF THE ESEF TAXONOMY FILES, DEPENDENCIES BETWEEN THEM AND THE RELATION TO IFRS TAXONOMY FILES.
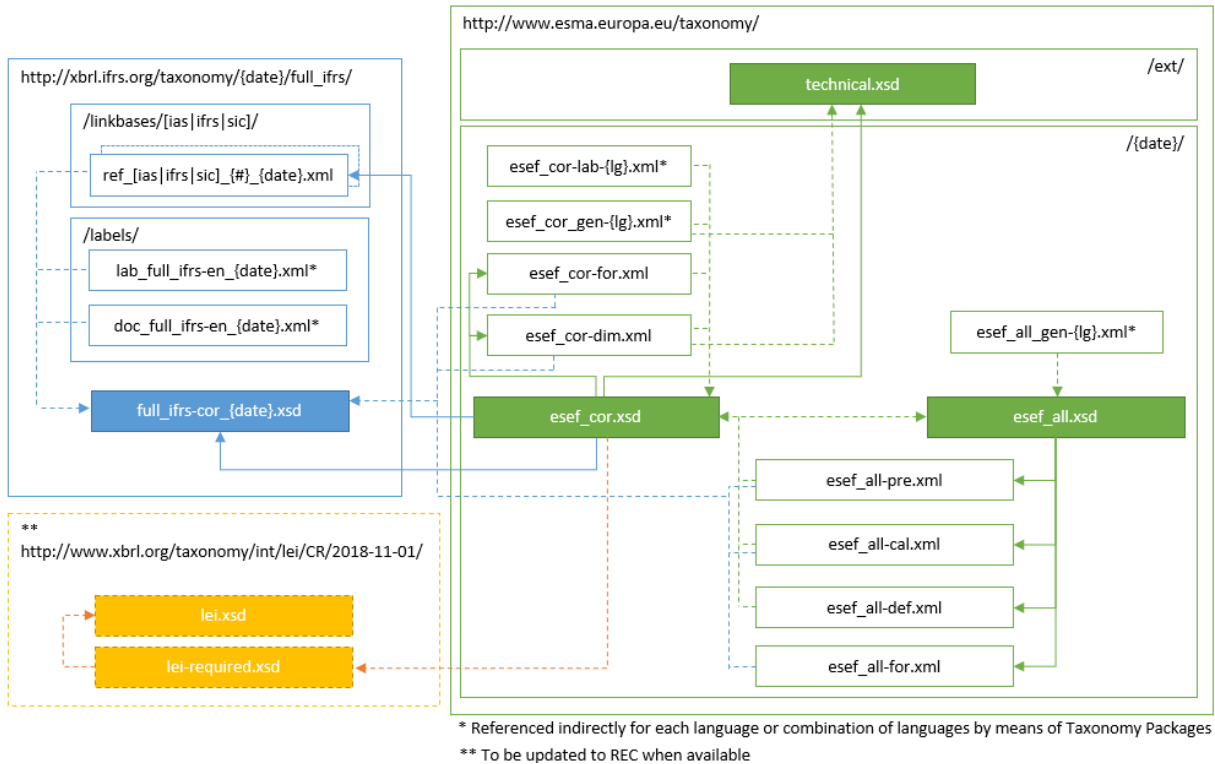
3.4.4 Element declarations

All ESEF elements are defined in *esef_cor.xsd* schema file in namespace *http://www.esma.europa.eu/taxonomy/{date}/esef_cor* with canonical prefix *esef_cor*. Naming patterns and application of attributes follow the IFRS Taxonomy element definition conventions[7]. Labels are defined in *esef_cor-lab-{lg}.xml* where *{lg}* is ISO 639-1 language code.

3.4.5 Definition of relationships

The majority of roles used on extended links (ELRs) in presentation, calculation, definition and formula linkbases are defined in *esef_all.xsd* schema file and are customisation of roles defined by the IFRS Taxonomy. Several roles are defined in *esef_cor.xsd*. One of these in particular is applied to provide a placeholder (*"Line items not dimensionally qualified placeholder"*) to attach in the preparer's extension taxonomy all line items used to tag data and not dimensionally qualified to a *"Line items not dimensionally qualified"* hypercube linking to *"Consolidated (member)"* of *"Consolidated and separate financial statement (axis)"* dimension.

In general, the role URIs (apart from those used for technical purposes and in the formula linkbase) follow the pattern: *http://www.esma.europa.eu/xbrl/role/{cor/all}/{origin}_role-*

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[7] IFRS Taxonomy architecture, available at: https://www.ifrs.org/issued-standards/ifrs-taxonomy/ifrs-taxonomy-architecture/

NNNNNN where *NNNNNN* is a number used to support ordering display of ELRs and *{origin}* identifies the source standard or information requirement (e.g. ias_10, ifrs_7, ifrs, esef).

Generic labels of ELRs are defined in *esef_cor-gen-{lg}.xml* and *esef_all-gen-{lg}.xml* where *{lg}* is ISO 639-1 language code.

3.4.6 Report and data quality checks

Documentation of simple arithmetic relationships between elements (like subtraction or summation) are provided in the calculation linkbase *esef_all-cal.xml* and is derived from the structures of the IFRS Taxonomy. More complex checks are covered by means of XBRL Formula Specification assertions.

These include:

- assertions provided by the IFRS taxonomy;
- a set of additional checks that can be performed on a report to ensure its compliance with some rules derived from the ESEF Reporting Manual; and
- checks validating the correct application of LEI identifier (referenced from the Legal Entity Identifier Taxonomy as developed by XBRL International - see 3.3.2).

To avoid automatic rejection of submitted reports due to assertion inconsistencies, most checks are marked as *warnings* rather than *errors*, using mechanisms defined by the XBRL Assertions Severity. Each assertion defined in the ESEF Taxonomy provides a human readable error description in English defined according to the Generic Messages specification.

The ESEF Taxonomy defines 10 existence assertions and 18 value assertions that are ESEF-specific. Moreover, 443 value assertions are derived from the IFRS taxonomy. Checks that may be executed on an actual filing are defined in the formula linkbase *esef_cor-for.xml* referenced from the *esef_cor.xsd* schema file. This file also links 6 additional assertions defined in the imported LEI taxonomy. Some assertions are used only for documentation purposes and are therefore defined in *esef_all-for.xml* referenced from *esef_all.xsd*.

ESEF-specific assertions defined in the ESEF taxonomy are summarised in Table 2.

TABLE 2. ESEF-SPECIFIC ASSERTIONS SUMMARY

Formula type	Pattern	Number of assertions
Context validations – covering aspects related to definition of XBRL contexts (e.g. format of reporting period dates, identifiers of entity or segment container restrictions)	con_{formula_id}	8
Fact and footnote validations – covering aspects related to the reported facts and explanatory footnotes attached to them	fac_{formula_id}	10

| Mandatory mark-up validations – covering the requirement on mandatory elements that must be tagged when present in a report | man_{formula_id} | 10 |

Documentation of all assertions defined and/or referenced in the ESEF taxonomy is provided in the accompanying Excel file: ESMA32-60-537 *ESEF Validation Rules 2019*.

3.4.7 Entry points

As described in Table 1 and presented in Figure 1, the ESEF Taxonomy defines two entry points:

- *esef_cor.xsd,* to be imported by preparers' extension schema files: it enables to discover definitions for all taxonomy concepts as well as the list of dimension default members and a placeholder to attach to a dedicated hypercube for primary items not dimensionally qualified in issuer's extension; it also references assertions that can be executed to ensure the quality of a report and alignment with some of the rules in the ESEF Reporting Manual;

- *esef_all.xsd,* to be used to view the full content of the taxonomy: it imports or refers to all ESEF Taxonomy files including all linkbases.

Label linkbase files are referenced indirectly by means of the ESEF XBRL Taxonomy Package.

3.5 Development and updates

3.5.1 IFRS Taxonomy extensions and customisations

The extensions or customisations implemented by ESMA as part of the development of the ESEF Taxonomy compared to the FULL IFRS Taxonomy (and the applicable formula linkbase) are the following:

- reduction in the number of files;

- inclusion of guidance elements to help browsing the taxonomy content by providing hints on where similar and more detailing elements can be found;

- addition of a section (extended link role) identifying elements that must be used in tagging when corresponding data is present in the report;

- definition of technical constructs to be used for prohibition of reporting of all ESEF Taxonomy elements unless applied in extension taxonomy of a preparer;

- inclusion of assertions to cover the applicable ESEF Reporting Manual rules (see Table 2 above);

- inclusion of core taxonomy elements translated in all EU official languages (see Table 1).

3.5.2 Future updates

ESMA will publish future taxonomy updates on its website.

Taxonomy releases will be distinguished using a date component on the root folder and in the taxonomy namespace (see section 3.4.1).

3.5.3 Publication

The ESEF Taxonomy is available on ESMA's website and published as a package according to the XBRL Taxonomy Packages specification[8] . It is registered in the XBRL Taxonomy Registry[9].

3.6 Content

The content of the output of the ESEF Taxonomy presentation linkbase is included in Annex VI of Commission Delegated Regulation No. 2019/815 as updated by Commission Delegated Regulation n. 2019/2100[10].

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[8] Taxonomy Packages 1.0, available at: https://specifications.xbrl.org/work-product-index-taxonomy-packages-taxonomy-packages-1.0.html
[9] XBRL Taxonomy Register available at: https://taxonomies.xbrl.org/
[10] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2019:326:TOC