Bank of England Statistics XBRL filing manual

For Statistics XBRL filings to the Bank of England

v1.1 October 2021

Contents

1.   Introduction

This document has been produced by the Bank of England to assist firms and software vendors in creating XBRL instance documents for reporting against the Bank of England Statistics taxonomy. There is a large degree of flexibility in the XBRL reporting standard and certain decisions have been taken to remove any ambiguity and uncertainty between firms and the Bank of England. This document describes the filing rules applicable to remittance of XBRL instance documents for Bank of England Statistics reporting.

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, EBA XBRL taxonomy and Bank of England Statistics XBRL taxonomy);

- 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.

Please note, 'Section 2: EBA filing syntax rules' and 'Section 3: Explanatory examples to support filing rules' in this document only mention rules from the EBA filing rules where the Bank of England wishes to provide additional guidance or make an amendment. All other rules from the EBA filing rules apply and therefore this document should be read in combination with the EBA filing rules that are available at *this web address.*

Entries relating to XBRL-CSV reporting are not relevant to Bank of England Statistical reporting at this time. Reporting is expected in the XBRL-XML format.

This document is intended for a technical audience.

1.1 Version history

Version	Date	Description
1.0	September 2021	• First publication released to support the publication of Bank of England Statistics 1.2 taxonomy
1.1	October 2021	• Minor correction to example description in section 4.3.1 'Data types – Enumerations'

1.2 Abbreviations used in this document

BEEDS portal	Bank of England Electronic Data Submission Portal
EBA	European Banking Authority
EIOPA	European Insurance and Occupational Pensions Authority
CEN	European Committee for Standardization (CEN, French: Comité Européen de Normalisation)
FRN	Firm Reference Number issued by the UK regulators
LEI	Legal Entity Identifier
NCA	National Competent Authority
XBRL	eXtensible Business Reporting Language
XML	eXtensible Markup Language

1.3 Terms and definitions

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.
Data point (a.k.a. '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.
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.
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 (a.k.a. 'XBRL instance'	A filing is the information that is transmitted to an NCA for receipt, validation and acceptance. Note: a filing is conveyed in a single XBRL instance document.
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.

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.

1.4   Relation to other work and numbering of Bank of England filing rules

Where applicable, for traceability between this document and the EBA document, the EBA rule reference has been retained in square brackets and in italics *[1.1]*. This rule reference may be unique to the EBA document or be a reference to the CEN Workshop Agreement on European filing rules developed by the CEN WS/XBRL project (*http://cen.eurofiling.info/*) or EIOPA filing rules.

1.5   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.

1.6   Submission of an XBRL file

1.6.1   File format and size

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 portal and that firms do not use it to test submissions.

2. EBA Filing syntax rules

2.1 *[1.1]* – File naming

Common practice is to 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.

2.2 *[2.18]* – Interpretation of the @decimals attribute for monetary facts

The approach outlined by the EBA in [2.18] is to be adopted. However for the following entry points monetary facts reporting accurate to millions is appropriate for statistical reporting and therefore decimals attribute >= -6 is permitted.

- c1 - Form C1
- ce - Form CE

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) the @decimals attribute MUST be used to express the accuracy of a numeric fact).

[2.18] (b) says: There SHOULD be no truncation, rounding or change to the original fact value, which should be reported as known.

In Statistics reporting it is permitted to round values 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. It is also permitted to report more precisely to report figures as known, for example accurate to units.

2.3 *[2.25]* – Footnotes

Footnotes MUST NOT be used for any XBRL elements.

This rule is relaxed by the EBA however the Bank of England will reject XBRL files containing footnotes.

2.4 *[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.

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

2.5 *[3.6]* – LEI and other entity codes

The @scheme attribute of an identifier element of a context MUST be:

- for the LEI: "http://standards.iso.org/iso/17442", e.g.:

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

- or *http://www.fca.org.uk/register* if using a FRN instead of an LEI e.g.

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

Our strong preference is for the LEI to be used as the firm identifier, with the FRN acting as an alternative for extraordinary circumstances.

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

3. Explanatory examples to support filing rules

3.1 *[2.18]* – Interpretation of @decimals attribute for monetary facts

The @decimals attribute influences how numbers are interpreted and the tolerances applied to validation rules. The @decimals attribute indicates the accuracy of the reported fact value. Use the following table to select the correct value of the @decimals attribute for a fact so that it corresponds to the accuracy to which the value is known.

Accuracy of the amount	Value of @decimals attribute
Accurate to millions	-6
Accurate to thousands	-3
Accurate to hundreds	-2
Accurate to units	0
Exact monetary, percentage or other amount	INF
Accurate to cents / pennies	2
Accurate to a hundredth of a percentage point (i.e. a *basis point*)	4

N.B.: The @decimals attribute is not a scale factor. The decimals attribute is not a formatting code and does not indicate the digits in the instance must be presented to a user in any particular way.

Data	Reported value	Value of @decimals attribute	Inferred range of values
Accurate to millions	1,656,500	-6	1,156,500 to 2,156,500
Accurate to thousands	1,656,500	-3	1,656,000 to 1,657,000
Accurate to units	1,656,500	0	1,656,499.5 to 1,656,500.5
Exact	1,656,500	INF	1,656,500
Accurate to 2 decimal places	1,656,500.45	2	1,656,500.445 to 1,656,500.455

4. Common technical issues with XBRL files

The issues identified in this section have been collated from those discovered during testing XBRL files supplied by firms that would have prevented a file from being submitted for processing. This section details the issues but also suggestions for resolutions where relevant. This information has been made available to highlight known issues to firms and software vendors in advance to help remedy them at source.

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
LUXEMBOURG	LU	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 not with any decimals. 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:
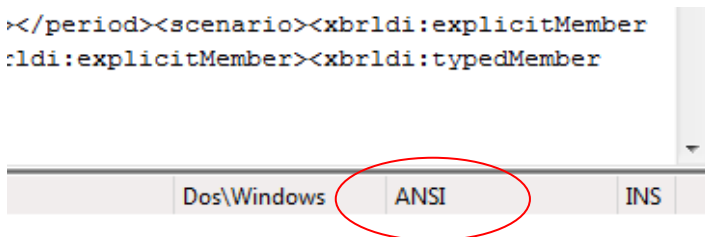
The above example shows ANSI as the encoding used. This will prevent the file from being processed.

To correct this, go to the encoding menu in Notepad++ and select 'Encode in UTF-8' and save the file.
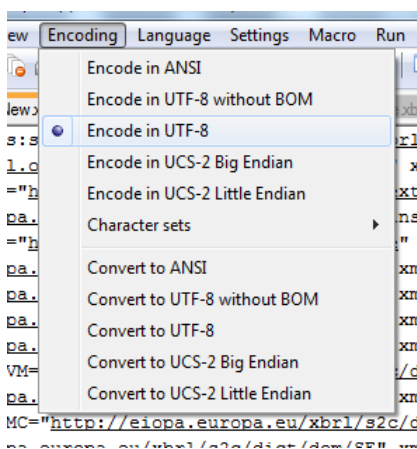
This is a quick fix, however this issue should ideally be addressed in the file generation process.

4.5 Missing namespace declarations

Ensure that all relevant namespaces for domains used in the XBRL instance file are declared. 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 EBA filing rules.

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.

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. 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. 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>
```

5. Interpreting common error messages from the BEEDS portal

This section will be populated in due course with example error messages to help a firm understand which error messages require referral to their IT department or software vendor and which ones are as a result of the data entered.

6.   Entry Points for Bank of England Statistics Taxonomy

The BoE Statistics taxonomy is to be used for reporting requirements as published on the Bank of England website.[1]

The 'all' entry point has all templates and validation rules (including cross form validation rules) associated with it. This is provided to facilitate to assist in testing and data preparation activities but it will not be permitted for reporting in BEEDS (UAT or LIVE).

6.1   Entry points for v1.2.0 of the Bank of England Statistics Taxonomy

Added

Entry point code	Entry point label	SchemaRef
all	All forms	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/all.xsd
ad	Form AD	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/ad.xsd
al	Form AL	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/al.xsd
as	Form AS	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/as.xsd
be	Form BE	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/be.xsd
bg	Form BG	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/bg.xsd
bh	Form BH	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/bh.xsd
bn	Form BN	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/bn.xsd
bt	Form BT	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/bt.xsd
c1	Form C1	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/c1.xsd
ca	Form CA	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/ca.xsd

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[1] *https://www.bankofengland.co.uk/statistics/data-collection/osca/forms-definitions-validations*

cc	Form CC	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/cc.xsd
ce	Form CE	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/ce.xsd
cl	Form CL	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/cl.xsd
dq	Form DQ	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/dq.xsd
el	Form ELS	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/el.xsd
er	Form ER	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/er.xsd
fi	Form FI	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/fi.xsd
fo	Form FO	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/fo.xsd
fv	Form FV	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/fv.xsd
gt	Form GT	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/gt.xsd
ic	Form IC	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/ic.xsd
io	Form IO	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/io.xsd
is	Form IS	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/is.xsd
ln	Form LN	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/ln.xsd
mm	Form MM	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/mm.xsd
mq	Form MQ	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/mq.xsd
pb	Form PB	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/pb.xsd
pl	Form PL	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/pl.xsd
pm	Form PM	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/pm.xsd
wo	Form WO	http://www.bankofengland.co.uk/data/xbrl/fws/banking_stat/stats/2021-09-03/mod/wo.xsd