

FR 2052a Complex Institution Liquidity Monitoring Report Submission to the Federal Reserve

6G Documentation Package Overview

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Poll 1

Do you represent?

- a. The technical operations or support of for the submission of the FR 2052a
- b. The management of liquidity position or policies at a firm
- c. Other

Overview of Today's Session

- Contents of the 6G Firm distribution package
- 6G Business Requirements_for distribution.xlsx:
 - 'Table of Contents' Tab
 - 'General' Tab
 - 'Report Types Columns' Tab
 - Various Report Tabs
 - Correlation between '6G Business Requirements_for distribution.xlsx' document and XML Schema
 - Validation types
 - Validations based on 'Prod-SubProd-SubProd2' Tab
 - Validations based on 'Counterparty Required' Tab
 - Validations based on 'Collateral Class Required' Tab
 - Validations based on 'Maturity bucket values' Tab
 - Validations based on 'Enumerations' Tab
- XML Schemas
- Sample XML files
- Firm's user acceptance testing (UAT) timeline and rules of engagement
- Technical questions requiring assistance
- Updates to the 6G Business Requirements_for distribution.xlsx document

Contents of the 6G Firm Distribution Package

The 6G Firm distribution package includes the following documents:

File Name	File content and purpose
FR 2052a Instructions.pdf	Reporting requirements for FR 2052a (6G) Complex Institution Liquidity Monitoring Report
6G Business Requirements_for distribution.xlsx	Technical specifications for 6G XML schema and data intake validation
6GSchema.xsd	XML Schema for Data files
6GCommentSchema.xsd	XML Schema for Comments files
XYZBANKIncludesSchema.xsd	Firm-specific schema-include XSD sample file
XYZBANKIncludesSchema_NoBusinessLinesProvided.xsd	Firm-specific schema-include XSD sample file
6G_XYZBANK_08312021.xml	Primary Submission schedule sample file ¹
6G_XYZBANK_08312021.REDUCED.xml	Reduced Submission schedule sample file
6G_XYZBANK_08312021.COMMENT.xml	Comments submission sample file

Note that the three “XYZBANK” sample files included in the 6G documentation package are intended to illustrate the XML schema format and do not constitute guidance on how to report specific transactions.

6G Business Requirements_for distribution.xlsx

'Table of Contents' Tab

What is included in the Table of Contents

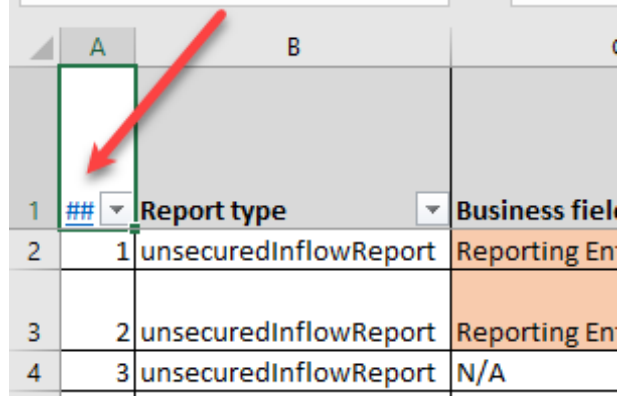
##	Tab Name	Topic	Comment
1	General	General guidance and validation rules	
2	Report Types Columns	Report type schema and validation specifications	Report Types Columns definitions
3	assetInflowReport	Report type schema and validation specifications	I.A: Inflows - Assets
4	unsecuredInflowReport	Report type schema and validation specifications	I.U: Inflows - Unsecured
5	securedInflowReport	Report type schema and validation specifications	I.S: Inflows - Secured
6	otherInflowReport	Report type schema and validation specifications	I.O: Inflows - Other
7	depositsOutflowReport	Report type schema and validation specifications	O.D: Outflows - Deposits
8	wholesaleOutflowReport	Report type schema and validation specifications	O.W: Outflows - Wholesale
9	securedOutflowReport	Report type schema and validation specifications	O.S: Outflows - Secured
10	otherOutflowReport	Report type schema and validation specifications	O.O: Outflows - Other
11	informationalSupplementalReport	Report type schema and validation specifications	S.I: Supplemental - Informational
12	derivativesAndCollateraSuReport	Report type schema and validation specifications	S.DC: Supplemental - Derivatives & Collateral
13	liquidityRiskMeasurementSup	Report type schema and validation specifications	S.L: Supplemental - Liquidity Risk Measurement
14	balanceSheetSupReport	Report type schema and validation specifications	S.B: Supplemental - Balance Sheet
15	foreignExchangeSupplementalRepo	Report type schema and validation specifications	S.FX: Supplemental - Foreign Exchange
16	sixGComments	Report type schema and validation specifications	Comment schema
17	header	File Header schema and validation specifications	
18	Prod-SubProd-SubProd2	Validation rule and enumeration reference table	
19	Counterparty Required	Validation rule and enumeration reference table	
20	Collateral Class Required	Validation rule and enumeration reference table	
21	Maturity bucket values	Validation rule and enumeration reference table	All expected 6G Maturity Buckets listed in tab 'Maturity bucket values'
22	Enumerations	Validation rule and enumeration reference table	
23	Change log	Document changes since initial publishing	

6G Business Requirements_for distribution.xlsx

'Table of Contents' Tab (continued)

Hyperlink to the Table of Contents from other tabs

It is easy to navigate back to the 'Table of Contents' tab from any other tab in the document. You can use the hyperlink located in the A1 cell on any tab.



	A	B	C
1	##	Report type	Business field
2	1	unsecuredInflowReport	Reporting En
3	2	unsecuredInflowReport	Reporting En
4	3	unsecuredInflowReport	N/A

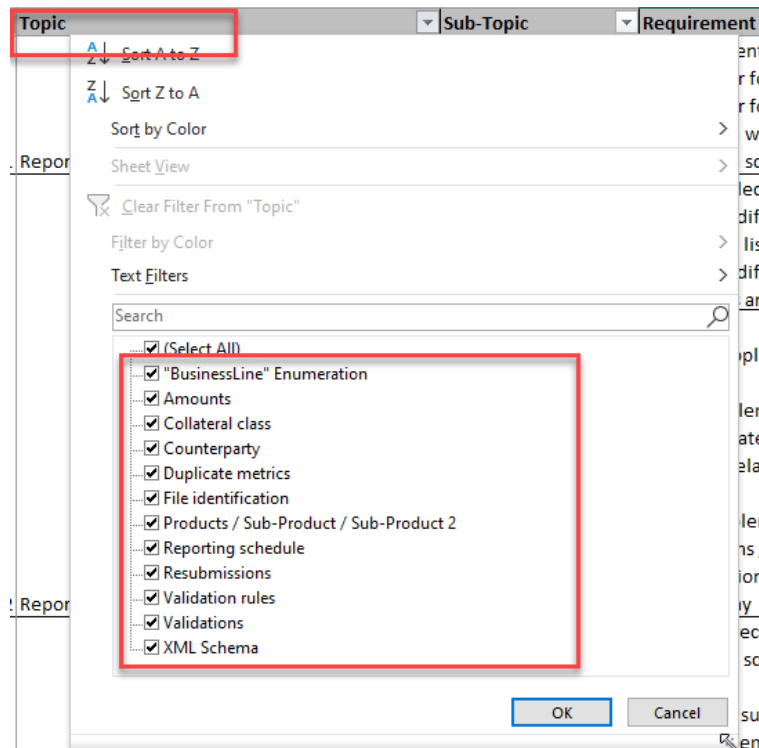
6G Business Requirements_for distribution.xlsx

'General' Tab

What is included

- The 'General' tab includes business rules, which are enforced by Federal Reserve Bank (FRB) application for 6G 2052a processing and not directly related to the specific report types XML Schema and validation rules described in the report-specific tabs.
- Business rules are categorized by the following topics and sub-topics:

- Topics

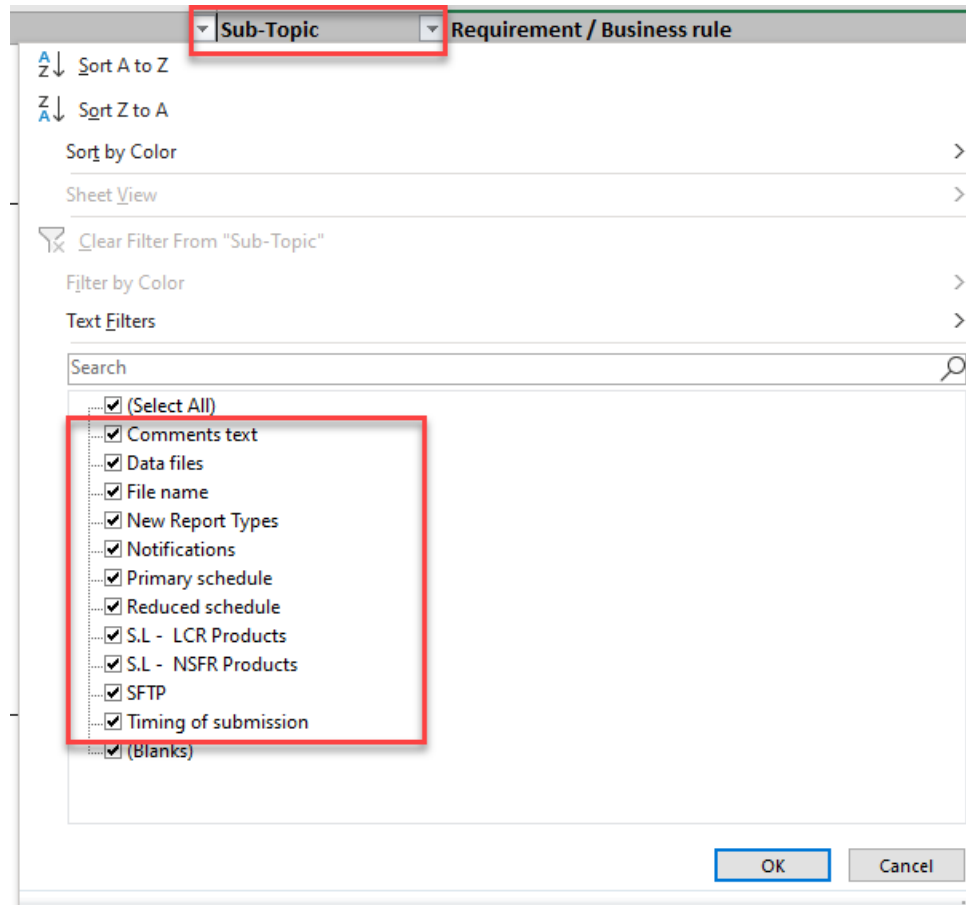


6G Business Requirements_for distribution.xlsx

'General Tab' (continued)

What is included

- Sub-topics



6G Business Requirements_for distribution.xlsx

'General Tab' (continued)

Key points

##	Topic	Sub-Topic	Requirement / Business rule
1	Reporting schedule	Notifications	6G Implementation will have 2 calendars for each Firm: - 1 calendar for Primary Submission schedule - 1 calendar for Reduced Submission schedule Application will generate warnings to the Firms if Primary Submission schedule file or Reduced Submission schedule file are not received on time.
9	Reporting schedule	Timing of submission	6G Primary submission schedule for Each Firm is the equivalent of the 5G Submission schedule unless Firm is instructed differently.
13	File identification	File name	File Naming Conventions for 6G submissions: 6G_XYZBANK_08312021.xml - Primary Schedule submission file name 6G_XYZBANK_08312021.REDUCED.xml - Reduced Schedule submission file name 6G_XYZBANK_08312021.COMMENT.xml - Comments file name
14	File identification	SFTP	SFTP transmission directory 1. Submitting Firms expected to use <u>existing 5G Secure Transport SFTP Accounts</u> for 6G files transmission. 2. Firms will use different folder in the FRS SFTP target directory for 6G files transmission: - 5G files ==> placed into 5G folder - 6G files ==> to be placed into new 6G folder
15	XML Schema		FRS will implement processing of separate XML Schemas for 5G and 6G Data and will be able to distinguish between 5G and 6G files submissions.

6G Business Requirements_for distribution.xlsx

'General Tab' (continued)

Key points

- | | | |
|----|---------|--|
| 18 | Amounts | 6G Data submissions will be able to accommodate up to 8 digits to the right of the decimal place |
|----|---------|--|
- | | | |
|----|----------------------------|--|
| 22 | "BusinessLine" Enumeration | For Firms that are required to report Business Lines, Enumeration values will be provided via Firm Specific Schema XSD file. |
|----|----------------------------|--|
- Please note that all Business rules provided are equally important and must be considered by the Firms when constructing files for 6G submissions

6G Business Requirements_for distribution.xlsx

'Report Types Columns' Tab

The table below provides definitions for the columns used in the tabs describing the structure of report types.

Column name	Column Definition
1 ##	Line number on the TAB
2 Report type	Refers to the reportType (see reportTypes enumeration) applicable to the 6G data structure requirements on each tab
3 Business field name	- Refers to the Field names included in the FR 2052a Instructions, Appendix I - Color shading of these fields corresponds to the FR 2052a Instructions, Appendix I
4 XML Element or Attribute Name	
5 Required by Schema	Y - XML Element or Attribute are mandated by the Schema N - XML Element or Attribute are not mandated by the Schema, however can be mandated by FR 2052a Instructions N/A - Identifies Validation requirement which involves multiple Schema Elements or Attributes
6 XML Element or Attribute Type	
7 XMLChild Element or Attribute Name	
8 XMLChild Element or Attribute Type	
9 5G vs. 6G	Column Entry identifies if 5G Data Collection has similar implementation comparing to 6G: 5G = 6G [similar implementation between 5G and 6G] 5G <> 6G [different implementation between 5G and 6G]
10 Validation rule	Description of the Validation rule
11 Enumeration list	Link to or description of the enumeration used by the validation rule
12 Comments	

6G Business Requirements_for distribution.xlsx

Various Report Tabs

Which reports are included

- There are total of 13 Report types for data reporting, plus Comments schema definitions.

##	Tab Name	Topic	Comment
1	General	General guidance and validation rules	
2	Report Types Columns	Report type schema and validation specifications	Report Types Columns definitions
3	assetInflowReport	Report type schema and validation specifications	I.A: Inflows - Assets
4	unsecuredInflowReport	Report type schema and validation specifications	I.U: Inflows - Unsecured
5	securedInflowReport	Report type schema and validation specifications	I.S: Inflows - Secured
6	otherInflowReport	Report type schema and validation specifications	I.O: Inflows - Other
7	depositsOutflowReport	Report type schema and validation specifications	O.D: Outflows - Deposits
8	wholesaleOutflowReport	Report type schema and validation specifications	O.W: Outflows - Wholesale
9	securedOutflowReport	Report type schema and validation specifications	O.S: Outflows - Secured
10	otherOutflowReport	Report type schema and validation specifications	O.O: Outflows - Other
11	informationalSupplementalReport	Report type schema and validation specifications	S.I: Supplemental - Informational
12	derivativesAndCollateraSuReport	Report type schema and validation specifications	S.DC: Supplemental - Derivatives & Collateral
13	liquidityRiskMeasurementSup	Report type schema and validation specifications	S.L: Supplemental - Liquidity Risk Measurement
14	balanceSheetSupReport	Report type schema and validation specifications	S.B: Supplemental - Balance Sheet
15	foreignExchangeSupplementalRepo	Report type schema and validation specifications	S.FX: Supplemental - Foreign Exchange
16	SixGComments	Report type schema and validation specifications	Comment schema
17	header	File Header schema and validation specifications	
18	Prod-SubProd-SubProd2	Validation rule and enumeration reference table	
19	Counterparty Required	Validation rule and enumeration reference table	
20	Collateral Class Required	Validation rule and enumeration reference table	
21	Maturity bucket values	Validation rule and enumeration reference table	All expected 6G Maturity Buckets listed in tab 'Maturity bucket values'
22	Enumerations	Validation rule and enumeration reference table	

6G Business Requirements_for distribution.xlsx

How Tab is Constructed [Multiple Rows per each XML Element or Attribute]

Please note that Report type tabs may contain multiple rows per each Schema Element or Attribute indicating:

- Different validation rules applied to the same Element or Attribute [Example below]

#	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule
10	assetInflowReport	Sub-Product	assetSource	N	assetSource			5G <> 6G	Validation needs to be performed to make sure that expected Sub-Product is used with corresponding Report type. If unexpected value is used, File must be rejected with corresponding Error handling
11	assetInflowReport	Sub-Product	assetSource	N	assetSource			5G <> 6G	For listed Table [Report type] and Product combination: If Sub-Product is provided, then Sub-Product should be from the list of expected values, otherwise File must be rejected with corresponding Error handling

#	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule
45	assetInflowReport	Collateral Class	collateralClass	Y	collateralClass			5G = 6G	Check if attribute is not Empty [populated]
46	assetInflowReport	Collateral Class	collateralClass	Y	collateralClass			5G <> 6G	Enumeration list validation
47	assetInflowReport	Collateral Class	collateralClass	Y	collateralClass			5G <> 6G	For Report type and Product combinations listed in FR 2052a Instructions, Appendix II-c: 1. For Required indicator - Collateral class must be provided. 2. If Collateral class is not provided, File will be rejected with corresponding Error handling

- Multiple sub-elements or sub-attributes related to the Element described [Example below]

#	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule
12	assetInflowReport	Market Value	marketValue	Y	valueType			5G = 6G	Check if attribute is not Empty [populated]
13	assetInflowReport	Market Value	marketValue	Y	valueType			5G = 6G	Check if attribute is not Negative [Values can be = ZERO or > ZERO]
14	assetInflowReport	Market Value	marketValue	Y	valueType			5G = 6G	Check if Amount reported exceeds Max value allowed [99,999,999,999,999]
15	assetInflowReport	Market Value	marketValue	Y	valueType	converted	boolean	5G = 6G	Check if attribute is not Empty [populated]
16	assetInflowReport	Market Value	marketValue	Y	valueType	converted	boolean	5G = 6G	Checks if attribute is a boolean value
17	assetInflowReport	Market Value	marketValue	Y	valueType	unit	currencyUnit	5G = 6G	Check if attribute is not Empty [populated]
18	assetInflowReport	Market Value	marketValue	Y	valueType	unit	currencyUnit	5G = 6G	Enumeration list validation
19	assetInflowReport	Market Value	marketValue	Y	valueType	unit	currencyUnit	5G = 6G	Checks if converted is true, unit is USD
20	assetInflowReport	Market Value	marketValue	Y	valueType	unitMultiplier	integer	5G = 6G	Check if attribute is not Empty [populated]
21	assetInflowReport	Market Value	marketValue	Y	valueType	unitMultiplier	integer	5G = 6G	Check if value = 6

6G Business Requirements_for distribution.xlsx

Correlation between '6G Business Requirements_for distribution.xlsx' Document and XML Schema

- Each report type tab corresponds to the 6G XML Schema and sample 6G files provided.
- Examples below are provided based on the assetInflowReport tab.

XML element or attribute names in scope

The screenshot shows an Excel spreadsheet with a table of report types and business field names. A filter dropdown menu is open, showing a list of XML element and attribute names. The table has columns for Report type, Business field name, XML Element or Attribute Name, Required by Schema, and XML Element or Attribute Type. The filter dropdown menu is currently set to 'XML Element or Attribute Name' and shows a list of names with checkboxes next to them. The 'assetInflowReport' tab is selected in the bottom tab bar.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type
1	assetInflowReport	Reportin			
2	assetInflowReport	Reportin			
3	assetInflowReport	N/A			
4	assetInflowReport	N/A			
5	assetInflowReport	N/A			
6	assetInflowReport	N/A			
7	assetInflowReport	N/A			
8	assetInflowReport	Product			
9	assetInflowReport	Product			
10	assetInflowReport	Sub-Prod			
11	assetInflowReport	Sub-Prod			
12	assetInflowReport	Market V			
13	assetInflowReport	Market V			
14	assetInflowReport	Market V			
15	assetInflowReport	Market V			
16	assetInflowReport	Market V			
17	assetInflowReport	Market V			
18	assetInflowReport	Market V			
19	assetInflowReport	Market V			
20	assetInflowReport	Market V			
21	assetInflowReport	Market Value	marketValue	Y	valueType
22	assetInflowReport	Lendable Value	lendableValue	Y	valueType
23	assetInflowReport	Lendable Value	lendableValue	Y	valueType
24	assetInflowReport	Lendable Value	lendableValue	Y	valueType

The filter dropdown menu shows the following XML element and attribute names in scope:

- (Select All)
- accountingDesignation
- assetProduct
- assetSource
- businessLine
- collateralClass
- comment
- effectiveMaturityBucket
- encumbranceType
- forwardStartBucket
- forwardStartValue
- internalCounterparty
- lendableValue
- marketValue
- maturityBucket
- reportID
- reportScope
- treasuryControl
- (blanks)

6G Business Requirements_for distribution.xlsx

Correlation between '6G Business Requirements_for distribution.xlsx' Document and XML Schema (continued)

XML Schema for 'assetInflowReport'

```
- <xs:element name="assetInflowReport">
- <xs:complexType>
- <xs:complexContent>
- <xs:extension base="reportBase">
- <xs:sequence>
  <xs:element name="assetProduct" type="assetProduct" minOccurs="1" maxOccurs="1" />
  <xs:element name="assetSource" type="assetSource" minOccurs="0" maxOccurs="1" />
  <xs:element name="marketValue" type="valueType" minOccurs="1" maxOccurs="1" />
  <xs:element name="lendableValue" type="valueType" minOccurs="1" maxOccurs="1" />
  <xs:element name="maturityBucket" type="maturityBucket" minOccurs="1" maxOccurs="1" />
  <xs:element name="forwardStartValue" type="valueType" minOccurs="0" maxOccurs="1" />
  <xs:element name="forwardStartBucket" type="maturityBucket" minOccurs="0" maxOccurs="1" />
  <xs:element name="collateralClass" type="collateralClass" minOccurs="1" maxOccurs="1" />
  <xs:element name="accountingDesignation" type="accountingDesignation" minOccurs="1" maxOccurs="1" />
  <xs:element name="effectiveMaturityBucket" type="maturityBucket" minOccurs="0" maxOccurs="1" />
  <xs:element name="encumbranceType" type="encumbranceType" minOccurs="0" maxOccurs="1" />
  <xs:element name="internalCounterparty" type="internalCounterparty" minOccurs="0" maxOccurs="1" />
  <xs:element name="businessLine" type="businessLine" minOccurs="0" maxOccurs="1" />
  </xs:sequence>
  <xs:attribute name="treasuryControl" type="xs:boolean" use="required" />
</xs:extension>
</xs:complexContent>
</xs:complexType>
</xs:element>
- <xs:complexType name="reportBase">
- <xs:sequence>
  <xs:element name="reportScope" type="reportScope" minOccurs="1" maxOccurs="1" />
  <xs:element name="comment" type="xs:string" minOccurs="0" maxOccurs="1" />
</xs:sequence>
  <xs:attribute name="reportID" type="tenDigitPositiveIntegerType" use="required" />
</xs:complexType>
```


6G Business Requirements_for distribution.xlsx

Correlation between '6G Business Requirements_for distribution.xlsx' Document and XML Schema (continued)

XML Schema for 'assetInflowReport'

```
- <xs:complexType name="valueType">
- <xs:simpleContent>
- <xs:extension base="valueBase">
  <xs:attribute name="converted" type="xs:boolean" use="required" />
  <xs:attribute name="unit" type="currencyUnit" use="required" />
  <xs:attribute name="unitMultiplier" type="xs:integer" use="required" fixed="6" />
</xs:extension>
</xs:simpleContent>
</xs:complexType>

- <xs:simpleType name="valueBase">
- <xs:restriction base="xs:decimal">
  <xs:minInclusive value="0" />
</xs:restriction>
</xs:simpleType>

- <xs:complexType name="maturityBucket">
- <xs:sequence>
  <xs:element name="maturityStart" type="maturityBucketStart" minOccurs="1" maxOccurs="1" />
  <xs:element name="maturityEnd" type="maturityBucketEnd" minOccurs="0" maxOccurs="1" />
</xs:sequence>
</xs:complexType>
```

6G Business Requirements_for distribution.xlsx

Correlation between '6G Business Requirements_for distribution.xlsx' Document and XML Schema (continued)

Sample file – 6G_XYZBANK_08312021.xml

```
<assetInflowReport treasuryControl="true" reportID="1">
  <reportScope>XYZBANK - EMEA</reportScope>
  <comment> Sample report for Primary schedule submission, LISCC Firm </comment>
  <assetProduct>Capacity</assetProduct>
  <assetSource>Bank of England</assetSource>
  <marketValue unit="GBP" unitMultiplier="6" converted="false">9999.00000025</marketValue>
  <lendableValue unit="GBP" unitMultiplier="6" converted="false">8888.00000025</lendableValue>
  <maturityBucket>
    <maturityStart>P180D</maturityStart>
    <maturityEnd>P270D</maturityEnd>
  </maturityBucket>
  <collateralClass>S-1-Q</collateralClass>
  <accountingDesignation>Trading Asset</accountingDesignation>
  <businessLine>Investment Bank</businessLine>
</assetInflowReport>
<assetInflowReport treasuryControl="false" reportID="2">
  <reportScope>XYZBANK - APAC</reportScope>
  <comment> Sample report for Primary schedule submission, LISCC Firm </comment>
  <assetProduct>Encumbered Assets</assetProduct>
  <marketValue unit="JPY" unitMultiplier="6" converted="false">6666.42</marketValue>
  <lendableValue unit="JPY" unitMultiplier="6" converted="false">4444.01</lendableValue>
  <maturityBucket>
    <maturityStart>P61D</maturityStart>
    <maturityEnd>P67D</maturityEnd>
  </maturityBucket>
  <collateralClass>N-2</collateralClass>
  <accountingDesignation>Trading Asset</accountingDesignation>
  <effectiveMaturityBucket>
    <maturityStart>P61D</maturityStart>
    <maturityEnd>P67D</maturityEnd>
  </effectiveMaturityBucket>
  <encumbranceType>Securities Financing Transaction</encumbranceType>
  <businessLine>Investment Bank</businessLine>
</assetInflowReport>
```

6G Business Requirements_for distribution.xlsx

Validation Types

- There are two types of validation employed for processing of a firm's 6G submissions:
 - Schema-based validations
 - Application-based validations

Schema-based validations

- If the business rule can be handled by the XML Schema, validation, in most cases, is applied using XML Schema rules.
- Please note that error messages generated by the XML Schema-based validations might not be as explicit as application validation error messages.
- Examples of the Schema-based validations:

#	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
1	assetInflowReport	Reporting Entity	reportScope	Y	reportScope			5G = 6G	Check if attribute is not Empty [populated]	
4	assetInflowReport	N/A	reportID	Y	tenDigitPositiveIntegerType			5G = 6G	Check if attribute is not Empty [populated]	
5	assetInflowReport	N/A	reportID	Y	tenDigitPositiveIntegerType			5G = 6G	Check if attribute is Positive	
6	assetInflowReport	N/A	reportID	Y	tenDigitPositiveIntegerType			5G = 6G	Checks if the number not exceeding max length allowed (10 digits)	
8	assetInflowReport	Product	assetProduct	Y	assetProduct			5G = 6G	Check if attribute is not Empty [populated]	
9	assetInflowReport	Product	assetProduct	Y	assetProduct			5G <> 6G	Validation needs to be performed to make sure that expected Product is used with every Report type . If unexpected value is used, File must be rejected with corresponding Error handling	See Enumerations Tab
10	assetInflowReport	Sub-Product	assetSource	N	assetSource			5G <> 6G	Validation needs to be performed to make sure that expected Sub-Product is used with corresponding Report type . If unexpected value is used, File must be rejected with corresponding Error handling	See Enumerations Tab
12	assetInflowReport	Market Value	marketValue	Y	valueType			5G = 6G	Check if attribute is not Empty [populated]	
13	assetInflowReport	Market Value	marketValue	Y	valueType			5G = 6G	Check if attribute is not Negative [Values can be = ZERO or > ZERO]	
15	assetInflowReport	Market Value	marketValue	Y	valueType	converted	boolean	5G = 6G	Check if attribute is not Empty [populated]	
16	assetInflowReport	Market Value	marketValue	Y	valueType	converted	boolean	5G = 6G	Checks if attribute is a boolean value	
17	assetInflowReport	Market Value	marketValue	Y	valueType	unit	currencyUnit	5G = 6G	Check if attribute is not Empty [populated]	
18	assetInflowReport	Market Value	marketValue	Y	valueType	unit	currencyUnit	5G = 6G	Enumeration list validation	See Enumerations Tab
20	assetInflowReport	Market Value	marketValue	Y	valueType	unitMultiplier	integer	5G = 6G	Check if attribute is not Empty [populated]	
21	assetInflowReport	Market Value	marketValue	Y	valueType	unitMultiplier	integer	5G = 6G	Check if value = 6	
22	assetInflowReport	Lendable Value	lendableValue	Y	valueType			5G = 6G	Check if attribute is not Empty [populated]	
23	assetInflowReport	Lendable Value	lendableValue	Y	valueType			5G = 6G	Check if attribute is not Negative [Values can be = ZERO or > ZERO]	
25	assetInflowReport	Lendable Value	lendableValue	Y	valueType	converted	boolean	5G = 6G	Check if attribute is not Empty [populated]	
26	assetInflowReport	Lendable Value	lendableValue	Y	valueType	converted	boolean	5G = 6G	Checks if attribute is a boolean value	
27	assetInflowReport	Lendable Value	lendableValue	Y	valueType	unit	currencyUnit	5G = 6G	Check if attribute is not Empty [populated]	
28	assetInflowReport	Lendable Value	lendableValue	Y	valueType	unit	currencyUnit	5G = 6G	Enumeration list validation	See Enumerations Tab
30	assetInflowReport	Lendable Value	lendableValue	Y	valueType	unitMultiplier	integer	5G = 6G	Check if attribute is not Empty [populated]	
31	assetInflowReport	Lendable Value	lendableValue	Y	valueType	unitMultiplier	integer	5G = 6G	Check if value = 6	
32	assetInflowReport	Maturity Bucket	maturityBucket	Y	maturityBucket	maturityStart	maturityBucketStart	5G <> 6G	Enumeration list validation	Maturity bucket values

6G Business Requirements_for distribution.xlsx

Validation Types (continued)

Application-based validation

- If the business rule cannot be handled by the XML Schema, validation is applied using application-based rules.
- In general, error messages generated by the application-based validations provide more details compared to the XML Schema-based validation error messages.
- Examples of the application-based validations:

#	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
11	assetInflowReport	Sub-Product	assetSource	N	assetSource			5G <> 6G	For listed Table [Report type] and Product combination: If Sub-Product is provided, then Sub-Product should be from the list of expected values, otherwise File must be rejected with corresponding Error handling	Prod-SubProd-SubProd2
19	assetInflowReport	Market Value	marketValue	Y	valueType	unit	currencyUnit	5G = 6G	Checks if Converted is true, unit is USD	
34	assetInflowReport	Maturity Bucket	maturityBucket	Y	maturityBucket			5G <> 6G	Check if Maturity Bucket Range combination is valid	Maturity bucket values
56	assetInflowReport	Business Line	businessLine	N	businessLine			5G <> 6G	This field is mandatory for Category 1 Firms only. 'Business Line', if provided, must be one of the Enumeration values from the Firm specific Schema include	"businessLine" from Firm specific Schema include XSD

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Validation Types (continued)

Enumeration lists

The 'Enumeration list' column includes references to the list of **expected values** or **expected values combinations** in the 6G files.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
2	assetInflowReport	Reporting Entity	reportScope	Y	reportScope			5G = 6G	Enumeration list validation	"reportScope" from Firm specific Schema
9	assetInflowReport	Product	assetProduct	Y	assetProduct			5G <> 6G	Validation needs to be performed to make sure that expected Product is used with <u>every Report type</u> . If unexpected value is used, File must be rejected with corresponding Error handling	See Enumerations Tab
10	assetInflowReport	Sub-Product	assetSource	N	assetSource			5G <> 6G	Validation needs to be performed to make sure that expected Sub-Product is used with <u>corresponding Report type</u> . If unexpected value is used, File must be rejected with corresponding Error handling	See Enumerations Tab
11	assetInflowReport	Sub-Product	assetSource	N	assetSource			5G <> 6G	For listed Table [Report type] and Product combination: If Sub-Product is provided, then Sub-Product should be from the list of expected values, otherwise File must be rejected with corresponding Error handling	Prod-SubProd-SubProd2
18	assetInflowReport	Market Value	marketValue	Y	valueType	unit	currencyUnit	5G = 6G	Enumeration list validation	See Enumerations Tab
28	assetInflowReport	Lendable Value	lendableValue	Y	valueType	unit	currencyUnit	5G = 6G	Enumeration list validation	See Enumerations Tab
32	assetInflowReport	Maturity Bucket	maturityBucket	Y	maturityBucket	maturityStart	maturityBucketStart	5G <> 6G	Enumeration list validation	Maturity bucket values
33	assetInflowReport	Maturity Bucket	maturityBucket	Y	maturityBucket	maturityEnd	maturityBucketEnd	5G <> 6G	Enumeration list validation - see comment	Maturity bucket values

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Validation Types (continued)

Enumeration lists

- There are multiple Enumeration lists referenced in the requirements document:

##	Tab Name	Topic	Comment
1	General	General guidance and validation rules	
2	Report Types Columns	Report type schema and validation specifications	Report Types Columns definitions
3	assetInflowReport	Report type schema and validation specifications	I.A: Inflows - Assets
4	unsecuredInflowReport	Report type schema and validation specifications	I.U: Inflows - Unsecured
5	securedInflowReport	Report type schema and validation specifications	I.S: Inflows - Secured
6	otherInflowReport	Report type schema and validation specifications	I.O: Inflows - Other
7	depositsOutflowReport	Report type schema and validation specifications	O.D: Outflows - Deposits
8	wholesaleOutflowReport	Report type schema and validation specifications	O.W: Outflows - Wholesale
9	securedOutflowReport	Report type schema and validation specifications	O.S: Outflows - Secured
10	otherOutflowReport	Report type schema and validation specifications	O.O: Outflows - Other
11	informationalSupplementalReport	Report type schema and validation specifications	S.I: Supplemental - Informational
12	derivativesAndCollateraSuReport	Report type schema and validation specifications	S.DC: Supplemental - Derivatives & Collateral
13	liquidityRiskMeasurementSup	Report type schema and validation specifications	S.L: Supplemental - Liquidity Risk Measurement
14	balanceSheetSupReport	Report type schema and validation specifications	S.B: Supplemental - Balance Sheet
15	foreignExchangeSupplementalRepo	Report type schema and validation specifications	S.FX: Supplemental - Foreign Exchange
16	sixGComments	Report type schema and validation specifications	Comment schema
17	header	File Header schema and validation specifications	
18	Prod-SubProd-SubProd2	Validation rule and enumeration reference table	
19	Counterparty Required	Validation rule and enumeration reference table	
20	Collateral Class Required	Validation rule and enumeration reference table	
21	Maturity bucket values	Validation rule and enumeration reference table	All expected 6G Maturity Buckets listed in tab 'Maturity bucket values'
22	Enumerations	Validation rule and enumeration reference table	

- The 'Enumerations' tab, in most cases, represents a set of values populated in the XML Schema and are used for XML Schema-based validations.
- Enumeration tabs listed below are used mostly for application-based validations.
 - Prod-SubProd-SubProd2
 - Counterparty Required
 - Collateral Class Required
 - Maturity bucket values

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Validation Types (continued)

'assetInflowReport' – Validation examples

- 'Product' – Check if the attribute is not empty [populated] → Schema-based validation.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
8	assetInflowReport	Product	assetProduct	Y	assetProduct			5G = 6G	Check if attribute is not Empty [populated]	

- 'Product' – Validation needs to be performed to make sure that the expected product is used with every report type. If an unexpected value is used, file must be rejected with corresponding error handling → Schema-based validation.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
9	assetInflowReport	Product	assetProduct	Y	assetProduct			5G <> 6G	Validation needs to be performed to make sure that expected Product is used with <u>every Report type</u> . If unexpected value is used, File must be rejected with corresponding Error handling	See Enumerations Tab

- To perform this validation, we need to access the 'Enumerations' tab and filter based on 'XML Element or Attribute Name' = 'assetProduct.'
- 'Enumeration value' list will show list of allowed values.

##	Report type	XML Element or Attribute Name	XML Element or Attribute Type	memberTypes	Enumeration value
189	assetInflowReport	assetProduct	assetProduct	N/A	Unencumbered Assets
190	assetInflowReport	assetProduct	assetProduct	N/A	Capacity
191	assetInflowReport	assetProduct	assetProduct	N/A	Unrestricted Reserve Balances
192	assetInflowReport	assetProduct	assetProduct	N/A	Restricted Reserve Balances
193	assetInflowReport	assetProduct	assetProduct	N/A	Unsettled Asset Purchases
194	assetInflowReport	assetProduct	assetProduct	N/A	Forward Asset Purchases
195	assetInflowReport	assetProduct	assetProduct	N/A	Encumbered Assets

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Validation Types (continued)

'balanceSheetSupReport' – Validation examples

Product-specific requirement [exceptions] → Application-based validations:

1. S.B.5 – Counterparty Netting – requires a negative value or can be ZERO
If reported values for this product are positive, the file should be rejected.
2. S.B.6 – Carrying Value Adjustment – should accept both positive and negative values
Attributes only needs to be validated to ensure that numeric value is provided.
If the reported values for this Product are Not Numeric, File should be rejected.

For all other products for balanceSheetSupReport type: Check if attribute is not negative [Values can be = ZERO or > ZERO].

#	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	SG vs. 6G	Validation rule
25	balanceSheetSupReport	Market Value	marketValue	N	valueType			SG <> 6G	Product specific requirement [exceptions]: 1. S.B.5 - Counterparty Netting - requires a negative value or can be ZERO If reported values for this Product are Positive, File should be rejected. 2. S.B.6 - Carrying Value Adjustment - should accept both positive and negative values Attributes only needs to be validated to insure that Numeric value is provided. If reported values for this Product are Not Numeric, File should be rejected. For all other Products for balanceSheetSupReport type: Check if attribute is not Negative [Values can be = ZERO or > ZERO]
31	balanceSheetSupReport	Maturity Amount	maturityValue	N	valueType			SG <> 6G	Product specific requirement [exceptions]: 1. S.B.5 - Counterparty Netting - requires a negative value or can be ZERO If reported values for this Product are Positive, File should be rejected. 2. S.B.6 - Carrying Value Adjustment - should accept both positive and negative values Attributes only needs to be validated to insure that Numeric value is provided. If reported values for this Product are Not Numeric, File should be rejected. For all other Products for balanceSheetSupReport type: Check if attribute is not Negative [Values can be = ZERO or > ZERO]
37	balanceSheetSupReport	Collateral Value	collateralValue	N	valueType			SG <> 6G	Product specific requirement [exceptions]: 1. S.B.5 - Counterparty Netting - requires a negative value or can be ZERO If reported values for this Product are Positive, File should be rejected. 2. S.B.6 - Carrying Value Adjustment - should accept both positive and negative values Attributes only needs to be validated to insure that Numeric value is provided. If reported values for this Product are Not Numeric, File should be rejected. For all other Products for balanceSheetSupReport type: Check if attribute is not Negative [Values can be = ZERO or > ZERO]

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Validation Types (continued)

'balanceSheetSupReport' – Validation examples Corresponding XML Schema [6GSchema.xsd]

To accommodate these requirements, the XML Schema uses type="anyValueType" for 'balanceSheetSupReport.'
For all other report types, the XML Schema uses type="valueType."

```
- <xs:element name="balanceSheetSupReport">
- <xs:complexType>
- <xs:complexContent>
- <xs:extension base="reportBase">
- <xs:sequence>
  <xs:element name="collectionReference" type="collectionReference" minOccurs="0" maxOccurs="1" />
  <xs:element name="balanceSheetSupProduct" type="balanceSheetSupProduct" minOccurs="1" maxOccurs="1" />
  <xs:element name="productReference" type="productReference" minOccurs="0" maxOccurs="1" />
  <xs:element name="subProductReference" type="subProductReference" minOccurs="0" maxOccurs="1" />
  <xs:element name="collateralClass" type="collateralClass" minOccurs="0" maxOccurs="1" />
  <xs:element name="maturityBucket" type="maturityBucket" minOccurs="1" maxOccurs="1" />
  <xs:element name="effectiveMaturityBucket" type="maturityBucket" minOccurs="0" maxOccurs="1" />
  <xs:element name="encumbranceType" type="encumbranceType" minOccurs="0" maxOccurs="1" />
  <xs:element name="marketValue" type="anyValueType" minOccurs="0" maxOccurs="1" />
  <xs:element name="maturityValue" type="anyValueType" minOccurs="0" maxOccurs="1" />
  <xs:element name="collateralValue" type="anyValueType" minOccurs="0" maxOccurs="1" />
  <xs:element name="counterpartySector" type="counterpartySectorWithRetail" minOccurs="0" maxOccurs="1" />
  <xs:element name="gsib" type="xs:string" minOccurs="0" maxOccurs="1" />
  <xs:element name="riskWeight" type="decimalValue" minOccurs="0" maxOccurs="1" />
  <xs:element name="internalCounterparty" type="internalCounterparty" minOccurs="0" maxOccurs="1" />
</xs:sequence>
  <xs:attribute name="internal" type="xs:boolean" use="required" />
</xs:extension>
</xs:complexContent>
</xs:complexType>
</xs:element>

- <xs:complexType name="anyValueType">
- <xs:simpleContent>
- <xs:extension base="decimalValue">
  <xs:attribute name="converted" type="xs:boolean" use="required" />
  <xs:attribute name="unit" type="currencyUnit" use="required" />
  <xs:attribute name="unitMultiplier" type="xs:integer" use="required" fixed="6" />
</xs:extension>
</xs:simpleContent>
</xs:complexType>
```

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Validation Types (continued)

'balanceSheetSupReport' – Validation examples

Corresponding XML File [6G_XYZBANK_08312021.xml]

```
<balanceSheetSupReport internal="false" reportID="1">
  <reportScope>XYZBANK - Americas</reportScope>
  <comment> Sample report for Primary schedule submission, LISCC Firm </comment>
  <collectionReference>0.5</collectionReference>
  <balanceSheetSupProduct>Counterparty Netting</balanceSheetSupProduct>
  <productReference>Repo</productReference>
  <collateralClass>G-1-Q</collateralClass>
  <maturityBucket>
    <maturityStart>P1D</maturityStart>
    <maturityEnd>P1D</maturityEnd>
  </maturityBucket>
  <maturityValue unit="USD" unitMultiplier="6" converted="false">-5000.25</maturityValue>
  <counterpartySector>Broker Dealer</counterpartySector>
</balanceSheetSupReport>
```

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Validations based on 'Prod-SubProd-SubProd2' Tab

For listed table [report type] and product combination:

If Sub-Product is provided, then Sub-Product should be from the list of expected values, otherwise the file must be rejected with corresponding error handling [Enumeration list validation] → Application-based validation.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schem	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
11	assetInflowReport	Sub-Product	assetSource	N	assetSource			5G <> 6G	For listed Table [Report type] and Product combination: If Sub-Product is provided, then Sub-Product should be from the list of expected values, otherwise File must be rejected with corresponding Error handling	Prod-SubProd-SubProd2

- To perform this validation, we need to access 'Prod-SubProd-SubProd2' Enumeration tab.
- Filter on the 'Report type' and 'Product' combination.
- The 'Sub-Product' column represents a list of expected values to be provided for 'Report type' and 'Product' combination.

##	Report type	PID	Product	Sub-Product	Sub-Product 2
1	assetInflowReport	2	Capacity	Federal Reserve Bank	
2	assetInflowReport	2	Capacity	Swiss National Bank	
3	assetInflowReport	2	Capacity	Bank of England	
4	assetInflowReport	2	Capacity	European Central Bank	
5	assetInflowReport	2	Capacity	Bank of Japan	
6	assetInflowReport	2	Capacity	Reserve Bank of Australia	
7	assetInflowReport	2	Capacity	Bank of Canada	
8	assetInflowReport	2	Capacity	Other Central Bank	
9	assetInflowReport	2	Capacity	Federal Home Loan Bank	
10	assetInflowReport	2	Capacity	Other Government Sponsored Entity	

- Please note that only four report types expected to have Sub-Products or/and Sub-Product 2 values populated:
 1. assetInflowReport
 2. securedInflowReport
 3. securedOutflowReport
 4. derivativesAndCollateralSupReport
- Please note that only particular products for the report types mentioned above are expected to have Sub-Products or/and Sub-Product 2 values populated.

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Validations based on 'Counterparty Required' Tab

- For report type and product combinations listed in the 'Counterparty Required' tab:
 - A counterparty value must be provided, otherwise the file will be rejected → Application-based validation.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
11	wholesaleOutflowReport	Counterparty	counterpartySector	N	counterpartySectorWithRetail			5G <> 6G	For Report type and Product combinations listed in the 'Counterparty Required' Tab: Counterparty value must be provided, otherwise File will be rejected	Counterparty Required

- To perform this validation, select the 'Counterparty Required' Enumeration tab.
- Filter on the 'Report type' and 'Product' combination.

##	Report type	PID	Product
58	wholesaleOutflowReport	9	Onshore Borrowing
59	wholesaleOutflowReport	10	Offshore Borrowing
60	wholesaleOutflowReport	18	Free Credits

- For each listed 'Report type' and 'Product' combination, a counterparty value must be provided, otherwise the file will be rejected.

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Validations based on 'Collateral Class Required' Tab

For report type and product combinations listed in FR 2052a Instructions, Appendix II-c:

1. For the required indicator – a collateral class must be provided.
2. If a collateral class is not provided, the file will be rejected with corresponding error handling.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schem.	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
34	otherInflowReport	Collateral Class	collateralClass	N	collateralClass			5G <> 6G	For Report type and Product combinations listed in FR 2052a Instructions, Appendix II-c: 1. For Required indicator - Collateral class must be provided. 2. If Collateral class is not provided, File will be rejected with corresponding Error handling	Collateral Class Required

- To perform this validation, select the 'Collateral Class Required' Enumeration tab.
- For each listed 'Report type' and 'Product' combination, a collateral class value must be provided, otherwise file will be rejected.

##	Report type	Enumeration name [Type]	PID	Product [Enumeration value]	Require
18	otherInflowReport	otherInflowProduct	I.O.2	Collateral Called for Receipt	✓
19	otherInflowReport	otherInflowProduct	I.O.3	TBA Sales	✓
20	otherInflowReport	otherInflowProduct	I.O.6	Interest and Dividends Receivable	✓
21	otherInflowReport	otherInflowProduct	I.O.8	Principal Payments Receivable on Unencumbered Investment Securities	✓

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Validations based on 'Maturity Bucket Values' Tab

Maturity Bucket – maturityBucket / maturityBucketStart [Enumeration list validation] → Schema-based validation

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
32	assetInflowReport	Maturity Bucket	maturityBucket	Y	maturityBucket	maturityStart	maturityBucketStart	5G <> 6G	Enumeration list validation	Maturity bucket values

- To perform this validation, select the Enumeration list 'Maturity bucket values.'
- Review the set of allowed values in the 'maturityStart' column.

##	maturityBucket	maturityStart	maturityEnd	6G Status	Requirement	Comments / Example
1	Open	P0D	P0D	5G = 6G	Open Maturity bucket	<maturityBucket><maturityStart>P0D</maturityStart><maturityEnd>P0D</maturityEnd>
2	Day 1	P1D	P1D	5G = 6G	Daily Maturity bucket	
3	Day 2	P2D	P2D	5G = 6G	Daily Maturity bucket	
4	Day 3	P3D	P3D	5G = 6G	Daily Maturity bucket	
5	Day 4	P4D	P4D	5G = 6G	Daily Maturity bucket	
6	Day 5	P5D	P5D	5G = 6G	Daily Maturity bucket	<maturityBucket><maturityStart>P5D</maturityStart><maturityEnd>P5D</maturityEnd>
7	Day 6	P6D	P6D	5G = 6G	Daily Maturity bucket	
8	Day 7	P7D	P7D	5G = 6G	Daily Maturity bucket	
9	Day 8	P8D	P8D	5G = 6G	Daily Maturity bucket	
10	Day 9	P9D	P9D	5G = 6G	Daily Maturity bucket	
11	Day 10	P10D	P10D	5G = 6G	Daily Maturity bucket	
12	Day 11	P11D	P11D	5G = 6G	Daily Maturity bucket	
13	Day 12	P12D	P12D	5G = 6G	Daily Maturity bucket	

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Validations based on 'Maturity Bucket Values' Tab

Maturity Bucket – maturityBucket / maturityBucketEnd [Enumeration list validation] → Schema-based validation

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list	Comments
33	assetInflowReport	Maturity Bucket	maturityBucket	Y	maturityBucket	maturityEnd	maturityBucketEnd	5G <> 6G	Enumeration list validation - see comment	Maturity bucket values	<ul style="list-style-type: none"> - maturityBucketEnd is an optional field - Validation must be applied only if field is populated: <pre><xs:complexType name="maturityBucket"> <xs:sequence> <xs:element name="maturityStart" type="maturityBucketStart" minOccurs="1" maxOccurs="1"/> <xs:element name="maturityEnd" type="maturityBucketEnd" minOccurs="0" maxOccurs="1"/> </xs:sequence> </xs:complexType></pre>

- To perform this validation, select the Enumeration list 'Maturity bucket values.'
- Review the set of allowed values in the 'maturityEnd' column.

##	maturityBucket	maturityStart	maturityEnd	6G Status	Requirement	Comments / Example
58	Day 57	P57D	P57D	5G = 6G	Daily Maturity bucket	
59	Day 58	P58D	P58D	5G = 6G	Daily Maturity bucket	
60	Day 59	P59D	P59D	5G = 6G	Daily Maturity bucket	
61	Day 60	P60D	P60D	5G = 6G	Daily Maturity bucket	
62	61 - 67 Days	P61D	P67D	5G = 6G	Weekly Maturity bucket	<maturityBucket><maturityStart>P61D</maturityStart><maturityEnd>P67D</maturityEnd>
63	68 - 74 Days	P68D	P74D	5G = 6G	Weekly Maturity bucket	<maturityBucket><maturityStart>P68D</maturityStart><maturityEnd>P74D</maturityEnd>
64	75 - 82 Days	P75D	P82D	5G = 6G	Weekly Maturity bucket	<maturityBucket><maturityStart>P75D</maturityStart><maturityEnd>P82D</maturityEnd>
65	83 - 90 Days	P83D	P90D	5G = 6G	Weekly Maturity bucket	<maturityBucket><maturityStart>P83D</maturityStart><maturityEnd>P90D</maturityEnd>
66	91 - 120 Days	P91D	P120D	5G = 6G	Monthly Maturity bucket	<maturityBucket><maturityStart>P91D</maturityStart><maturityEnd>P120D</maturityEnd>
67	121 - 150 Days	P121D	P150D	5G = 6G	Monthly Maturity bucket	<maturityBucket><maturityStart>P121D</maturityStart><maturityEnd>P150D</maturityEnd>
68	151 - 179 Days	P151D	P179D	5G <> 6G	Monthly Maturity bucket	<maturityBucket><maturityStart>P151D</maturityStart><maturityEnd>P179D</maturityEnd>
69	180 - 270 Days	P180D	P270D	5G <> 6G	Quarterly Maturity bucket	<maturityBucket><maturityStart>P180D</maturityStart><maturityEnd>P270D</maturityEnd>
70	271 - 364 Days	P271D	P364D	5G <> 6G	Quarterly Maturity bucket	<maturityBucket><maturityStart>P271D</maturityStart><maturityEnd>P364D</maturityEnd>
71	> = 1 Yr <= 2 Yr	P365D	P730D	5G <> 6G	Yearly Maturity bucket	<maturityBucket><maturityStart>P365D</maturityStart><maturityEnd>P730</maturityEnd>
72	>2 Yr <= 3 Yr	P731D	P1095D	5G = 6G	Yearly Maturity bucket	<maturityBucket><maturityStart>P731D</maturityStart><maturityEnd>P1095D</maturityEnd>
73	>3 Yr <= 4 Yr	P1096D	P1460D	5G = 6G	Yearly Maturity bucket	<maturityBucket><maturityStart>P1096D</maturityStart><maturityEnd>P1460D</maturityEnd>
74	>4 Yr <= 5 Yr	P1461D	P1826D	5G = 6G	Yearly Maturity bucket	<maturityBucket><maturityStart>P1461D</maturityStart><maturityEnd>P1826D</maturityEnd>
75	>5 Yr	P1827D	N/A	5G = 6G	Yearly Maturity bucket	maturityEnd is not applicable for this Maturity bucket <maturityBucket><maturityStart>P1827D</maturityStart></maturityBucket>
76	Perpetual	P99999D	N/A	5G <> 6G	Perpetual Maturity bucket	maturityEnd is not applicable for this Maturity bucket <maturityBucket><maturityStart>P99999D</maturityStart></maturityBucket>

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Validations based on 'Maturity Bucket Values' Tab (continued)

Maturity Bucket – maturityBucket – Check if the Maturity Bucket Range combination is valid [Enumeration list validation] → Application-based validation.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list	Comments
34	assetInflowReport	Maturity Bucket	maturityBucket	Y	maturityBucket			5G <> 6G	Check if Maturity Bucket Range combination is valid	Maturity bucket values	Use case #1 - Daily maturity buckets - Expectation is that maturityStart = maturityEnd Use case #2 - Other maturity buckets and maturityEnd is provided - Expectation is that maturityEnd will have next closest value > maturityStart Examples: <maturityBucket><maturityStart>P91D</maturityStart><maturityEnd>P120D</maturityEnd> <maturityBucket><maturityStart>P180D</maturityStart><maturityEnd>P270D</maturityEnd>

- To perform this validation, select the Enumeration list 'Maturity bucket values.'
- Review the set of allowed values combinations.

##	maturityBucket	maturityStart	maturityEnd	6G Status	Requirement	Comments / Example
1	Open	P0D	P0D	5G = 6G	Open Maturity bucket	<maturityBucket><maturityStart>P0D</maturityStart><maturityEnd>P0D</maturityEnd>
2	Day 1	P1D	P1D	5G = 6G	Daily Maturity bucket	
3	Day 2	P2D	P2D	5G = 6G	Daily Maturity bucket	
4	Day 3	P3D	P3D	5G = 6G	Daily Maturity bucket	
5	Day 4	P4D	P4D	5G = 6G	Daily Maturity bucket	
6	Day 5	P5D	P5D	5G = 6G	Daily Maturity bucket	<maturityBucket><maturityStart>P5D</maturityStart><maturityEnd>P5D</maturityEnd>
7	Day 6	P6D	P6D	5G = 6G	Daily Maturity bucket	
8	Day 7	P7D	P7D	5G = 6G	Daily Maturity bucket	
9	Day 8	P8D	P8D	5G = 6G	Daily Maturity bucket	
10	Day 9	P9D	P9D	5G = 6G	Daily Maturity bucket	
11	Day 10	P10D	P10D	5G = 6G	Daily Maturity bucket	
12	Day 11	P11D	P11D	5G = 6G	Daily Maturity bucket	
13	Day 12	P12D	P12D	5G = 6G	Daily Maturity bucket	

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Validations based on 'Maturity Bucket Values' Tab (continued)

Maturity Bucket – maturityBucket – Check if the Maturity Bucket Range combination is valid [Enumeration list validation] → Application-based validation

##	maturityBucket	maturityStart	maturityEnd	6G Status	Requirement	Comments / Example
58	Day 57	P57D	P57D	5G = 6G	Daily Maturity bucket	
59	Day 58	P58D	P58D	5G = 6G	Daily Maturity bucket	
60	Day 59	P59D	P59D	5G = 6G	Daily Maturity bucket	
61	Day 60	P60D	P60D	5G = 6G	Daily Maturity bucket	
62	61 - 67 Days	P61D	P67D	5G = 6G	Weekly Maturity bucket	<maturityBucket><maturityStart>P61D</maturityStart><maturityEnd>P67D</maturityEnd>
63	68 - 74 Days	P68D	P74D	5G = 6G	Weekly Maturity bucket	<maturityBucket><maturityStart>P68D</maturityStart><maturityEnd>P74D</maturityEnd>
64	75 - 82 Days	P75D	P82D	5G = 6G	Weekly Maturity bucket	<maturityBucket><maturityStart>P75D</maturityStart><maturityEnd>P82D</maturityEnd>
65	83 - 90 Days	P83D	P90D	5G = 6G	Weekly Maturity bucket	<maturityBucket><maturityStart>P83D</maturityStart><maturityEnd>P90D</maturityEnd>
66	91 - 120 Days	P91D	P120D	5G = 6G	Monthly Maturity bucket	<maturityBucket><maturityStart>P91D</maturityStart><maturityEnd>P120D</maturityEnd>
67	121 - 150 Days	P121D	P150D	5G = 6G	Monthly Maturity bucket	<maturityBucket><maturityStart>P121D</maturityStart><maturityEnd>P150D</maturityEnd>
68	151 - 179 Days	P151D	P179D	5G <> 6G	Monthly Maturity bucket	<maturityBucket><maturityStart>P151D</maturityStart><maturityEnd>P179D</maturityEnd>
69	180 - 270 Days	P180D	P270D	5G <> 6G	Quarterly Maturity bucket	<maturityBucket><maturityStart>P180D</maturityStart><maturityEnd>P270D</maturityEnd>
70	271 - 364 Days	P271D	P364D	5G <> 6G	Quarterly Maturity bucket	<maturityBucket><maturityStart>P271D</maturityStart><maturityEnd>P364D</maturityEnd>
71	>= 1 Yr <= 2 Yr	P365D	P730D	5G <> 6G	Yearly Maturity bucket	<maturityBucket><maturityStart>P365D</maturityStart><maturityEnd>P730</maturityEnd>
72	>2 Yr <= 3 Yr	P731D	P1095D	5G = 6G	Yearly Maturity bucket	<maturityBucket><maturityStart>P731D</maturityStart><maturityEnd>P1095D</maturityEnd>
73	>3 Yr <= 4 Yr	P1096D	P1460D	5G = 6G	Yearly Maturity bucket	<maturityBucket><maturityStart>P1096D</maturityStart><maturityEnd>P1460D</maturityEnd>
74	>4 Yr <= 5 Yr	P1461D	P1826D	5G = 6G	Yearly Maturity bucket	<maturityBucket><maturityStart>P1461D</maturityStart><maturityEnd>P1826D</maturityEnd>
75	>5 Yr	P1827D	N/A	5G = 6G	Yearly Maturity bucket	maturityEnd is not applicable for this Maturity bucket <maturityBucket><maturityStart>P1827D</maturityStart></maturityBucket>
76	Perpetual	P99999D	N/A	5G <> 6G	Perpetual Maturity bucket	maturityEnd is not applicable for this Maturity bucket <maturityBucket><maturityStart>P99999D</maturityStart></maturityBucket>

6G Business Requirements_for distribution.xlsx

Validations based on 'Enumerations' Tab

Example 1

1. Enumeration list validation
2. Enumeration list will be periodically updated.
 - Enumeration list is based on Financial Stability Board (FSB) documentation.
 - 2020 Enumeration list is used for 6G Implementation and located ==> <https://www.fsb.org/wp-content/uploads/P111120.pdf>.
 - Update is expected once a year.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schema	XML Element or Attribute Type	XML Child Element or Attribute Name	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
13	unsecuredInflowReport	G-SIB	gsib	N	string			5G <> 6G	1. Enumeration list validation 2. Enumeration list will be periodically updated - Enumeration list is based on Financial Stability Board (FSB) documentation - 2020 Enumeration list is used for 6G Implementation and located ==> https://www.fsb.org/wp-content/uploads/P111120.pdf - update is expected once a year	See Enumerations Tab

- To perform this validation, select the 'Enumerations' tab.
- Filter on 'XML Element or Attribute Name' = 'gsib.'
- The filtered results provide a list of allowed values for 'gsib' entries in the input files.

##	Report type	XML Element or Attribute Name	XML Element or Attribute Type	memberTypes	Enumeration value	5G vs. 6G	Comments
64	All applicable reports	gsib	string	N/A	Citigroup	5G <> 6G	enumeration is not part of the Schema, enforced by Application
65	All applicable reports	gsib	string	N/A	HSBC	5G <> 6G	enumeration is not part of the Schema, enforced by Application
66	All applicable reports	gsib	string	N/A	JP Morgan Chase	5G <> 6G	enumeration is not part of the Schema, enforced by Application
67	All applicable reports	gsib	string	N/A	Bank of America	5G <> 6G	enumeration is not part of the Schema, enforced by Application
68	All applicable reports	gsib	string	N/A	Bank of China	5G <> 6G	enumeration is not part of the Schema, enforced by Application
69	All applicable reports	gsib	string	N/A	Barclays	5G <> 6G	enumeration is not part of the Schema, enforced by Application
70	All applicable reports	gsib	string	N/A	BNP Paribas	5G <> 6G	enumeration is not part of the Schema, enforced by Application
71	All applicable reports	gsib	string	N/A	China Construction Bank	5G <> 6G	enumeration is not part of the Schema, enforced by Application
72	All applicable reports	gsib	string	N/A	Deutsche Bank	5G <> 6G	enumeration is not part of the Schema, enforced by Application
73	All applicable reports	gsib	string	N/A	Industrial and Commercial Bank of China	5G <> 6G	enumeration is not part of the Schema, enforced by Application
74	All applicable reports	gsib	string	N/A	Mitsubishi UFJ FG	5G <> 6G	enumeration is not part of the Schema, enforced by Application
75	All applicable reports	gsib	string	N/A	Agricultural Bank of China	5G <> 6G	enumeration is not part of the Schema, enforced by Application
76	All applicable reports	gsib	string	N/A	Bank of New York Mellon	5G <> 6G	enumeration is not part of the Schema, enforced by Application
77	All applicable reports	gsib	string	N/A	Credit Suisse	5G <> 6G	enumeration is not part of the Schema, enforced by Application
78	All applicable reports	gsib	string	N/A	Goldman Sachs	5G <> 6G	enumeration is not part of the Schema, enforced by Application
79	All applicable reports	gsib	string	N/A	Groupe BPCE	5G <> 6G	enumeration is not part of the Schema, enforced by Application
80	All applicable reports	gsib	string	N/A	Groupe Credit Agricole	5G <> 6G	enumeration is not part of the Schema, enforced by Application
81	All applicable reports	gsib	string	N/A	ING Bank	5G <> 6G	enumeration is not part of the Schema, enforced by Application
82	All applicable reports	gsib	string	N/A	Mizuho FG	5G <> 6G	enumeration is not part of the Schema, enforced by Application
83	All applicable reports	gsib	string	N/A	Morgan Stanley	5G <> 6G	enumeration is not part of the Schema, enforced by Application
84	All applicable reports	gsib	string	N/A	Royal Bank of Canada	5G <> 6G	enumeration is not part of the Schema, enforced by Application
85	All applicable reports	gsib	string	N/A	Santander	5G <> 6G	enumeration is not part of the Schema, enforced by Application
86	All applicable reports	gsib	string	N/A	Societe Generale	5G <> 6G	enumeration is not part of the Schema, enforced by Application
87	All applicable reports	gsib	string	N/A	Standard Chartered	5G <> 6G	enumeration is not part of the Schema, enforced by Application
88	All applicable reports	gsib	string	N/A	State Street	5G <> 6G	enumeration is not part of the Schema, enforced by Application
89	All applicable reports	gsib	string	N/A	Sumitomo Mitsui FG	5G <> 6G	enumeration is not part of the Schema, enforced by Application
90	All applicable reports	gsib	string	N/A	Toronto Dominion	5G <> 6G	enumeration is not part of the Schema, enforced by Application
91	All applicable reports	gsib	string	N/A	UBS	5G <> 6G	enumeration is not part of the Schema, enforced by Application
92	All applicable reports	gsib	string	N/A	UniCredit	5G <> 6G	enumeration is not part of the Schema, enforced by Application
93	All applicable reports	gsib	string	N/A	Wells Fargo	5G <> 6G	enumeration is not part of the Schema, enforced by Application

6G Business Requirements_for distribution.xlsx

Validations based on 'Enumerations' Tab (continued)

Example 2

- Validation needs to be performed to make sure that the expected product is used with every report type.
- If an unexpected value is used, the file must be rejected with corresponding error handling.

##	Report type	Business field name	XML Element or Attribute Name	Required by Schem.	XML Element or Attribute Type	XML Child Element or Attribute	XML Child Element or Attribute Type	5G vs. 6G	Validation rule	Enumeration list
10	balanceSheetSupReport	Product	balanceSheetSupProduct	Y	balanceSheetSupProduct			5G <> 6G	Validation needs to be performed to make sure that expected Product is used with every Report type. If unexpected value is used, File must be rejected with corresponding Error handling	See Enumerations Tab

- To perform this validation, select the 'Enumerations' tab and filter based on 'XML Element or Attribute Name' = 'balanceSheetSupProduct.'
- The 'Enumeration value' list will show a list of allowed values.

##	Report type	XML Element or Attribute Name	XML Element or Attribute Type	memberTypes	Enumeration value
321	balanceSheetSupReport	balanceSheetSupProduct	balanceSheetSupProduct	N/A	Regulatory Capital Element
322	balanceSheetSupReport	balanceSheetSupProduct	balanceSheetSupProduct	N/A	Other Liabilities
323	balanceSheetSupReport	balanceSheetSupProduct	balanceSheetSupProduct	N/A	Non-Performing Assets
324	balanceSheetSupReport	balanceSheetSupProduct	balanceSheetSupProduct	N/A	Other Assets
325	balanceSheetSupReport	balanceSheetSupProduct	balanceSheetSupProduct	N/A	Counterparty Netting
326	balanceSheetSupReport	balanceSheetSupProduct	balanceSheetSupProduct	N/A	Carrying Value Adjustment

XML Schemas

6GSchema.xsd

There are four XML Schemas shared with the institutions in the distributed package.

6GSchema.xsd	XML Schema for Data files
6GCommentSchema.xsd	XML Schema for Comments files
XYZBANKIncludesSchema.xsd	Firm-specific schema-include XSD sample file
XYZBANKIncludesSchema_NoBusinessLinesProvided.xsd	Firm-specific schema-include XSD sample file

General information

- 6GSchema.xsd – XML Schema, which was designed for 6G FR 2052a Complex Institution Liquidity Monitoring Report submissions
- 6GSchema.xsd has many similarities with XML Schema used for 5G Data collection; however, it has specific details to accommodate 6G requirements.
- This XML Schema is applicable for two file types expected to be provided by each submitting firm:
 - Primary Submission schedule file
 - Reduced Submission schedule file

Including firm-specific XML Schema

- 6GSchema.xsd includes statement pointing to firm-specific XML Schema.

```
<?xml version="1.0" encoding="UTF-8" ?>  
- <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attributeFormDefault="unqualified">  
  <xs:include schemaLocation="XYZBANKIncludesSchema.xsd" />  
</xs:schema>
```

- It is expected that each submitting firm will substitute sample 'XYZBANKIncludesSchema.xsd' XML Schema with firm-specific XML Schema include file.

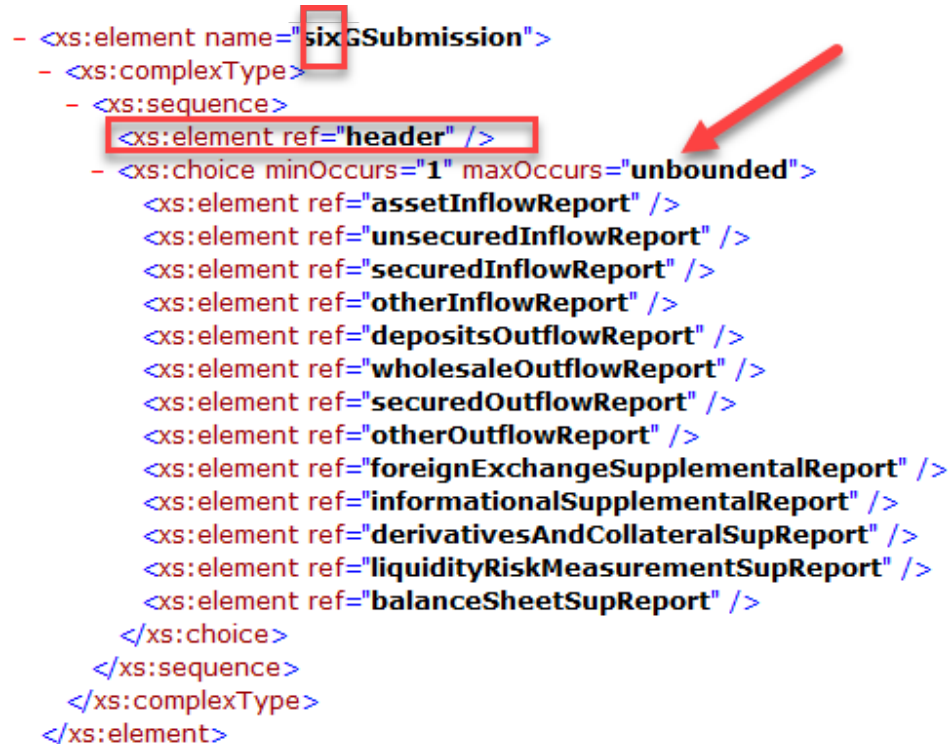
XML Schemas

6GSchema.xsd (continued)

Schema navigation

- XML Schema can be easily navigated after searching for the word, “six.”

```
- <xs:element name="sixGSubmission">
- <xs:complexType>
- <xs:sequence>
  <xs:element ref="header" />
  <xs:choice minOccurs="1" maxOccurs="unbounded">
    <xs:element ref="assetInflowReport" />
    <xs:element ref="unsecuredInflowReport" />
    <xs:element ref="securedInflowReport" />
    <xs:element ref="otherInflowReport" />
    <xs:element ref="depositsOutflowReport" />
    <xs:element ref="wholesaleOutflowReport" />
    <xs:element ref="securedOutflowReport" />
    <xs:element ref="otherOutflowReport" />
    <xs:element ref="foreignExchangeSupplementalReport" />
    <xs:element ref="informationalSupplementalReport" />
    <xs:element ref="derivativesAndCollateralSupReport" />
    <xs:element ref="liquidityRiskMeasurementSupReport" />
    <xs:element ref="balanceSheetSupReport" />
  </xs:choice>
</xs:sequence>
</xs:complexType>
</xs:element>
```



- XML files submitted under 6G XML Schema contain file header and multiple report records of different report types.

XML Schemas

6GSchema.xsd (continued)

Schema navigation – file header

- Details about XML elements of the header can be found in the ‘header’ tab of the ‘6G Business Requirements_for distribution.xlsx’ document.
- Header example [6G_XYZBANK_08312021.xml]:

```
<sixGSubmission xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="6GSchema.xsd">  
  <header version="1" reportingFrequency="Primary">  
    <reporter listingExchange="XNYS">XYZBANK</reporter>  
    <reportingDate>2021-08-31</reportingDate>  
  </header>  
</sixGSubmission>
```

- File header contains information about file submission:

```
<!-- Header and Its Elements -->  
- <xs:element name="header">  
  - <xs:complexType>  
    - <xs:sequence>  
      <xs:element name="reporter" type="reporter" minOccurs="1" maxOccurs="1" />  
      <xs:element name="reportingDate" type="xs:date" />  
    </xs:sequence>  
    <xs:attribute name="version" type="xs:positiveInteger" use="required" />  
    <xs:attribute name="reportingFrequency" type="reportingFrequency" use="required" />  
  </xs:complexType>  
</xs:element>  
- <xs:complexType name="reporter">  
  - <xs:simpleContent>  
    - <xs:extension base="reporterList">  
      <xs:attribute name="listingExchange" type="exchangeList" use="required" />  
    </xs:extension>  
  </xs:simpleContent>  
</xs:complexType>
```

XML Schemas

6GSchema.xsd (continued)

Schema navigation – file header

- New XML element ‘reportingFrequency’ was introduced to differentiate between type of file processed:
 - Primary vs. reduced

```
- <xs:simpleType name="reportingFrequency">
- <xs:restriction base="xs:string">
  <xs:enumeration value="Primary" />
  <xs:enumeration value="Reduced" />
</xs:restriction>
</xs:simpleType>
```

- ‘Reporter’ information [‘reporterList’ and ‘listingExchange’] provided via firm-specific XSD Schema file [examples from ‘XYZBANKIncludesSchema.xsd’]

```
<?xml version="1.0" encoding="UTF-8" ?>
<!-- schema generated on 07/29/2021 -->
- <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attributeFormDefault="unqualified">
- <xs:simpleType name="reporterList">
  - <xs:restriction base="xs:string">
    <xs:enumeration value="XYZBANK" />
  </xs:restriction>
</xs:simpleType>
- <xs:simpleType name="exchangeList">
  - <xs:restriction base="xs:string">
    <xs:enumeration value="XNYS" />
  </xs:restriction>
</xs:simpleType>
```

XML Schemas

6GSchema.xsd (continued)

Schema navigation – report records

- XML Schema describes report records of different report types.

```
- <xs:element name="sixGSubmission">
- <xs:complexType>
- <xs:sequence>
  <xs:element ref="header" />
- <xs:choice minOccurs="1" maxOccurs="unbounded">
  <xs:element ref="assetInflowReport" />
  <xs:element ref="unsecuredInflowReport" />
  <xs:element ref="securedInflowReport" />
  <xs:element ref="otherInflowReport" />
  <xs:element ref="depositsOutflowReport" />
  <xs:element ref="wholesaleOutflowReport" />
  <xs:element ref="securedOutflowReport" />
  <xs:element ref="otherOutflowReport" />
  <xs:element ref="foreignExchangeSupplementalReport" />
  <xs:element ref="informationalSupplementalReport" />
  <xs:element ref="derivativesAndCollateralSupReport" />
  <xs:element ref="liquidityRiskMeasurementSupReport" />
  <xs:element ref="balanceSheetSupReport" />
  </xs:choice>
</xs:sequence>
</xs:complexType>
</xs:element>
```


XML Schemas

6GSchema.xsd (continued)

Schema navigation – report records

- For each of the report types XML Schema contains corresponding XML element describing record of specific report type. Example below:

```
- <xs:element name="assetInflowReport">
- <xs:complexType>
- <xs:complexContent>
- <xs:extension base="reportBase">
- <xs:sequence>
  <xs:element name="assetProduct" type="assetProduct" minOccurs="1" maxOccurs="1" />
  <xs:element name="assetSource" type="assetSource" minOccurs="0" maxOccurs="1" />
  <xs:element name="marketValue" type="valueType" minOccurs="1" maxOccurs="1" />
  <xs:element name="lendableValue" type="valueType" minOccurs="1" maxOccurs="1" />
  <xs:element name="maturityBucket" type="maturityBucket" minOccurs="1" maxOccurs="1" />
  <xs:element name="forwardStartValue" type="valueType" minOccurs="0" maxOccurs="1" />
  <xs:element name="forwardStartBucket" type="maturityBucket" minOccurs="0" maxOccurs="1" />
  <xs:element name="collateralClass" type="collateralClass" minOccurs="1" maxOccurs="1" />
  <xs:element name="accountingDesignation" type="accountingDesignation" minOccurs="1" maxOccurs="1" />
  <xs:element name="effectiveMaturityBucket" type="maturityBucket" minOccurs="0" maxOccurs="1" />
  <xs:element name="encumbranceType" type="encumbranceType" minOccurs="0" maxOccurs="1" />
  <xs:element name="internalCounterparty" type="internalCounterparty" minOccurs="0" maxOccurs="1" />
  <xs:element name="businessLine" type="businessLine" minOccurs="0" maxOccurs="1" />
</xs:sequence>
  <xs:attribute name="treasuryControl" type="xs:boolean" use="required" />
</xs:extension>
</xs:complexContent>
</xs:complexType>
</xs:element>
```

XML Schemas

6GSchema.xsd (continued)

Schema navigation – Report records

- Each XML Schema element with `minOccurs="1"` is a mandatory element and must be provided from the XML Schema perspective.

```
<xs:element name="assetProduct" type="assetProduct" minOccurs="1" maxOccurs="1" />
```

- Each XML Schema element with `minOccurs="0"` is not mandatory element from XML Schema perspective; however, these types of fields may be required to be populated based on the business rules articulated in the ‘FR 2052a Instructions.pdf.’ Such fields, which are not required by XML Schema but expected to be provided from the business perspective, are called ‘Dependent fields.’

```
<xs:element name="assetSource" type="assetSource" minOccurs="0" maxOccurs="1" />
```

- Example of ‘Dependent field’ is the `element name="businessLine"`

```
<xs:element name="businessLine" type="businessLine" minOccurs="0" maxOccurs="1" />
```

- “businessLine” is not mandatory from XML Schema perspective.
- “businessLine,” however, must be provided by Category I firms, as designated by the Board’s tailoring rules.

XML Schemas

6GSchema.xsd (continued)

Schema navigation – enumeration values

- XML Schema contains multiple enumeration values lists which correspond to the content of the 'Enumerations' tab in the '6G Business Requirements_for distribution.xlsx.' Examples below:

```

- <xs:simpleType name="encumbranceType">
- <xs:restriction base="xs:string">
  <xs:enumeration value="Securities Financing Transaction" />
  <xs:enumeration value="Derivative VM" />
  <xs:enumeration value="Derivative IM and DFC" />
  <xs:enumeration value="Other IM and DFC" />
  <xs:enumeration value="Segregated for Customer Protection" />
  <xs:enumeration value="Covered Federal Reserve Facility Funding" />
  <xs:enumeration value="Other" />
</xs:restriction>
</xs:simpleType>

```

```

- <xs:simpleType name="maturityOptionality">
- <xs:restriction base="xs:string">
  <xs:enumeration value="Evergreen" />
  <xs:enumeration value="Extendible" />
  <xs:enumeration value="Accelerated-Counterparty" />
  <xs:enumeration value="Accelerated-Firm" />
  <xs:enumeration value="Not Accelerated" />
</xs:restriction>
</xs:simpleType>

```

##	Report type	XML Element or Attribute Name	XML Element or Attribute Type	memberTypes	Enumeration value
27	All applicable reports	encumbranceType	encumbranceType	N/A	Securities Financing Transaction
28	All applicable reports	encumbranceType	encumbranceType	N/A	Derivative VM
29	All applicable reports	encumbranceType	encumbranceType	N/A	Derivative IM and DFC
30	All applicable reports	encumbranceType	encumbranceType	N/A	Other IM and DFC
31	All applicable reports	encumbranceType	encumbranceType	N/A	Segregated for Customer Protection
32	All applicable reports	encumbranceType	encumbranceType	N/A	Covered Federal Reserve Facility Funding
33	All applicable reports	encumbranceType	encumbranceType	N/A	Other
53	All applicable reports	maturityOptionality	maturityOptionality	N/A	Evergreen
54	All applicable reports	maturityOptionality	maturityOptionality	N/A	Extendible
55	All applicable reports	maturityOptionality	maturityOptionality	N/A	Accelerated-Counterparty
56	All applicable reports	maturityOptionality	maturityOptionality	N/A	Accelerated-Firm
57	All applicable reports	maturityOptionality	maturityOptionality	N/A	Not Accelerated

XML Schemas

XYZBANKIncludesSchema.xsd

- XYZBANKIncludesSchema.xsd XML Schema represents a sample of the firm-specific Include Schema file, which was created for demonstration purposes for hypothetical 'XYZBANK.'
- 6GSchema.xsd has an "include" statement pointing to Firm specific XML Schema.

```
<?xml version="1.0" encoding="UTF-8" ?>  
- <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attributeFormDefault="unqualified">  
  <xs:include schemaLocation="XYZBANKIncludesSchema.xsd" />  
</xs:schema>
```

- 6G firm-specific Include Schema file contains enumerations for the following XML types:
 - reporterList
 - exchangeList
 - reportScope
 - internalCounterparty
 - businessLine
 - existed in 5G
 - existed in 5G
 - existed in 5G
 - existed in 5G
 - new XML type introduced for 6G
- Notes:
 - Please be aware that only Category I Firms must provide businessLine information.
 - The FRB will distribute 6G firm-specific schema-include XSD files to Category I Firms.

XML Schemas

XYZBANKIncludesSchema.xsd (continued)

```
<?xml version="1.0" encoding="UTF-8" ?>
<!-- schema generated on 07/29/2021 -->
- <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attributeFormDefault="unqualified">
- <xs:simpleType name="reporterList">
- <xs:restriction base="xs:string">
  <xs:enumeration value="XYZBANK" />
</xs:restriction>
</xs:simpleType>
- <xs:simpleType name="exchangeList">
- <xs:restriction base="xs:string">
  <xs:enumeration value="XNYS" />
</xs:restriction>
</xs:simpleType>
- <xs:simpleType name="reportScope">
- <xs:restriction base="xs:string">
  <xs:enumeration value="XYZBANK - Consolidated" />
  <xs:enumeration value="XYZBANK - Parent" />
  <xs:enumeration value="XYZBANK Bank USA NA" />
  <xs:enumeration value="XYZBANK - APAC" />
  <xs:enumeration value="XYZBANK - Americas" />
  <xs:enumeration value="XYZBANK - EMEA" />
</xs:restriction>
</xs:simpleType>
- <xs:simpleType name="internalCounterparty">
- <xs:restriction base="xs:string">
  <xs:enumeration value="XYZBANK - Parent" />
  <xs:enumeration value="XYZBANK Bank USA NA" />
  <xs:enumeration value="XYZBANK - APAC" />
  <xs:enumeration value="XYZBANK - Americas" />
  <xs:enumeration value="XYZBANK - EMEA" />
</xs:restriction>
</xs:simpleType>
- <xs:simpleType name="businessLine">
- <xs:restriction base="xs:string">
  <xs:enumeration value="Asset Management" />
  <xs:enumeration value="Investment Bank" />
  <xs:enumeration value="Wealth Management" />
  <xs:enumeration value="Commercial Bank" />
  <xs:enumeration value="Corporate Treasury" />
</xs:restriction>
</xs:simpleType>
</xs:schema>
```

XML Schemas

XYZBANKIncludesSchema_NoBusinessLinesProvided.xsd

- Categories II, III, and IV firms, as designated by the Board's tailoring rules, are not required to provide "businessLine" information.
- For the 6GSchema.xsd XML Schema to be properly validated, there is an expectation that `simpleType name="businessLine"` is properly defined and present in the firm-specific include file.
- XYZBANKIncludesSchema_NoBusinessLinesProvided.xsd was created as an example for firms which are not required to provide Business Lines information.
- As you can see from the example below, while `simpleType name="businessLine"` is properly defined, it has no enumeration values.

```
<?xml version="1.0" encoding="UTF-8" ?>
<!-- schema generated on 07/29/2021 -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attributeFormDefault="unqualified">
  <xs:simpleType name="reporterList">
    <xs:restriction base="xs:string">
      <xs:enumeration value="XYZBANK" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="exchangeList">
    <xs:restriction base="xs:string">
      <xs:enumeration value="XNYS" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="reportScope">
    <xs:restriction base="xs:string">
      <xs:enumeration value="XYZBANK - Consolidated" />
      <xs:enumeration value="XYZBANK - Parent" />
      <xs:enumeration value="XYZBANK Bank USA NA" />
      <xs:enumeration value="XYZBANK - APAC" />
      <xs:enumeration value="XYZBANK - Americas" />
      <xs:enumeration value="XYZBANK - EMEA" />
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="internalCounterparty">
    <xs:restriction base="xs:string">
      <xs:enumeration value="XYZBANK - Parent" />
      <xs:enumeration value="XYZBANK Bank USA NA" />
      <xs:enumeration value="XYZBANK - APAC" />
      <xs:enumeration value="XYZBANK - Americas" />
      <xs:enumeration value="XYZBANK - EMEA" />
    </xs:restriction>
  </xs:simpleType>
  <!-- Requirements for adding "businessLine" Type to existing 5G Firm-specific schema-include XSD files
  can be found in section "Distribution of 6G Firm-specific Schema-include XSD files" in the "6G Documentation package overview". -->
  <xs:simpleType name="businessLine">
    <xs:restriction base="xs:string">
      <!-- xs:enumeration value="" -->
    </xs:restriction>
  </xs:simpleType>
</xs:schema>
```

XML Schemas

How Firms can Generate 6G Firm Specific XML Schema File from Available 5G Firm Specific XML Schema file

- For Firms which are not required to provide 'businessLine' values in the 6G submissions
 - To successfully validate 6G XSD Schema, Firms must use 6G Firm-specific schema-include XSD files with 'businessLine' included
 - The FRB does not intend to distribute 6G Firm-specific schema-include XSD files to the Firms that are not expected to provide 'businessLine' in the 6G submissions
 - Firms are advised to modify existing 5G Firm-specific schema-include XSD files into the 6G format by following the steps below:
 - Use the provided 'XYZBANKIncludesSchema_NoBusinessLinesProvided.xsd' file as an example
 - Edit content of the existing 5G Firm-specific schema-include XSD file by adding an entry for 'businessLine' from the 'XYZBANKIncludesSchema_NoBusinessLinesProvided.xsd' sample file
 - If the 5G Firm-specific schema-include XSD file cannot be located by the Firm, FRB can provide a copy of such document to the Firm

XML Schemas

6GCommentSchema.xsd

General information

- 6GCommentSchema.xsd – XML Schema was designed for 6G FR 2052a Complex Institution Liquidity Monitoring Report Comments submissions.
- 6GCommentSchema.xsd has many similarities with XML Schema used for 5G Data collection; however, it includes specific details to accommodate 6G requirements.
- It is expected that firms will be able to use the same XML file to provide comments for:
 - Primary submission schedule file
 - Reduced submission schedule file
- If firm already submitted comments for specific as-of-date for primary submission file and needs to add comments for reduced schedule submission for the same as-of-date, the firm needs to submit new version of the comments file for the same as-of-date with additional comments.
- There is an expectation that every new version of the comments file for specific as-of-date will contain all cumulative comments for this as-of-date for primary and reduced submission schedule files.
- Detailed information about 6GCommentSchema.xsd XML Schema can be found in the ‘sixGComments’ tab of the ‘6G Business Requirements_for distribution.xlsx’ document.

Including 6GSchema.xsd XML Schema

- 6GCommentSchema.xsd has include statement pointing to 6GSchema.xsd XML Schema.

```
<?xml version="1.0" encoding="UTF-8" ?>  
- <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">  
  <xs:include schemaLocation="6GSchema.xsd" />  
</xs:schema>
```

Possible level of comments

- 6GCommentSchema.xsd allows for submission of comments on the different precision level to accommodate firm's needs.
- Firms can specify:
 - reportingFrequency
 - reportScope
 - report type
 - product
 - subProduct
 - comment text
- Alternatively, comment record can be submitted without reportingFrequency, reportScope, or specific report details.

XML Schemas

6GCommentSchema.xsd (continued)

- Examples of the comments provided below:

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <sixGComments xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="6GCommentSchema.xsd">
3   <commentsHeader version="1">
4     <reporter listingExchange="XNYS">XYZBANK</reporter>
5     <reportingDate>2021-08-31</reportingDate>
6   </commentsHeader>
7   <comments>
8
9     <!-- Sample file -->
10    <!-- -->
11    <comment reportingFrequency="Primary">
12      <reportScope>XYZBANK - EMEA</reportScope>
13      <report type="assetInflowReport" reportID="1">
14        <product>Capacity</product>
15        <subProduct>Bank of England</subProduct>
16      </report>
17      <text>Sample comment for Primary submission, assetInflowReport, reportID specific</text>
18    </comment>
19    <!-- -->
20    <comment reportingFrequency="Reduced">
21      <reportScope>XYZBANK - Consolidated</reportScope>
22      <report type="liquidityRiskMeasurementSupReport" reportID="1">
23        <product>Net Stable Funding Ratio</product>
24      </report>
25      <text>Sample comment for Reduced submission, liquidityRiskMeasurementSupReport, reportID specific</text>
26    </comment>
27    <!-- -->
28    <comment reportingFrequency="Primary">
29      <reportScope>XYZBANK - EMEA</reportScope>
30      <report type="unsecuredInflowReport">
31        <product>Onshore Placements</product>
32      </report>
33      <text>Sample comment for Primary submission, unsecuredInflowReport, not specific to reportID</text>
34    </comment>
35    <!-- -->
36    <comment>
37      <reportScope>XYZBANK - APAC</reportScope>
38      <text>Sample comment without reportingFrequency or specific report details</text>
39    </comment>
40    <!-- -->
41    <comment>
42      <text>Sample comment without reportingFrequency, reportScope or specific report details</text>
43    </comment>
44  </comments>
45 </sixGComments>
46
47
```

I

Sample XML files

Note that the three “XYZBANK” sample files included in the 6G documentation package are intended to illustrate the XML schema format and do not constitute guidance on how to report specific transactions.

6G_XYZBANK_08312021.xml

- File represents sample of the Primary Submission schedule file.
- File corresponds to the 6GSchema.xsd.
- File was created for demonstration purposes for hypothetical ‘XYZBANK’.
- File contains variation of records of all 6G report types:
 - assetInflowReport
 - unsecuredInflowReport
 - securedInflowReport
 - otherInflowReport
 - depositsOutflowReport
 - wholesaleOutflowReport
 - securedOutflowReport
 - otherOutflowReport
 - foreignExchangeSupplementalReport
 - informationalSupplementalReport
 - derivativesAndCollateralSupReport
 - liquidityRiskMeasurementSupReport
 - balanceSheetSupReport

Sample XML files (continued)

6G_XYZBANK_08312021.REDUCED.xml

- File represents sample of the reduced submission schedule file.
- File corresponds to the 6GSchema.xsd.
- File was created for demonstration purposes for hypothetical 'XYZBANK.'
- File contains variation of records of only two 6G report types expected to be submitted via reduced submission schedule file:
 - liquidityRiskMeasurementSupReport
 - balanceSheetSupReport

6G_XYZBANK_08312021.COMMENT.xml

- File represents sample of the comments file.
- File corresponds to the 6GCommentSchema.xsd.
- File was created for demonstration purposes for hypothetical 'XYZBANK.'
- File contains variation of comments records on the different precision levels to accommodate firm's needs.

Firm's UAT Testing Timeline and Rules of Engagement

- The FRB quality assurance (QA) environment for a firm's UAT of 6G submissions is expected to be open early March 2022. Additional communication will be issued indicating when the FRB QA environment is ready for firm's UAT.
- Testing will be initially opened only for Category I Firms.
- Categories II, III, and IV firms are expected to proceed with testing starting from June–July 2022 based on the expected start of 6G submissions.
 - Please note that only Category I Firms are expected to start submitting FR 2052a Complex Institution Liquidity Monitoring Report in 6G format from May 1, 2022.
 - Categories II, III, and IV Firms are expected to start submissions in the 6G format from October 2022.
- Firms will be able to submit test 6G files [Primary, Reduced, and Comments] into the QA environment using SFTP (Secure File Transfer Protocol) data transmission, while utilizing 5G QA SFTP credentials [Accounts] and placing files into newly created 6G folders.
- Firms will not need to get pre-approvals for submission of the test files after QA environment will be opened for testing.
- Firms will be able to submit as many files as necessary during UAT time period.
- For every submitted UAT test file, firms will receive:
 - Success or failure processing email notifications
 - Detailed error messages [if applicable]
- The FRB will enable email submission deadline notifications in the QA environment for firms participating in UAT for primary and reduced submission schedule files.
- Firms are welcome to seek guidance interpreting error messages as required during and after UAT.

Updates to the '6G Business Requirements_for distribution.xlsx' document

- Minor updates in the previously distributed '6G Business Requirements_for distribution.xlsx' document include:
 - Introducing 'change log' tab
 - Modifying the 'counterparty required' tab described via 'change log' tab

##	Change date	Tab	Change description	Performed by	Comment / Reference
1	12/28/2021	Counterparty Required	Names for 6 Products have been updated to align with values used in XML Schema and values used in 'Enumerations' Tab	O. Raginskiy	Updated Product names: Non-Reciprocal Brokered Deposits Forwards and Futures FHLB Advances Synthetic Firm Financing Other Secured Financing Transactions Outstanding Draws on Unsecured Revolving Facilities

- Updated version of the '6G Business Requirements_for distribution.xlsx' is distributed to the firms via 'Ask the Fed' session materials:
 - 6G Business Requirements_for distribution_2021.12.28.xlsx

Technical Questions Requiring Assistance

- Please direct any questions as follows:
 - NYSTLiquidityMonitoring@ny.frb.org for questions regarding 2052a content
 - FR2052A.Support@ny.frb.org for technical questions related to 6G onboarding and file submission
- Answers to commonly asked questions expected to be communicated using Frequently Asked Questions process.

Poll 2

Is the material in this presentation helpful to the technical development of data files?

- a) Yes**
- b) No**
- c) Unsure**

Poll 3

Did this presentation provide information to further your knowledge of the requirements for a successful submission to the Federal Reserve?

- a) Yes**
- b) No**
- c) Unsure**

To Ask a Question

- **Use the chat feature in the webinar**
(*Ask Question* button on bottom of screen)
- **Email your question to: questions@askthefed.org.**
- **Use the “Ask a Question” feature on the Ask the Fed[®] website:**
www.askthefed.org.

Thanks for joining us.

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