Bank of England

XBRL Filing Manual

For filings to the Bank of England

Version 1.0.0
April 2024

Contents

Foreword

This document has been produced by the Bank of England to assist firms and software vendors in creating XBRL files for reporting against the Bank of England taxonomies. There is a large degree of flexibility in the XBRL reporting standard and certain decisions have been taken to remove any ambiguity and uncertainty in how to report.

The aim of this document is to:

- define filing rules that limit the flexibility of XBRL in construction of XBRL instance documents, in addition to rules defined in the XBRL specifications and Bank of England taxonomies (Banking, Insurance, Statistics);
- provide additional guidelines related to the filing of data in general or in specific cases; and
- provide guidance on common issues found with generating XBRL instance documents and how to resolve them.

Section 1 ‘Filing syntax rules’ outlines the properties of XBRL files, including filing indicators, file naming, validity, and completeness of XBRL reports as well as submission of nil returns.

Section 2 ‘XBRL syntax rules’ defines facts, context and unit-related rules.

Section 3 provides additional guidance on how XBRL reports should be constructed.

The appendices do not introduce any new rules to be adhered to but rather offer support in the form of worked examples and related information.

This document addresses some of the more technical aspects in regulatory and statistical reporting but has been written in a way that intends to make the information understandable by all.

Version history

Version	Date	Description
1.0.0	April 2024	Filing manual adopted for reporting against the Bank of England Banking, Insurance and Statistics XBRL taxonomies. This replaces previously split manuals and the use of manuals published by other regulators. The taxonomy publication will make clear when this filing manual is to be used.

Terms and definitions

Term	Definition
Applicable taxonomy	An XBRL taxonomy recognised to use as a base for filings in a given system. The taxonomy defines which data can, or must, be submitted for a filing, and places restrictions on the data that is valid for each data point.
BEEDS	Bank of England Electronic Data Submission The BEEDS portal is an online application that manages data submissions from firms to the Bank of England.
Data point (‘concept’)	A data point is an information component that is defined by a supervisory authority to be reported in an instance document. In XBRL a data point is represented by a fact plus its related dimensional qualifiers.
Dimension	A dimension is an xs:element in the substitutionGroup of xbrldt:dimensionItem; it relates to the ability to express multidimensional information. Dimensions allow additional meta-data to be associated with an XBRL fact in order to make up a data point.
EBA	European Banking Authority An independent EU Authority who play a key role in safeguarding the integrity and robustness of the EU banking sector to support financial stability in the EU.
EIOPA	European Insurance and Occupational Pensions Authority A European Union financial regulatory institution. They promote a sound regulatory framework and consistent supervisory practices in order to protect the rights of policyholders, pension scheme members and beneficiaries and contribute to the public confidence in the European Union’s insurance and occupational pensions sectors.
Entry point	A schema in the applicable taxonomy that selects the appropriate group of filing requirements from the taxonomy and is referenced by the XBRL instance.

Term	Definition
Fact	A fact is an occurrence in an instance document of an element with a mandatory contextRef attribute and optional attributes like unitRef, decimals, xml:lang or xsi:nil. A business fact is a fact that conveys a business value. Filing indicators facts are not business facts.
Filing ('XBRL instance')	A filing is the information that is transmitted to a regulator for receipt, validation and acceptance. Note: a filing is conveyed in a single XBRL report.
Filing indicators	Indicate the reporting units (typically templates) reported in the instance. Note: Filing indicators are facts, according to XBRL definitions, but they have special characteristics and are not subjects to the rules defined in this document which cover all other type of facts, called business facts.
FRN	Firm Reference Number Issued by the UK regulators to uniquely identify firms.
LEI	Legal Entity Identifier A 20-character, alpha-numeric code based on the ISO 17442 standard to uniquely identify legal entities participating in financial transactions.
RegData	The FCA's data collection platform for gathering regulatory data from firms.
Reporting unit	A set of facts in a filing which are conceptually either reported or not reported together as a unit.
Template	A (usually tabular) visible representation of a set of data points, typically identified with/as a single reporting unit.
XBRL	eXtensible Business Reporting Language An open international standard for digital business reporting. XBRL provides a language in which reporting terms can be authoritatively defined. Those terms can then be used to uniquely represent the contents of financial statements or other kinds of compliance,

Term	Definition
	performance and business reports. XBRL lets reporting information move between organisations rapidly, accurately and digitally.
XML	eXtensible Markup Language A markup language and file format used to define and transmit data.

Use of language in filing rule definitions

Rules identified as “MUST” in their definition need to be followed. Instance documents breaking any of these rules will be considered invalid and hence rejected.

Rules identified as “SHOULD” imply preference or best practice and a degree of tolerance. The rule should be respected unless there are good reasons not to do so. Failure to follow the rule will in general not result in rejection of an instance document.

Rules identified as “MAY” imply permission and describe actions that can be taken or constructs that can be used. Utilising these options will not result in rejection of an instance document.

Submission of an XBRL file

XBRL files can be provided compressed or not compressed. XBRL files **greater than 10Mb MUST be compressed before uploading** using the standard .zip format. No other compression formats are currently accepted.

It is the Bank of England’s strong preference that firms view and validate their submissions before uploading to the BEEDS or RegData portals and that firms do not use them to test submissions.

Bank of England Insurance taxonomy

Firms should be aware of the potential use of the ‘ad hoc submission’ option in the basic information template. This allows supervisors to request, receive and accept submissions including only specific template(s) or even selected data points.

When submitting an ad hoc submission, the next reporting date should be used in the submission. For example, if the firm‘s reporting date is 31 March of each year and it is

submitting an ad hoc submission on 13 September 2024, the reporting date should be 31 March 2025. The reporting date of any subsequent ad hoc submission in the same period must also use the same future reporting date of 31 March 2025.

Numbering of rules

To aid identification and comparison between revisions of this document and previously used filing manuals, where possible, the initial numbering of specific rules is retained. Hence rules may not be in sequential order, or in different sections from that implied by their numbering. Additionally, many rules have been given specific identifying tags or names, e.g. “DuplicateFact”.

1. Filing Syntax rules

This section introduces the filing syntax rules which must be followed. Within the BEEDS and RegData portals, XBRL files will be checked against these rules according to their severity. Each paragraph provides contextual information followed by grey boxes which outline the filing rules.

1.1 Filing naming

The reporting entity MUST use the extension .xbrl for XBRL-XML reports. For compressed files, this rule applies to the .xbrl file inside the .zip file that is uploaded.

1.4 Character encoding of XBRL reports

All XBRL reports MUST use the UTF-8 character encoding (regardless of with or without BOM) in order to ensure that the receiver is able to process it. Note that, as per https://www.w3.org/TR/xml/#charencoding, character encoding names should be matched in a case-insensitive way, so UTF-8 and utf-8 are equally acceptable.

encodingNotUtf8: **XBRL reports MUST use UTF-8 encoding**

1.5 Taxonomy entry point selection

The taxonomy defines entry points ("modules") for outlining reporting requirements with associated templates and validation rules. Entry points are outlined in the taxonomy release note published on the Bank's website.

The selection of the specific module is done through the schemaRef element. This schemaRef must contain the XML schema defined by the Bank for that module. The taxonomy also contains other XML schemas, these are not to be used as xsd entry points.

a) multipleSchemaRefs: **Reporting entities MUST reference only one xsd entry point per XBRL report ("module", link:schemaRef element), as specified in the applicable taxonomy.**

b) inappropriateSchemaRef: **The schemaRef element MUST refer to the reported module's URL and the reference date of the instance document, selected from the list of allowed entry points published by the Bank.**

1.6 Filing indicators

Each reported fact in a file is assigned to one or more reporting templates of the specific domain of reporting.

A filing indicator element containing a code associated with a particular template, is used to indicate the intention of a reporter to report that template, or to indicate the intention not to report that template (see the appendix "**Filing indicator usage examples**"). Filing indicators also trigger the appropriate taxonomy formulae checks. Missing filing indicators can lead to inconsistencies because facts for unindicated templates might not be validated.

The filing indicator element is called filingIndicator and is grouped (potentially with other such elements) within a containing element fIndicators.

a) missingPositiveFilingIndicator: **XBRL reports MUST include appropriate positive (i.e. either with @find:filed="true" or without @find:filed attribute) filing indicator elements to express which reporting units ("templates") are intended to be reported[1].**

b) missingNegativeFilingIndicator: **XBRL reports MAY include appropriate negative (i.e. with @find:filed="false") filing indicator elements to express which reporting units ("templates") are intended NOT to be reported.**

c) invalidContextForFilingIndicator: **The context referenced by the filing indicator elements MUST NOT contain xbrli:segment or xbrli:scenario elements.**

Possible scenarios:

[1] This rule does not require that at least one positive filing indicator must exist, it simply requires to have positive filing indicators for intentionally reported templates.

Scenario	Positive Filing indicator	Causes rejection?
A template is included in the reported report with facts	True	No
A template is included in the reported report, but no associated facts are *explicitly* reported (i.e. included in the XBRL report).	True	No (all facts for template may be assumed to be zero, see **rule 1.7**)
Fact values for a template are reported, at least some of which are not also part of another template which has a positive filing indicator	False	Yes (violation of **rule 1.7.1**)
A template is not reported, but facts "appearing on that template" are reported, they are all contained in other template(s) which are indicated as reported in the report	False	No (see **rule 1.7.1**)
A template is reported. Multiple filing indicators with the same code are included in the report.	N/A	Yes (violation of **rule 1.6.1**)

1.6.1 Multiple filing indicators for the same reporting unit

There is no benefit in declaring several filing indicators for the same reporting unit. Inconsistent occurrences might occur.

duplicateFilingIndicator: **Reported XBRL instances MUST contain only one filing indicator element for each reporting unit ("template")**

1.6.2 Filing indicators in several tuples

Reporting filing indicator elements spread across several separate fIndicators tuples is a more complex approach than using a single containing element and is likely to be more complex to handle by receivers.

However, for generating large reports it may be useful to have a tuple containing a single filing indicator to immediately precede (or follow) the data items for each reporting unit.

filingIndicatorInMultipleTuples: **All filing indicator elements SHOULD be reported in a single tuple before the business facts in the instance document.**

1.6.3 Filing indicator codes

Filing indicators to be used are indicated by label resources associated with the tables in the XBRL taxonomy.

invalidFilingIndicatorValue: **The values of filing indicators MUST only be those given by the label resources with the role http://www.eurofiling.info/xbrl/role/filing-indicator-code applied to the relevant tables in the XBRL taxonomy for that reporting module (entry point). Filing indicator values must be formatted correctly (for example including any underscore characters).**

1.7 Implication of no facts for an indicated template

If a positive filing indicator is given in the XBRL report, appropriate consistency checks may be processed. If no facts appear for an indicated template, the filing may well be rejected because the system requires an appropriate, coherent set of fact values for the checks.

If there are no facts reported that match a template indicated with a positive filing indicator, this conveys that the template is intended to be explicitly reported and every cell on that template may be considered (i.e. when applying validation checks) as equivalent to zero (for numeric value) or blank (for non-numeric), not that the template as a whole is intended to be unreported[2]. In practice, this is unlikely to be the intent of a filer and may indicate an error in report preparation.

[2] Which would be indicated with a negative filing indicator – and would indicate that any facts associated with the reporting unit (which are not anyway reported in the XBRL report as part of another reporting unit with an associated positive filing indicator) are to be considered “unknown”.

a) missingPositiveFilingIndicator: **XBRL reports MUST include appropriate positive filing indicator elements to express which reporting units ("templates") are intended to be reported.**

b) positiveFilingIndicatorForNonReportedUnit: **XBRL reports MUST NOT include positive filing indicator elements indicating a reporting unit is filed (@find:filed=true, or no @find:filed attribute) for reporting units which are NOT intended to be reported in the instance.**

1.7.1 No facts for non-indicated templates

A single fact may notionally appear in several reporting units ("templates") - i.e. cells from several templates may represent the same data item. It may be the case that only some of these templates are reported in a report, and others are not. In these situations, the presence of such a fact which is part of a reported template, but which would also be part of an unreported template is NOT a breach of these rules – i.e. they do not require that all templates containing a reported fact are indicated as reported, just that all reported facts appear in at least one template which is indicated as reported.

reportedFactAssociatedWithNoPositiveFilingIndicator: **An instance document MUST NOT include business facts which are not contained in any of the reporting units ("templates") that are indicated by the filing indicator elements as reported.**

1.9 Valid XBRL

To increase the likelihood that XBRL reports pass validation checks, filers must validate their compliance with the relevant XBRL specifications prior to submission.

notValidXbrlDocument: **An instance document MUST be XBRL 2.1 and XBRL Dimensions 1.0 valid as well as compliant with the prevailing XML recommendations and any other applicable XBRL specification.**

1.10 Valid according to the defined business rules

XBRL allows the definition of business validation rules which can be discovered by XBRL software when opening the respective module referenced in the report document. These business validation rules are applied on the content of the report document to check the data quality.

Validations are implemented with two severity levels error and warning. In case of error severity, failing validation should block the submission of the report. On the other hand,

warning severity does not block the report, but results in information about potential discrepancy.

a) notValidAccordingToTaxonomyValidationRules: **An instance document MUST be valid with regards to the validation rules as defined in the taxonomy (using XBRL Formula assertions) and discoverable from the referenced entry point schema file ("module"), except for any validation rules indicated as deactivated or not mandatory.**

1.12 Completeness of the report

In case corrections are needed on filings that already have been sent, it is required to resubmit the complete filing, rather than partial data with just the corrected facts. Non-complete submissions could lead to an invalid XBRL report, might raise conflicts with already processed data in the reporting system, and may lead to significant errors if sender and receiver disagree as to the list and sequence of historical submissions.

incompleteReport: **XBRL reports MUST contain a complete and full report as a single file. In the case of resubmission or amendment of previously reported facts, the instance document MUST contain the full report, including the amended data – no content/values from previous reports may be assumed.**

1.13 Standalone document declaration

The standalone document declaration in the XML declaration (e.g.: <?xml version="1.0" encoding="UTF8" standalone="yes" ?> or <?xml version="1.0" encoding="UTF-8" standalone="no" ?>) is only relevant for XML documents using a DTD. This information has no meaning for XBRL reports and may cause problems to some software component.

standaloneDocumentDeclarationUsed: **XBRL reports SHOULD NOT use the XML standalone declaration.**

1.14 @xsd:schemaLocation, @xsd:noNamespaceSchemaLocation

@xsd:schemaLocation and @xsd:noNamespaceSchemaLocation are attributes defined in the XML Schema specification that are used to indicate where the schema to be applied to the XML document may be found. Since the XML Schema used in XBRL-XML reports is defined by the link:schemaRef element, these attributes may introduce ambiguity.

schemaLocationAttributeUsed: **@xsd:schemaLocation MUST NOT be used.**

noNamespaceSchemaLocationAttributeUsed: **@xsd:noNamespaceSchemaLocation MUST NOT be used.**

1.15 XInclude

The XInclude specification allows to embed an XML document in another one, by using xi:include elements. This possibility is rarely supported by XBRL processors.

xIncludeUsed: **XBRL reports MUST NOT use the XInclude specification (xi:include element).**

2. XBRL report syntax rules

This section is primarily split into context, fact and unit-related rules.

Context rules detail how to convey the reporting entity, the reporting period and the reporting scenario. Fact rules detail declarations needed for each reported value and their meaning. Unit rules articulate how to express units declared against a fact with specific rules on reporting currency.

2.1 The existence of xml:base is not permitted

The attribute xml:base may be inserted in XML documents to specify a base URI other than the base URI of the document or external entity. XBRL processors interpret this attribute differently, and there is no semantic need for this attribute.

xmlBaseUsed: **The attribute @xml:base MUST NOT be used.**

2.2 The absolute URL has to be stated for the taxonomy reference element

The taxonomy which is used for an XBRL report is identified by a URL. Although it is often convenient to work with local copies of the relevant taxonomies, it is important that taxonomy reference elements resolve to the published entry point locations.

Note: XBRL software typically provides functionality to “remap” references to URLs of published entry points to local copies of the taxonomy.

inappropriateSchemaRef: **The link:schemaRef element in submitted reports MUST resolve to the full published xsd entry point URL (absolute URL).**

2.3 Only one taxonomy reference is allowed per report

Under the XBRL standard, the element link:schemaRef can occur several times in an XBRL report. When using a BoE taxonomy however, only a single entry point must be referred to in any report. This entry point will specify all required data points and is used to reference a particular report type.

multipleSchemaRefs: **a report MUST contain only one xbrli:xbrl/link:schemaRef element.**

2.4 The use of link:linkbaseRef elements is not permitted

Entry points are defined by means of a schema. There is no use for link:linkbaseRef elements.

linkbaseRefUsed: **An XBRL report MUST reference the taxonomy by means of the link:schemaRef element. The element link:linkbaseRef MUST NOT be used.**

2.5 XML comments and documentation are ignored

Comments may be present in reports sent to the Bank of England but their content will be ignored. Any information inside the report that does not get reported as a fact will be ignored by the Bank.

CommentsAreIgnored: **Relevant business data MUST only be contained in xbrli:context, xbrli:unit, schemaRef and reportable facts.**

CommentsAreIgnored: **Comments MUST NOT have any impact on the content of a report.**

2.25 XBRL footnotes are not permitted

Footnotes MUST NOT be used for any XBRL elements.

xbrlFootnotesAreRejected: **A report MUST NOT contain footnotes.**

2.26 Software information

Information about the software used to create an XBRL report may help troubleshooting common issues found in the report.

missingOrIncorrectSoftwareInformation: **Information on the software component used for production of the XBRL report SHOULD be expressed as an XML processing instruction at the beginning of the file, after the XML version and encoding declaration. It SHOULD have at least the <?instance-generator> instructions and the variables: id, version and creation date. Optionally, it MAY include more properties or complementary XML comments.**

Optionally, the instance-generator processing instruction may include more properties. An **example of a valid instruction** has been provided in the appendix.

Context related rules

2.6 The @id attribute should be limited to the necessary characters

The `@id` attribute serves as a unique technical key within an XML document to identify the `context`. Every `context` element MUST include the `@id` attribute. The content of the id attribute MUST conform to the **XML specifications** for attributes with the ID type.

Semantics conveyed in the @id attribute will likely be lost when the XML content is processed, e.g. stored in a database (which generally works with database specific surrogate keys). Even though there is no limitation on the length of an id attribute it is recommended to keep it as short as possible.

a) noSemanticsinID: **Semantics SHOULD NOT be expressed in the xbrli:context/@id attribute.**

b) longXmlIdAttribute: **The values of each @id attribute SHOULD NOT be excessively long.**

2.7 No unused or duplicated xbrli:context nodes

Unused contexts (contexts which are not referred to by any facts) clutter the report and add no value to either supervisor or reporter.

a) unusedContext: **Unused xbrli:context nodes SHOULD NOT be present in the report.**

b) duplicateContext: **A report SHOULD NOT contain duplicated context, unless required for technical reasons, e.g. to support XBRL streaming.**

2.8 Identification of the reporting entity

The reporting entity must be identified by the LEI, unless it is not available, in which case a specific national code scheme (FRN) may be used. The xbrli:identifier element (value combined with the @scheme attribute allows the identification of the subject of a report[3] by the receiver. The @scheme provides a URI which uniquely identifies the type of identifier used in the xbrli:identifier node.

[3] Which may or may not be conceptually identical to the submitter of a report (or the preparer of the report).

a) inappropriateSchemeOrIdentifier: **The @scheme attribute of an identifier element of a context MUST be either the LEI or the FRN:**

for the LEI: "http://standards.iso.org/iso/17442" or the string "LEI" respectively, e.g.:

```
<identifier scheme="http://standards.iso.org/iso/17442">0123456789LEICODE123</identifier>
```

or

```
<identifier scheme="LEI">0123456789LEICODE123</identifier>
```

for the FRN: “http://www.fca.org.uk/register”, e.g.

```
<identifier scheme="http://www.fca.org.uk/register">012345</identifier>
```

b) unacceptableIdentifier: **The reporting entity identifier MUST be registered with the Bank of England prior to remittance, otherwise the report will be rejected. The reporting entity is responsible for ensuring their details are kept up to date with the UK regulators.**

We recommend that Firms have their own LEI, with branches using a separate LEI to that of the parent. The Branch LEI should also be a UK based LEI.

2.9 Single subject per report

There can only be one conceptual subject of an XBRL report. If the content of the report deals with a group of companies, that ‘group’ (however defined) is the conceptual subject of the report.

multipleIdentifiers: **All xbrli:identifier content and @scheme attributes in a report MUST be identical.**

2.10 The reference date elements reported must be valid

Periods must be identified using whole days and specified without a time zone.

a) periodWithTimeContent: **All xbrli:period date elements MUST be valid against the xs:date data type**, and

b) periodWithTimezone: **MUST be reported without a time-zone.**

2.11 The existence of xbrli:forever is not permitted

The extreme version of duration is 'forever'. The XBRL specification has created this to solve problems with dates starting 'at the beginning' and ending 'never'. E.g. the name of the founder of a company has in general no end date. Data requested is for a specific time period, with a defined starting and ending date.

foreverUsed: **The element ‘xbrli:forever’ MUST NOT be used.**

2.13 XBRL period consistency

XBRL requires all facts to be associated with a “period” (either a duration or instant of time). Where there are multiple relevant date/period like concepts related to a fact (as is often the case), it may be unclear which of these concepts is expressed by the XBRL period.

A common approach is to associate the XBRL period with some variation of a “real-world date of the event” for a fact. Use of varying “event” dates for facts in a supervisory XBRL report may however lead to complexity, confusion, and practical difficulties (e.g. for selecting facts for table linkbase axes, validating dates, identifying related facts etc.), particularly where the relationship between reporting periods and current and prior conceptual dates (e.g. accounting periods) is unclear, complex, and/or time-varying, such as in jurisdictions allowing non-calendar financial periods.

For simplicity therefore, the “reference date” is associated with the XBRL period concept.

Logical distinctions between other date-like aspects of a fact, such as the “event date”, “applicable period”, “date offset from reporting date” are conveyed via dimensional attributes of a fact.

multiplePeriodsUsed: **All xbrl periods in a XBRL report MUST refer to the (same) reference date instant.**

nonInstantPeriodUsed: **All xbrl periods MUST be instants.**

2.14 The existence of xbrli:segment is not permitted

The XBRL Dimensions specification allows taxonomies to specify dimensions for use within either the segment or the scenario of the context. For consistency and simplification, only the xbrli:scenario element is allowed.

segmentUsed: **xbrli:segment elements MUST NOT be used.**

2.15 Restrictions on the use of the xbrli:scenario element

The xbrli:scenario element MUST NOT be used for anything other than for explicit or typed members. Custom reporter XML schema content may create problems with the filing system.

The XBRL specification allows xs:any content. This means that all XML schema content can be stored (not just XBRL Dimensions).

scenarioContainsNonDimensionContent: **If an xbrli:scenario element appears in a xbrli:context, then its children MUST only be one or more xbrldi:explicitMember and/or xbrldi:typedMember elements and MUST NOT contain any other content**.

Fact related rules

2.16 Duplicate (Redundant/Inconsistent) facts

Facts are business duplicates of each other in the reporting sense if they notionally convey answers to precisely the same question. Duplicates can be complete copies (where they are truly semantically equivalent), inconsistent copies or contradictory copies.

Item X and item Y are “duplicate facts” if and only if all the following conditions apply:

1) X is not identical to Y (not exactly the same XML node[4]), and
2) The element local name of X is S-Equal to the element local name of Y, and
3) X and Y are defined in the same namespace[5], and
4) X is P-Equal to Y[6], and
5) X is U-Equal to Y, and
6) X and Y are dimensionally equivalent (d-equal in all dimensions of each of X and Y)[7], and

[4] This apparently trivial condition is stated here since it is sometimes relevant, e.g. when X and Y are the result of different XPath conditions

[5] 2&3 may loosely be considered to mean “refer to the same primary item”

[6] Somewhat irrelevant, since all data fact items should be reported in a single root element, and no tuples are used to report data facts.

[7] 1-7 effectively mean “refer to the same data point”. Note that this definition is very similar to, but not the same as the definition of a “duplicate item”, notably it does not require that facts be U-equal to be considered “duplicate facts”.

7) If X and Y are string items, they also have S-Equal xml:lang attributes[8].

Inconsistent facts are duplicates that are not V equal.

Duplicate facts are syntactically valid. However (whether or not their values are different) the semantic meaning may be unclear.

An XBRL report must not have duplicated business facts.

duplicateFact: **An instance document MUST NOT contain any duplicated (identical with respect to all business properties) and inconsistent (identical for all business properties apart from value, data precision or language) business facts.**

2.16.1 No multi-unit fact sets

Two facts which differ only by unit are not technically duplicates. There might be situations in which, for example, the natural answer to a question is a bundle of set of values in several currencies (e.g. £4, $3, €3). However, there is clearly a significant potential for confusion with such reporting - e.g. are the different facts supposed to be alternatives ($4 or £3), equivalents ($4 = £3), to be taken as a set ($4 and £3), or just a mistake.

To avoid any such doubt or confusion, reporting of “the same fact”[9] in more than one unit is not allowed.

factsDifferingOnlyByUnit: **XBRL reports MUST NOT contain business facts which would be duplicates were their units not different.**

2.17 The use of the @precision attribute is not permitted

The XBRL standard provides two methods of communicating the precision of a numeric fact: @precision and @decimals attributes. Humans seem to have an easier time reading a document that uses the decimals attribute, probably because in most uses the decimals value is likely to be one of a limited set e.g. 2, 0, -3, -6, -9 or INF (and often the same for all/many facts). Moreover, given decimals value the precision can always be computed, but this is not symmetric.

[8] Multiple string facts that would otherwise be duplicates are in principle acceptable if each has a distinct effective xml:lang attribute (i.e. if they are translations of each other). Note that the following elements do NOT make two facts nonduplicate if they differ (or if they are the same!): **value**, decimals, xml:lang for non-strings.

[9] i.e. facts which meet all the conditions in **rule 2.16** except point 6.

precisionUsed: **Precision of facts MUST be expressed using the @decimals attribute.**

2.18 Interpretation of the decimals setting

The decimals setting indicates the accuracy of the reported fact value. A numeric fact that has a decimals property with the value n is considered to be "correct to n decimal places". Leading zeros and trailing digits should be compact and appropriate to the reported value.

The Bank will interpret the decimals setting on reported data as specifying that the absolute difference between the true value of the number as known to the reporter and its reported lexical representation (known as the "absolute error" of the representation - e_{abs}) is less than or equal to 0.5×10^{-n}. Reporters must prepare submitted reports consistently with this interpretation[10].

The Bank's XBRL validation rules use interval arithmetic for validation. To best enable XBRL Formula calculations to be performed on reported values for validation purposes, preferably no truncations or rounding or any other kind of change should be applied to the reported lexical representation of the numeric facts in the XBRL report. See the **explanatory RFC**. Note however that if numbers are for any reason rounded, they MUST be rounded as per the XBRL 2.1 specification (i.e. [IEEE-754] 4.3.1 Rounding-direction attributes to nearest, roundTiesToEven), and as above the decimals setting must accurately represent the relationship between the reported and unrounded values.

a) missingDecimalsAttribute: **The accuracy of a numeric fact MUST be expressed using @decimals.**

b) **There SHOULD be no truncation, rounding or change to the original fact value, which should be reported as known.**

c) **The reported accuracy of a numeric fact SHOULD be a realistic indication of the accuracy to which the lexical representation represents the true value. In particular, it SHOULD NOT be excessively high**.[11]

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[10] See also the explanation of "Correct to n decimal places" given in the (now superseded) 2008-07-02 Errata version of the XBRL 2.1 specification at http://www.xbrl.org/Specification/XBRL-RECOMMENDATION-2003-12-31+Corrected-Errata-2008-07-02.htm#_4.6.7.2

[11] E.g. decimals setting of greater than 2 would generally be inappropriate for calculated "monetary" values resulting from e.g. multiplications or divisions, "INF" is often unlikely to be appropriate for calculated values.

Note: In particular, if numbers are truncated or rounded for reporting, they should not be "adjusted" so that they appear to be visually consistent (i.e. so that they "foot" or "cast") but should instead be simply reported with the appropriate @decimals value – the validation checks will take into account the declared accuracy to determine if reported values are valid.

Bank of England Statistics taxonomy

An absolute error margin approach is being used to provide a degree of tolerance on some validation checks. In such cases the @decimals attribute is not used for calculation of allowed error margins, as it is in the interval arithmetic tolerance approach employed by some of the other Bank of England taxonomies. It is still expected however that the @decimals attribute is reported to all monetary facts to indicate the level of precision each data point is reported to (as per [2.18] (a)).

Accuracy Requirements for 2.18

Data Type	Decimals setting	Note	Example
Monetary[12]	>= -3, >= -6 for the modules Funding Plans (LIQ001) and Statistics Form C1 and CE		42563.26
Percentage	>= 4	Must be expressed as a ratio in reports i.e. Typical values between 0 and 1	0.1234 (=12.34%)
Integer	0	Must of course be reported without any decimal part	126

[12] N.B. Also applies to facts representing monetary values that are specified (via their primary item) to be reported as currency-less decimal values.

INF (meaning exact as written) is acceptable for the decimal attribute of all numeric types.

Note: This, combined with the definition of the decimals setting, means that in general monetary values must not be truncated to thousands (since the reported value might then be up to 1000 from the true value, which is more than the 500 implied by decimals=-3, requiring instead decimals= –4 to be consistent), but may be rounded (i.e. to nearest value) to thousands[13].

- The decimals setting is not a scale factor.
- The decimals setting is not a formatting code: it does not indicate that the digits in the report must subsequently be presented to a user in any particular way.
- The decimals setting influences how numbers are interpreted. Use the following table to select the correct value of the decimals setting for a fact so that it corresponds to the accuracy to which the value is known. See the examples in the appendix for illustrations of correct use of **decimals attribute**.

Accuracy	Value of decimals setting
Absolutely exact monetary, percentage or other amount	INF
Accurate to millions	– 6
Accurate to thousands	– 3
Accurate to hundreds	– 2
Accurate to units	0
Accurate to cents	2
Accurate to a hundredth of a percentage point (i.e. a *basis point*)	4

[13] For the funding plans module and Statistics Form C1 and CE, the equivalent observation regarding truncating vs rounding to millions applies.

2.19 Guidance on use of zeros and non-reported data

Data could be reported with a non-zero value, as zero or unreported. Empty values are not allowed.

nilUsed: **The @xsi:nil attribute MUST NOT be used for facts in the report.**

emptyUsed: **For string type metric, the empty string MUST NOT be reported.**

The table below shows the different possible scenarios:

Scenario	Context		Causes rejection?
Reported Zero or Nonzero value	<boe_met:mi53 unitRef="uGBP" decimals="2"contextRef="c2">1025.25</eba_met: mi53>		The value of the fact is known.
Reported nil value	<boe_met:mi53 unitRef="uGBP" contextRef="c2" @xsi:nil="true" />		MUST NOT be used
Reported empty value	<boe_met:si53 contextRef="c2"></boe_met:si53>		MUST not be used
Missing fact	The fact doesn't appear in the XBRL report.	Template including this fact is reported	The value is treated as equivalent to zero (if numeric fact) or empty (if non-numeric) by the recipient.
		No template including this fact is reported	The value is “unknown” to the recipient.

Inapplicable information should not be included in an XBRL report, i.e. inapplicable facts MAY be omitted.

Note: For validation purposes, unreported numeric facts belonging to a template indicated as “reported” by an XBRL report (using filing indicators) will be treated as equivalent to zero in the evaluation of certain rules – see the details of individual rules.

Zero values SHOULD, preferably, be explicitly reported where they are interesting supervisory reporting information. “Uninteresting zeros” (i.e. large swathes/permutations of trivially zero or simply inapplicable information, for example the large bulk of countries, currencies, lines of activity etc. in which a reporter has nothing relevant to report) SHOULD NOT be reported for obvious practical reasons.

2.20 Information on the use of the language setting for string facts

The language used on string-based facts may need to be identified.

No restrictions are placed on language used in reporting string facts (such as entity names), however, some strings are required to have specific values by the reporting instructions which are not language specific and should be the same whatever language is marked.

In practice, the language setting is in general not required in XBRL reports and may be omitted. It is compulsory to use the attribute in the specific case of distinguishing otherwise duplicate string facts, where an individual fact is reported in more than one language (i.e. with translation). This is expected to be a relatively rare situation as there is no requirement to submit translations of string facts.

The xml:lang attribute is used to identify the language used for facts. This attribute can be at the xbrli:xbrl element just once, or on every string based fact individually.

@xml:lang: **A textual fact MAY be provided with language information (using @xml:lang).**

Unit related rules

2.21 Duplicates of xbrli:xbrl/xbrli:unit

Units are equivalent if they have equivalent measures or equivalent numerator and denominator. Measures are equivalent if their contents are equivalent QNames. Numerators and Denominators are equivalent if they have a set of equivalent measures. Duplicated units do not express extra semantics and potentially disturb comparison of facts that point to any of the duplicated occurrences.

duplicateUnit: **An XBRL report SHOULD NOT, in general, contain duplicated units, unless required for technical reasons, e.g. to support XBRL streaming**.

2.22 Unused xbrli:xbrl/xbrli:unit

Unused units (units which are not referred to by facts) clutter the XBRL report and add no value to either supervisor or reporter.

unusedUnit: **XBRL reports SHOULD NOT contain unused xbrli:unit nodes.**

2.23 Reference unit to XBRL International Unit Type Registry (UTR)

XBRL International has released a standard numeric data type registry: it has a schema with numeric type declarations, and each numeric data type is associated with consistent unit declaration measures, numerators and denominators. Use of this registry eases software implementation and simplifies validation (http://www.xbrl.org/utr/utr.xml).

nonUtrUnit: **xbrli:unit children MUST refer to the XBRL International Unit Type Registry (UTR).**

2.24 Report of the actual physical value of monetary items (see also 3.3)

Facts that represent amounts in any currency will be of an item that is derived from xbrli:monetaryItemType, which must follow the restriction in XBRL 2.1, section 4.8.2, regarding monetaryItemType (i.e., unit measure is an ISO 4217 currency designation). Such facts must not have unit measures that express any scaling (which would interfere with the expression of accuracy by the decimals setting).

monetaryUnitWithScaling: **Units representing currencies MUST express the actual physical value of these currencies, i.e. in basic units, not including any scaling factor in the unit.**

3.1 Choice of Currency for Monetary facts

In general, monetary values in an XBRL report must all be expressed in the same ("reporting") currency, i.e. values should be converted to that currency.

For some specific data items however, it may be indicated (in the taxonomy/DPM) that the values reported should be expressed in their "currency of denomination" (i.e. intrinsic

currency), and not converted to the reporting currency[14]. This is indicated by such facts having the “Expressed in currency of denomination (not converted to reporting currency)” member of the “Currency Conversion Approach” dimension in their context (see **example**).

Such a marker will often be used in tables that e.g. report a breakdown of figures with a different currency on each sheet. Such facts should have a currency that is consistent with the currency breakdown they intend to express.

One “Reporting” Currency:

a) multipleReportingCurrencies: **An XBRL report MUST express all monetary facts[15] which do not fall under point (b) using a single currency[16].**

“Currency of denomination” facts:

b) currencyOfDenomination: **Monetary facts whose associated context contains the CA:x1 member of the Currency conversion approach dimension MUST be expressed in units of their currency of denomination.**

Currency dimension consistency:

c) inconsistentCurrencyUnitAndDimension: **For facts falling under point (b), whose context also includes the dimension “Currency with significant liabilities”**

---

[14] Note that this currency of denomination might of course actually be the same as the reporting currency for some facts.

[15] i.e. items of monetaryItemType. N.B. this rule does NOT apply to facts representing monetary positions that are explicitly indicated by the data type of the primary item as being required to be reported as “currency-less” decimal values (the value for which may be required to be based on a currency that is not the main currency of the report). These are likely to be encountered only in the 1.0.1 version of Benchmarking reports.

[16] For clarity – currently, where providing a breakdown by currency where the relevant data points are NOT marked as being reported in their intrinsic currency/currency of denomination, the value of an item in the non-reporting currency should be converted to the equivalent value in the reporting currency (e.g. 2USD -> 1.44 EUR) for submission (the data item being identified as corresponding to an exposure in the breakdown currency by its dimensional attributes). Again, this rule does not apply to facts representing monetary positions which are to be reported using metrics of a decimal data type – for these the specific instructions for the report should be followed as to whether conversion to the reporting currency is required. Stakeholders should be aware that such tables may potentially be subject to change in future.

(CUS), the currency of the fact (i.e. unit) MUST be consistent with the value given for this dimension.

Note, this CUS dimension is not present in the Insurance data dictionary and therefore does not apply for Insurance reporting.

3.2 Non-monetary numeric units

a) pureUnitNotUsedForMonetaryValue: **An XBRL report MUST express its non-monetary numeric values using the "pure" unit, a unit element with a single measure element as its only child. The local part of the measure MUST be "pure" and the namespace prefix MUST resolve to the namespace: http://www.xbrl.org/2003/instance.**

b) useDecimalFractions: **Rates, percentages and ratios MUST be reported using decimal notation rather than in percentages where the value has been multiplied by 100 (e.g. 9.31% must be reported as 0.0931).**

3.3 Decimal representation

reportValuesAsKnownAndUnscaled: **The value of numeric facts MUST be expressed in the specified units, without any change of scale and SHOULD be expressed without rounding or truncation.**

Refer to **the decimal representation examples** outlined in the appendix.

Bank of England Statistics taxonomy

The specified unit for Statistical reporting has changed from the adoption of Bank of England Statistics Taxonomy. Previous reporting was requested in thousands or millions (depending on the specific form), but now the requirement is to report in units with the @decimals attribute communicating the level of precision reported. Rounding is permitted to maintain the same level of precision as reported (accurate to thousands or millions) prior to the adoption of the Bank of England Statistics taxonomy. The content of a numeric fact must therefore not include any scale factors like "%". Specifically, monetary values[17] must be expressed in units, not in thousands or millions.

[17] Whether using monetaryItemType metrics or decimal.

3. Additional Guidance

This section provides additional guidance on how XBRL reports should be constructed. Typically rules are identified as “SHOULD” and therefore imply preference or best practice and a degree of tolerance. The rule should be respected unless there are good reasons not to do so.

3.4 Unused namespace prefixes

Declaring unused namespaces is undesirable and clutters the XBRL report. Refer to “**Namespace prefix declaration examples**” for additional guidance.

unusedNamespacePrefix: **Namespace prefixes that are not used SHOULD NOT be declared in the XBRL report document.**

3.5 Re-use of canonical namespace prefixes

Most schema authors provide a namespace prefix for their targetNamespace. It is common practice to reuse these prefixes in other XML documents when needed. It may lead to confusion to human readers to see commonly understood prefixes used on a different namespace, or novel prefixes used for a common namespace. E.g. the prefix 'xs' used for the http://xbrl.org/2003/xbrl-instance-2033-12-31 namespace (which would normally be associated with the prefix ‘xbrli’, ‘xs’ in contrast usually being associated with http://www.w3.org/2001/XMLSchema). Note that this does not affect the use of a default namespace attribute on an element to avoid the need for the use of a namespace prefix on the element and its children altogether.

notRecommendedNamespacePrefix: **Namespace prefixes, where used in XBRL reports, SHOULD mirror the namespace prefixes as defined by their schema author(s).**

3.7 Unused @id attribute on facts

Unused @id attributes on facts add no value to the supervisor and should not be included in the XBRL report unless they are valuable to the reporter.

unusedFactId: **The XBRL report SHOULD NOT include unused @id attributes on facts.**

3.8 Length of strings in XBRL reports

Even though there is no limitation on the length of a string reported in an XBRL report, excessively long strings are likely to cause issues in systems involved in the reporting process, many of which will have some practical constraints on the length of string they are able to handle. For this reason it is recommended to limit reported string to only the necessary characters.

excessiveStringLength: **The values of each string SHOULD be as short as possible.**

3.9 Namespace prefix declarations restricted to the document element

Namespace prefixes should be avoided in other elements of the XBRL report. This helps to improve the readability of the document and reduces its size (see **examples**)

unexpectedNamespaceDeclarations: **Namespace prefixes declarations SHOULD be restricted to the document element.**

3.10 Avoid multiple prefix declarations for the same namespace

Two namespace prefixes declarations SHOULD NOT correspond to the same namespace. This helps to improve the readability of the document (see **examples**).

multiplePrefixForNamespace: **Namespaces used in the document SHOULD be associated to a single namespace prefix.**

3.11 Text should not start or end with spaces

The underlying XBRL and XML specifications determine the appropriate handling of whitespace in various elements of the submitted XBRL report. In many cases, particularly string fact values, whitespace in the document is “preserved”, forming part of the value. This notably means that e.g. string typed domain values that differ only by whitespace (such as spaces or LF/CR characters, perhaps at the start or end of values) are distinct. It therefore trivially follows that such whitespace should only be included if it truly forms part of the

conveyed data (which is probably unlikely), rather than being a side effect of document layout[18].

leadingOrTrailingSpacesInText: **String facts, and string typed domain values, SHOULD NOT start or end with whitespace characters (i.e. MUST NOT do so unless, exceptionally, the whitespace is part of the data intended to be conveyed).**

Streaming

There is an XBRL specification called the "**XBRL Streaming Extensions Module 1.0**" which is under development that aims to facilitate the processing of very large XBRL reports. A "Streamable XBRL report" is an XBRL v2.1 report that obeys the serialisation constraints defined by that specification.

Several of the filing rules in this document provide guidance on the production of "nice" XBRL reports, i.e. reports that are compact, clear and less prone to errors in creation or usage. However, when producing XBRL reports focussing on the efficient creation and processing of very large files it may be necessary to adapt or ignore some of these normal best practices. In general, the creation of a "streamable XBRL report" is a legitimate reason not to follow "SHOULD" rules where they conflict with or inhibit the usage of the Streaming Extensions Module specification.

Rules that are noted as being particularly relevant in this context (i.e. for which it is acknowledged that streamable XBRL reports may need not to comply) include:

- 1.6.2 Filing indicators in several tuples
- 2.7 No unused or duplicated xbrli:context nodes
- 2.21 Duplicates of xbrli:xbrl/xbrli:unit

Codes and Type of Codes

Bank of England Insurance taxonomy

The following guidance relates to Insurance reporting, with the reporting instructions specifying the allowed identifiers for each reported fact taking precedence over this guidance.

[18] Note therefore that this guidance in a sense does not actually have any significant content, it merely states that the reported values should be those intended, which is obvious. It is stated primarily to help avoid any accidental problems stemming from inclusion of additional whitespace (such as e.g. for horizontal alignment / 'pretty printing' within the xml) on the assumption that it would be irrelevant.

Entity identifications

For identification of an entity based on the “code” and “type of code” predefined pattern (one of the following) should be used.

Entity identifications must be prefixed with LEI where an LEI code is used, and this is the priority unless the entity is a Lloyd’s Syndicate when the Lloyd’s Syndicate Code (LSY) should take priority. Specific code attributed by the undertaking must be prefixed with SC.

A specific code should only be used where an LEI code has not been published for the entity or where the entity is not a Lloyd’s Syndicate. In case a specific code is attributed by the undertaking, the code shall be unique for the entity and shall not overlap with any other code attributed by the undertaking or any published LEI or Lloyd’s Syndicate 4-digit numeric code.

Examples are shown below:

- LEI/YUEDD7W89PH0FV8Q2S28
- LSY/1234
- SC/123456

Prefixes must be in CAPITALS.

Financial instruments

For identification of an instrument based on “code” and “type of code” predefined pattern (one of the following) should be used.

The following table shows examples of how prefixes for financial instruments must be used, with examples of valid patterns.

Code type	Example
ISIN/{code} for ISO 6166 ISIN code	ISIN/GB1234567890
CUSIP/{code} for The Committee on Uniform Securities Identification Procedures numbers assigned by the CUSIP Service Bureau for U.S. and Canadian companies	CUSIP/3051793

Code type	Example
SEDOL/{code} for Stock Exchange Daily Official List for the London Stock Exchange	SEDOL/3051889
WKN/{code} for Wertpapier Kenn-Number	WKN/3067659
BT/{code} for Bloomberg Ticker	BT/3104169
BBGID/{code} for Bloomberg Global ID	BBGID/3132762
RIC/{code} for Reuters instrument code	RIC/3174441
FIGI/{code} for Financial Instrument Global Identifier	FIGI/1234567890
OCANNA/{code} for other code by members of the Association of National Numbering Agencies	OCANNA/3176135
CAU/INST/{code} for code attributed by the undertaking.	CAU/INST/123456 or CAU/INST/RANDOM

Prefixes MUST not be omitted. Prefixes must be in CAPITALS.

CAU is the code prefix to be used in the event no other code is appropriate. Codes following the CAU prefix do not need to be numeric.

Only the prefixes listed above must be used to identify instrument[19]. If those prefixes do not assure uniqueness of the instrument code (i.e. for cases where instruments share the same industry code on different markets but are quoted in different currencies) the filer must extend the pattern using the CAU code. In such a scenario it is necessary to specify the underlying code type and the rationale for extending it.

For example, if the ISIN code does not differentiate between the instrument quoted in EUR and USD the pattern should reflect it: CAU/ISIN/{code+EUR} and CAU/ISIN/{code+USD} respectively. Please note that all symbols "/" and "+" must be part of the code, for example "CAU/ISIN/UK1234567890+USD".

In case when multiple assets/liabilities or indexes shall be reported following dedicated pattern must be followed:

- CAU/MAL for 'Multiple assets/liabilities',
- CAU/INDEX/{code} for indexes.

URI prefixes MUST NOT be used, for example the following:

- http://codes.eurofiling.info/{Type of Code}/{Code}
- http://standard.iso.org/iso/6166/{CODE}

Instrument codes use the following priority:

1. ISO 6166 code of ISIN when available (ISIN),
2. Other recognised codes (CUSIP, SEDOL, WKN, BT, BBGID, RIC, FIGI, OCANNA)
3. Code attributed by the undertaking (CAU/INST), is to be used as the default option when none of the options above are available. This code must be unique and kept consistent over time. Additionally, when spaces are not having a particular meaning for the codes (i.e. there are not two different codes like "CAU/INST/PT 23" "CAU/INST/PT23") is recommended to remove the spaces and particularly if they are at the start or at the end of the code ("CAU/INST/ PT23").

[19] The use of CAU/INST is only allowed when none of the options stated above is available. For example, "CAU/US5949181045" or "CAU/INST/US5949181045" are not allowed when "US5949181045" is a valid ISIN code (it MUST be reported as "ISIN/US5949181045). Also note that when undertakings assign CAU/INST codes (e.g. "CAU/INST/{MyCompanyUniqueIDForInvestment}") then it is expected that they are stable across the reports.

Appendix 1: Examples

This section does not introduce any new rules to be adhered to but rather offers examples as an illustration of the correct way to report.

Conventions used to display the examples

Positive examples are given a solid border, with crucial sections highlighted with green text and shading:

```
Sample text of example, sample text of example,
Sample text of example, crucial section of example,
Sample text of example, sample text of example
```

Key sections of counterexamples (examples of poor, discouraged or disallowed usage) are highlighted with red text and shading, and the counterexamples are given a dashed border and red background:

```
Sample text of counterexample, sample text of counterexample,
Sample text of counterexample,  crucial section of counterexample
Sample text of counterexample, sample text of counterexample
```

Taxonomy entry point selection (link:schemaRef)

Illustration of **rule 1.5** and **rule 2.2**

```
<link:schemaRef xlink:type="simple"
xlink:href="http://www.bankofengland.co.uk/data/xbrl/fws/banking/capital_plus/2021-07-31/mod/pra101.xsd" />
```

Software information

Acceptable representation of **rule 2.26**:

```
<?xml version="1.0" encoding="UTF-8"?>
<?instance-generator id="BOE Data Gen" version="2023.1.30.0" creationdate="2023-01-01T14:00:00+01:00"?>
```

Comments MAY also be added to provide more information. For example:

```
<<!–
Generated by BOE at 2023-01-01T14:00:00+01:00
```

```
(c) 2023 BOE Bank of England Data
Generator Version 2023.1.30.0.
-->
```

@id attribute

The `@id` attribute identifies the `context` (**rule 2.6**) so that it may be referenced by item elements.

Correct use of @id attribute:

```
id="C2424"
```

Counterexample: id type must not begin with a number

```
  id="42"
```

Filing indicators usage

The examples below relate to **section 1.6 – Filing Indicators**.

Consider a small module containing three templates: BI.01.01, BT.01.01, and BT.02.01, and consider a report containing information for tables BI.01.01 (mandatory template), and BT.01.01 (mandatory template), but not for BT.02.01. The typical approach to indicating this with filing indicator elements would be:

```
<find:fIndicators>
  <find:filingIndicator contextRef="c1">BI.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1">BT.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1" find:filed="false">BT.02.01</find:filingIndicator>
</find:fIndicators>
```

Here there is a single “fIndicators” element grouping three filing indicator elements, which indicate the intention to report the tables associated with the codes “BI.01.01” and “BT.01.01”, and the intention not to report the tables associated with the code “BT.02.01”

Some **acceptable variations** of this include using the @find:filed attribute:

```
<find:fIndicators>
  <find:filingIndicator contextRef="c2" find:filed="true">BI.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c2" find:filed="true">BT.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1" find:filed="false">BT.02.01</find:filingIndicator>
</find:fIndicators>
```

Or utilising more than one containing “fIndicators” element (see **rule 1.6.2**):

```
<find:fIndicators>
  <find:filingIndicator contextRef="A"> find:filed="true">BI.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="A">BT.01.01</find:filingIndicator>
 </find:fIndicators>
…
<find:fIndicators>
  <find:filingIndicator contextRef="c1" find:filed="false">BT.02.01</find:filingIndicator>
</find:fIndicators>
```

Unacceptable variations include, for example:

Not indicating that a reported template is reported (BT.02.01 is missing) – **rule 1.6** (a):

```
<find:fIndicators>
  <find:filingIndicator contextRef="c1">BI.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1" find:filed="false">BT.01.01</find:filingIndicator>
</find:fIndicators>
```

Indicating that an unreported template is reported (BT.02.01 is not intended to be reported):

```
<find:fIndicators>
  <find:filingIndicator contextRef="c1">BI.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1">BT.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1">BT.02.01</find:filingIndicator>
</find:fIndicators>
```

Duplicating a filing indicator (violation of **rule 1.6.1**). Here both BT.01.01 and BI.01.01 appear twice, either repetition is an error, i.e. it does not matter that the two BT.01.01 filing indicators are in different tuples:

```
<find:fIndicators>
  <find:filingIndicator contextRef="c1"
   find:filed="true">BI.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1">BI.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1">BT.01.01</find:filingIndicator>
</find:fIndicators>
…
<find:fIndicators>
  <find:filingIndicator contextRef="c1">BT.01.01</find:filingIndicator>
  <find:filingIndicator contextRef="c1" find:filed="false">BT.02.01
    </find:filingIndicator>
</find:fIndicators>
```

Namespace prefix declaration

As shown in the example below, namespace prefix declarations should only be in the document element (application of **rule 3.9**).

```
<?xml version="1.0" encoding="UTF-8"?>
<xbrli:xbrl xmlns:xsi=”http://www.w3.org/2001/XMLSchema-instance”
xmlns:link="http://www.xbrl.org/2003/linkbase"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xbrli="http://www.xbrl.org/2003/instance"
xmlns:eba_dim="http://www.eba.europa.eu/xbrl/crr/dict/dim"
xmlns:eba_BA="http://www.eba.europa.eu/xbrl/crr/dict/dom/BA"
xmlns:eba_MC="http://www.eba.europa.eu/xbrl/crr/dict/dom/MC"
xmlns:eba_OF=”http://www.eba.europa.eu/xbrl/crr/dict/dom/OF”      >
    <link:schemaRef xlink:type="simple"
xlink:href="http://www.bankofengland.co.uk/data/xbrl/fws/banking/capital_plus/2021-07-
31/mod/pra101.xsd"/>
    <xbrli:context id="i10416092">
        <xbrli:period>
            <xbrli:instant>2024-03-31</xbrli:instant>
        </xbrli:period>
        <xbrli:scenario>
            <xbrldi:explicitMember dimension="eba_dim:BAS">eba_BA:x9</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:EXC">eba_EC:x15</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:MCY">eba_MC:x195</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:PRP">eba_PL:x11</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:TCP">eba_CP:x27</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:TRI">eba_TR:x4</xbrldi:explicitMember>
                …
    </xbrli:context>
```

No namespaces should be declared on another level than the document level. The following example shows bad practice with the declaration of eba_dim at context level.

```
<?xml version="1.0" encoding="UTF-8"?>
<xbrli:xbrl xmlns:xsi=”http://www.w3.org/2001/XMLSchema-instance”
xmlns:xbrli="http://www.xbrl.org/2003/instance"
xmlns:link="http://www.xbrl.org/2003/linkbase"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:eba_BA="http://www.eba.europa.eu/xbrl/crr/dict/dom/BA"
xmlns:eba_MC="http://www.eba.europa.eu/xbrl/crr/dict/dom/MC"
xmlns:eba_OF=”http://www.eba.europa.eu/xbrl/crr/dict/dom/OF”
… >
    <link:schemaRef xlink:type="simple"
        xlink:href="http://www.bankofengland.co.uk/data/xbrl/fws/banking/capital_plus/2021-07-
31/mod/pra101.xsd"/>
    <xbrli:context  xmlns:eba_dim="http://www.eba.europa.eu/xbrl/crr/dict/dim"id="i10416092">
        <xbrli:period>
            <xbrli:instant>2024-03-31</xbrli:instant>
        </xbrli:period>
        <xbrli:scenario>
            <xbrldi:explicitMember dimension="eba_dim:BAS">eba_BA:x9</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:EXC">eba_EC:x15</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:MCY">eba_MC:x195</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:PRP">eba_PL:x11</xbrldi:explicitMember>
            <xbrldi:explicitMember dimension="eba_dim:TCP">eba_CP:x27</xbrldi:explicitMember>
<xbrldi:explicitMember dimension="eba_dim:TRI">eba_TR:x4</xbrldi:explicitMember>
                …
    </xbrli:context>
```

In this wrong example the default prefix xmlns is redefined in the schemaRef element.

```
<?xml version="1.0" encoding="UTF-8"?>
<xbrl xmlns ="http://www.xbrl.org/2003/instance"
```

```
       xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
       xmlns:xlink="http://www.w3.org/1999/xlink"
       xmlns:eba_dim="http://www.eba.europa.eu/xbrl/crr/dict/dim"
       xmlns:eba_BA="http://www.eba.europa.eu/xbrl/crr/dict/dom/BA"
       xmlns:eba_MC="http://www.eba.europa.eu/xbrl/crr/dict/dom/MC"
       xmlns:eba_OF="”http://www.eba.europa.eu/xbrl/crr/dict/dom/OF”
        … >
    <schemaRef xmlns="http://www.xbrl.org/2003/linkbase"
       xlink:type="simple"
xlink:href="http://www.bankofengland.co.uk/data/xbrl/fws/banking/capital_plus/2021-07-
31/mod/pra101.xsd"/>
     <context id="i10416092">
       <period>
       <instant>2024-03-31</instant>
       </period>
       <scenario>
           <explicitMember dimension="eba_dim:BAS">eba_BA:x9</explicitMember>
           <explicitMember dimension="eba_dim:EXC">eba_EC:x15</explicitMember>
           <explicitMember dimension="eba_dim:MCY">eba_MC:x195</explicitMember>
           <explicitMember dimension="eba_dim:PRP">eba_PL:x11</explicitMember>
          <explicitMember dimension="eba_dim:TCP">eba_CP:x27</explicitMember>
          <explicitMember dimension="eba_dim:TRI">eba_TR:x4</explicitMember>
              …
   </context>
```

Multiple prefix declarations for the same namespace should be avoided (application of **rule 3.10**).

In the wrong example below the xbrl instance namespace is declared by the default prefix and the xbrli prefix.

```
    <?xml version="1.0" encoding="UTF-8"?>
    <xbrli:xbrl xmlns:xsi="”http://www.w3.org/2001/XMLSchema-instance”
    xmlns:link="http://www.xbrl.org/2003/linkbase"
    xmlns:xlink="http://www.w3.org/1999/xlink"
        xmlns:xbrli="http://www.xbrl.org/2003/instance"
        xmlns="http://www.xbrl.org/2003/instance"
        xmlns:eba_dim="http://www.eba.europa.eu/xbrl/crr/dict/dim"
    xmlns:eba_BA="http://www.eba.europa.eu/xbrl/crr/dict/dom/BA"
    xmlns:eba_MC="http://www.eba.europa.eu/xbrl/crr/dict/dom/MC"
    xmlns:eba_OF="”http://www.eba.europa.eu/xbrl/crr/dict/dom/OF”
        … >
```

Interpretation of @decimals attribute (rule 2.18)

Data category	Reported value	Decimals setting	Interval arithmetic range
A percentage (ratio) of (exactly) 46%	0.46	INF[20]	0.46
Monetary amount known to be absolutely exact	1,656,500	INF	1,656,500
A profit margin of 9.3% (minimum accuracy)	0.093	4	0.09295 to 0.09305
Monetary amount accurate to 2 decimal places (cents)	1,656,500.45	2	1,656,500.445 to 1,656,500.455
Monetary amount “in millions”	1,534,512	-6	1,034,512 to 2,034,512
Monetary amount “in thousands”	117,822	-3	117,322 to 118,322
Monetary amount “in hundreds”	124,265	-2	124,215 to 125,215

[20] it is only appropriate to use “INF” where the true value is known to be absolutely precisely the value reported, as written. E.g. monetary balances in cents, or chosen rather than calculated percentages.

Data category	Reported value	Decimals setting	Interval arithmetic range
Monetary amount, accurate to "units"	100,205.23	0	100,204.73 to 100,205.73

Note this guidance applies only to the representation of values in the transmission XBRL report file, it places no constraints on the display of information to any user or preparer of the data. Tools may choose to display values however they (and their user's) desire, so long as when report files are produced the canonical representation is used.

Decimal representation (rule 3.3)

Monetary values must be expressed in units, as known and unscaled.

Example: Acceptable representations of £2,560,561.43

Value £	Decimals value	Implication
2560561.43	INF	Exact
2560561.43	2	+/- 0.005
2560561.43	0	+/- 0.5
2560561.43	– 3	+/- 500
2560561	0	+/- 0.5
2561000	– 3	+/- 500

Note that although the last two representations (rounding the transmitted value) are acceptable, the Bank would prefer that they are avoided where a better estimate for the value is known, and this is transmitted without rounding or truncation as in the first four examples.

Example: Wrong representation of £2,560,561.43

Value £	Decimals value	Implication
2561	– 3	+/- 500

This represents £2,561 (+/-500), rather than the intended £2,561,000.00 (+/-500).

Multi-currency XBRL reports

Use of member eba_CU:x46

The Bank of England Banking and Statistics taxonomies include in their data dictionary the member eba_CU:x46 ("Other Currency (open axis tables)"). When used this is intended to provide flexibility for rare edge cases[21].

For facts that are indicated as being ideally reported denominated in their underlying currency (rather than converted to a common reporting currency for the report) eba_CU:x46 is essentially *consistent* with (or more precisely not inconsistent with) the usage of any currency unit for the reported fact. Situations in which it would be appropriate to use this member would include, for example:

- If it should happen that the enumerated currency list (the CU domain) is out of sync with the ISO list, then it could be used with values in an iso4217 currency which is not listed in the CU domain.
- If there is for any period a real world currency which is not yet iso4217 recognised, or in the case of currently existing currencies or cryptocurrencies for which there is no iso4217 code, then it could, if required, be used to report these values. The actual reported figures will need to be expressed as their value in some iso4217 currency of course, ideally the main reporting currency for the report, since the XBRL specification requires monetary facts to use iso4217 currency units.

More complex situations (such as multiple such unavailable currencies being reported) may generally be handled by reporting equivalent combined values (preferably in the reporting currency) under this member.

Appropriate currency usage (implementation of rule 3.1)

To elaborate on rule 3.1, consider the following outline of a possible approach to checking and implementing this:

1) Determine a "reporting currency" for the XBRL report. This should be the currency of (the unit of) any reported fact which uses a metric with the data type "Monetary" and

[21] Usage of this entry would of course be likely to require the conveyance of an explanation of the situation in parallel to the reported instance itself.

does not have “Expressed in currency of denomination (not converted to reporting currency)” as a value for the Currency Conversion Approach dimension in its context.

2) Check that all other monetary facts without “Expressed in currency of denomination (not converted to reporting currency)” as a value for the Currency Conversion Approach dimension in their context use (units with) this same currency. If not, there is a breach of filing rule **3.1 (a)** – Only one primary reporting currency may be used (multipleReportingCurrencies).

Bank of England Banking and Statistics taxonomies

3) For all facts with “Expressed in currency of denomination (not converted to reporting currency)” as a value for the Currency Conversion Approach dimension, and which have a value for the Currency with significant liabilities dimension

    a) If the value is an CU member with a three alpha character code (e.g. USD, GBP, ALL etc.) then ensure the currency of the fact matches this value. If not, there is a breach of filing rule **3.1 (c)** – The unit currency of facts expressed in currency of denomination must be consistent with the value given for their currency dimension (inconsistentCurrencyUnitAndDimension).
    b) If the value is eba_CU:x0, ensure that the currency of the fact matches the “reporting currency” from point 1 (where determined, or at least all the other facts in this clause). If not, there is a breach of filing rule **3.1 (c)** – The unit currency of facts expressed in currency of denomination must be consistent with the value given for their currency dimension (inconsistentCurrencyUnitAndDimension). This is because any “total/all currency” figures must be expressed in the primary reporting currency.
    c) If the value is eba_CU:x46 (“Other Currency (open axis tables)”), accept[22] any XBRL acceptable currency for the fact. Note/warn about the usage (nonSpecificCurrencyDimensionUsed).

4) For all facts with “Expressed in currency of denomination (not converted to reporting currency)” as a value for the Currency Conversion Approach dimension, and which do NOT have a value for the Currency with significant liabilities dimension, accept any XBRL acceptable currency for the fact.

[22] Subject to any other relevant technical, semantic or regulatory constraint, for example the need to continue to ensure rule 2.16.1 — No multi-unit fact sets (factsDifferingOnlyByUnit) is respected.

Appendix 2: Common problems

The issues presented in this section have been collated while testing XBRL files supplied by firms. This section outlines the issues that would have prevented a file from being submitted for processing and provides troubleshooting suggestions where relevant. The section does not introduce any new rules to be adhered to.

4.1 Escaping special characters in XML

String / text values for a cell sometimes contained special characters such as an '&'. For example, you might have a company name e.g. 'COMPANY & COMPANY' declared as a value for a cell.

When this is represented in the XML making up the XBRL file, the '&' must be escaped as '&'. The example above would instead read 'COMPANY & COMPANY'.

Using '&' instead of '&' in the XBRL instance file, will prevent the file from being processed.

4.2 Empty facts

Empty facts are not allowed in an XBRL instance and will cause the file to be rejected. An example of an empty fact in an XBRL instance is:

```
<eba_met:si288 contextRef="c1"></eba_met:si288>
```

The example above has no value declared for the given metric. In this case metric si288 has been used, but any metric could have been chosen.

Empty facts must not be present in an XBRL instance file.

4.3 Data types

4.3.1 Enumerations

A common issue occurs when declaring values for facts that have an enumeration data type, but the value used does not belong to the domain hierarchy for the metric.

Label (en)	Code	Description (en)	Owner	Data type	Referenced domain owner	Referenced domain code	Referenced hierarchy owner	Referenced hierarchy code
Issuer residency	ei9012		boe	enumeration	eba	GA	boe	GA906

In the DPM dictionary the ei9012 is an enumeration, belonging to the GA domain, and expects a value from hierarchy GA906 in that domain. The list of values in this hierarchy is seen in the dictionary (subset below).

Hierarchy (en)	Hierarchy member code	Hierarchy/member owner
GA906: Enumeration for BoE Statistics countries		boe
Not applicable/All geographical areas	x0	eba
All countries	x1	eba
ALBANIA	AL	eba
AUSTRIA	AT	eba
BELGIUM	BE	eba
BULGARIA	BG	eba
CYPRUS	CY	eba
CZECH REPUBLIC	CZ	eba
DENMARK	DK	eba
ESTONIA	EE	eba
FINLAND	FI	eba
FRANCE	FR	eba
GERMANY	DE	eba
GREECE	GR	eba
HUNGARY	HU	eba
IRELAND	IE	eba
ITALY	IT	eba
JAPAN	JP	eba
LATVIA	LV	eba
LITHUANIA	LT	eba

A correct fact would be declared as:

```
<boe_met:ei9012 contextRef="c1">eba_GA:AL</boe_met:ei9012>
```

In this example ‘AL’ (meaning Albania) belongs to the domain hierarchy for metric ei9012.

An incorrect example would be declared as:

```
<boe_met:ei9012 contextRef="c1">eba_GA:AA</boe_met:ei9012>
```

In this example AA has been used. This value does not belong to the related domain hierarchy and would cause the file to fail the XBRL extensible enumerations checks.

Another example of an incorrect fact would be:

```
<boe_met:ei9012 contextRef="c1">eba_GA:Albania</boe_met:ei9012>
```

In this example the label Albania has been used rather than the name (AL).

Metrics with an enumeration data type have the prefix ei.

4.3.2 Dates

Dates must be reported in YYYY-MM-DD format. A value of ‘-‘ is not allowed.

Metrics with a date data type have the prefix di.

4.3.3 Integers

Integers must be reported as whole numbers and without any decimals (**rule 2.18**). An example of an incorrect value is:

```
<boe_met:ii9017 contextRef="c1" decimals="2">123456.123</boe_met:ii9017>
```

The above example should read:

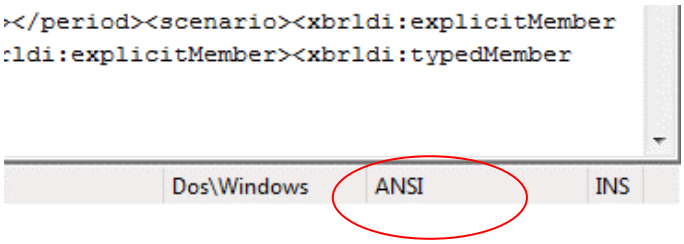
```
<boe_met:ii9017 contextRef="c1" decimals="0">123456</boe_met:ii9017>
```

Metrics with an integer data type have the prefix ii.

4.4 File encoding

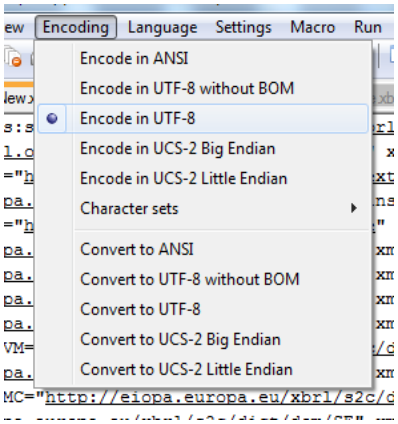
Files must be encoded using UTF-8. Some generated XBRL files may contain comments with special characters which could mean the file has been encoded using ANSI or other method. If such an error does occur, the file encoding can be checked and resolved in free tools such as Notepad++ using the process outlined below.

First open the XBRL instance file in Notepad++ and look in the bottom right hand corner:



The above example shows ANSI as the encoding used. This will prevent the file from being processed.

To correct this, go to the encoding menu in Notepad++ and select 'Encode in UTF-8' and save the file.



4.5 Missing namespace declarations

All relevant namespaces for domains used in the XBRL report must be declared (see **Namespace prefix declaration examples**). Omission of a namespace for a domain used in the XBRL file will cause the file to be rejected.

4.6 Duplicate facts – consistent and inconsistent

4.6.1 Consistent duplicate facts

Duplicate facts must not be present in the XBRL instance document.

```
<boe_met:mi8001 contextRef="c1" decimals="2" unitRef="GBP">6057.12</boe_met:mi8001>
<boe_met:mi8001 contextRef="c1" decimals="2" unitRef="GBP">6057.12</boe_met:mi8001>
```

The above examples show the same fact, with the same context and the same value declared twice. This is just one example of a duplicate fact. This will cause processing issues and is not allowed under the filing rules (violation of **rule 2.16**).

4.6.2 Inconsistent duplicate facts

Inconsistent duplicate facts must not be present in the XBRL instance document.

```
<boe_met:mi8001 contextRef="c1" decimals="2" unitRef="GBP">3420.82</boe_met:mi8001>
<boe_met:mi8001 contextRef="c1" decimals="2" unitRef="GBP">6057.12</boe_met:mi8001>
```

The above examples show the same fact with for the same context, declared twice with different values. This is just one example of an inconsistent fact (violation of **rule 2.16**). Not only does this cause processing problems but affects data quality and reliability.

4.7 Missing entity identifier value

An XBRL file must not contain an empty value for the <xbrli:identifier> element (**rule 2.8**). The following example is incorrect.

```
<xbrli:entity>
<xbrli:identifier scheme="http://standards.iso.org/iso/17442"></xbrli:identifier>
</xbrli:entity>
```

A correct example, where ABCDEFGHIJ0123456789 is a dummy LEI, is:

```
<xbrli:entity>
 <xbrli:identifier
scheme="http://standards.iso.org/iso/17442">ABCDEFGHIJ0123456789</xbrli:identifier>
</xbrli:entity>
```

4.8 Empty <xbrli:scenario>

The <xbrli:scenario> element of an xbrl context must not be empty (**rule 2.15**). The following example will result in a fatal error.

```
 <xbrli:context id="c1">
    <xbrli:entity>
      <xbrli:identifier
scheme="http://standards.iso.org/iso/17442">ABCDEFGHIJ0123456789</xbrli:identifier>
    </xbrli:entity>
    <xbrli:period>
      <xbrli:instant>2021-09-30</xbrli:instant>
    </xbrli:period>
    <xbrli:scenario>
    </xbrli:scenario>
  </xbrli:context>
```

A correct example for a context for a given fact is:

```
   <xbrli:context id="c1">
    <xbrli:entity>
      <xbrli:identifier
scheme="http://standards.iso.org/iso/17442">ABCDEFGHIJ0123456789</xbrli:identifier>
    </xbrli:entity>
    <xbrli:period>
      <xbrli:instant>2021-09-30</xbrli:instant>
    </xbrli:period>
    <xbrli:scenario>
      <xbrldi:explicitMember dimension="eba_dim:BAS">eba_BA:x7</xbrldi:explicitMember>
      <xbrldi:explicitMember dimension="eba_dim:MCY">boe_eba_MC:x9394</xbrldi:explicitMember>
      <xbrldi:explicitMember dimension="eba_dim:MCB">eba_MC:x807</xbrldi:explicitMember>
      <xbrldi:explicitMember dimension="boe_dim:CUD">eba_CU:GBP</xbrldi:explicitMember>
    </xbrli:scenario>
  </xbrli:context>
```

Appendix 3: Related documents

The purpose of this section is to signpost to other documentation provided to help firms with their XBRL reporting.

Known issue logs

Logs are published on the Bank's website to communicate any known issues in the Bank of England XBRL taxonomies. When a new version of these logs is released this will be communicated via Statistical Notices or the PRA Regulatory Digest.

- **BoE Statistics taxonomy known issues**
- **BoE Banking taxonomy known issues**

BEEDS/ RegData documentation

Not all errors are related to the taxonomy, some can be triggered by the data collection portal itself (BEEDS or RegData). For more information on common platform error messages please refer to the following webpages:

- **Interpreting BEEDS portal error messages**
- **RegData Technical Resources**