XBRL US Center for Data Quality

Data Quality Committee Guidance and Validation Rules Approved November 18, 2015
Latest revision June 30, 2016

The XBRL US Data Quality Committee has approved and published validation rules below to help public companies detect inconsistencies or errors in their XBRL-formatted financial data. The rules identify potential errors such as incorrect negative or positive values, improper relationships between elements, and incorrect dates associated with certain data. The Committee approved these rules after considering comments received during a 60 day public review period.

Element Values Are Equal

Rule ID: DQC_0004
Status: Final
Release date: November 19, 2015
Effective date: January 1, 2016

Rule function

This rule tests that the value reported for the element **Assets** equals the value reported for the element **Liabilities and Equity**. The rule allows a tolerance for rounding between the values tested of 2 based on the scale of the values. For example, if the values are reported in millions, the rounding tolerance would be $2 million.

Problem solved by the rule

This rule can detect where companies have incorrect values (e.g., different rounding) for the standard element for **Assets** or the standard element for **Liabilities and Equity**. This is a problem for consumption because the data for these elements will be extracted incorrectly for analysis.

Example rule message

(Note: Presentation style of rule messages may differ among software implementations of the rules.)

Assets with a value of 340,000,000 is not equal to the total of Liabilities and Equity with a value of 350,000,000. These values should be equal.
The properties of this us-gaap:Assets fact are:
Period: 2014-12-31
Dimensions: none
Unit: USD
Rule version: 1.0

For Developers

The Global Rule Logic document contains general guidelines for implementation of rules.

The rule message template contains text and parametric reference to arguments of the rule operation, using the syntax ${parameter} to indicate that insertion of a parameter's value is to occur.

Message template

${fact1.label} with a value of ${fact1.value} is not equal to the total of ${fact2.label} with a value of ${fact2.value}. These values should be equal.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

Rule element ID index

The rule element id is used to identify unique elements or combinations of elements tested in the rule.

Rule element	Element label (fact1)	Element name (fact1)	Element label (fact2)	Element name (fact2)
DQC_0004.16	Assets	Assets	Liabilities and Equity	Liabilities AndStockhol ders Equity

Context Dates After Period End Date

Rule ID: DQC_0005
Status: Final
Release date: November 19, 2015
Effective date: January 1, 2016

Rule function

This rule tests that the use of dates associated with subsequent events, forecasts and the element **Entity Common Stock, Shares Outstanding** are appropriate.

Entity Common Stock, Shares Outstanding

When a value is reported for the element **Entity Common Stock, Shares Outstanding** the date associated with this value must be on or after the reporting period end date. If the date associated with the value for **Entity Common Stock, Shares Outstanding** is earlier than the reporting period end date then an error will be reported. (DQC_0005.17)

Subsequent events

When a value is reported for a fact which is indicated in the filing as a subsequent event the date associated with this value must be after the reporting period end date. If the date associated with this fact value is on or earlier than the reporting period end date,

then an error will be reported. (Note: Fact values are indicated as being subsequent events in XBRL files by using the Subsequent Event Type [Axis] as a dimension of the fact in an XBRL instance.) (DQC_0005.48)

Forecasts

When a value is reported for a fact which is indicated in the filing as a forecast the date or end date of a date range associated with this value must be after the reporting period end date. If the date or end date of a date range associated with this fact value is on or earlier than the reporting period end date then an error will be reported. (Note: Fact values are indicated as being forecasts in the XBRL file by using the Statement Scenario [Axis] and Scenario Forecast [Member] as dimensions of the fact in an XBRL instance.) (DQC_0005.49)

Form exclusions

The rule does not run on Forms S-1 and S-11. These forms often combine multiple XBRL filings for earlier reporting periods. If the earlier reporting period includes a subsequent event disclosure, running the rule would incorrectly show the dates of the subsequent event as an error.

Authoritative reference

EDGAR Filer Manual 6.5.21 requires that the date used for the Document and Entity Information element **Entity Common Stock, Shares Outstanding** must be the measurement date reported on the cover page of the HTML document and the values for this element should be the same as the amount reported on the cover page. The element, **Entity Common Stock, Shares Outstanding** should have a date no earlier than the end of the reporting period.

Subsequent events are defined as "Events or transactions that occur after the balance sheet date but before financial statements are issued or available to be issued". ASC 855-10-20

Guidance

Common Stock Shares Outstanding

- The element **Common Stock Shares Outstanding** is used for concepts on the balance sheet, statement of shareholders' equity or disclosures within footnotes. The context date used for this element must be the current or prior reporting period.

- The element **Entity Common Stock, Shares Outstanding** is used for disclosures on the cover page of the filing. The context date used for this element is a date on or after the reporting period.

Subsequent events

These disclosures have context dates after the reporting period to accurately identify the time frame of the transaction. These disclosures will use the Subsequent Event Type Axis along with the line item concept.

Forecasts

For projections or forecasts, dates are based on the projection/forecast dates. These disclosures will use the Scenario Axis and the Scenario, Forecast Member along with the line item concept.

Not all transactions reported or forecast for a future period will require a date that is after the current reporting period. The date used is based on the definition of the concept used, specifically whether the definition incorporates a future period. For example, concepts like **Long-term Debt, Maturities, Repayments of Principal in Next Twelve Months**, or **Long-term Debt, Maturities, Repayments of Principal in Year Two** incorporate future periods in their definitions. Dates after the reporting period should not be used with elements that incorporate future periods in their definitions.

Example of elements and definitions that incorporate a future period:
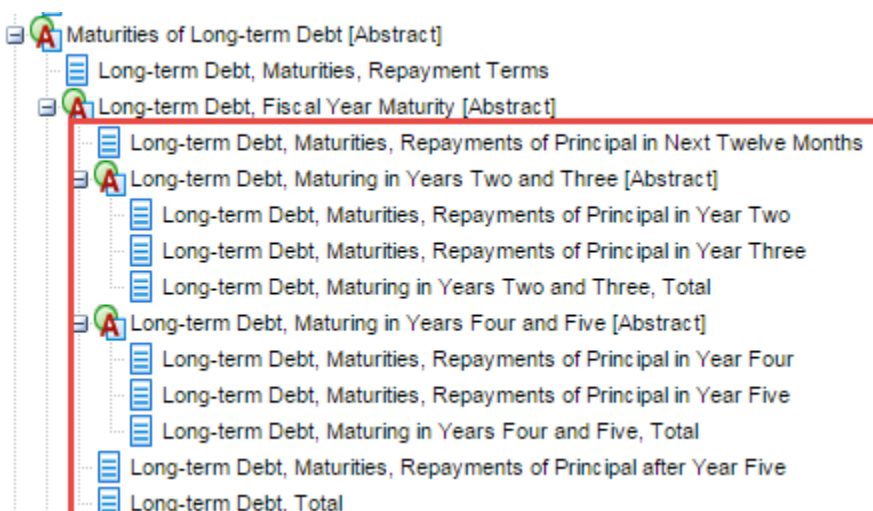
Long-term Debt, Maturities, Repayments of Principal in Year Two

Labels		
Type	**Lang**	**Label**
Standard Label	en-US	Long-term Debt, Maturities, Repayments of Principal in Year Two
Documentation	en-US	Amount of long-term debt payable, sinking fund requirements, and other securities issued that are redeemable by holder at fixed or determinable prices and dates maturing in the second fiscal year following the latest fiscal year. Excludes interim and annual periods when interim periods are reported on a rolling approach, from latest balance sheet date.

Problem solved by the rule

Filers apply incorrect reporting dates to elements. This error impacts the consumption of the elements because users will extract the data based on the expected reporting date. For example, using an incorrect date for public float will result in an incorrect calculation of share value because the correct element will not be extracted into the analysis if the reporting date is not applied correctly.

Example rule message

(Note: Presentation style of rule messages may differ among software implementations of the rules.)

DQC_0005.17

The date of 2014-11-30 used for Entity Common Stock Shares Outstanding with a value of 100,000 is earlier than the reporting period end date 2014-12-31. Update the date

used for Entity Common Stock Shares Outstanding to be the same as the cover sheet of the filing.

The properties of this dei:EntityCommonStockSharesOutstanding fact are:

Period: 2014-11-30

Dimensions: none

Unit: none

Rule version: 1.0

DQC_0005.48

The date of 2014-12-31 used for Loss Contingency Accrual, Product Liability, Net and the Subsequent Event Type [Axis] with a value of 100,000 is earlier than or the same as the reporting period end date of 2014-12-31. Either remove the subsequent event axis from this value, change the end date for the value or update the Document and Entity Information document period end date.

The properties of this us-gaap:LossContingencyAccrualProductLiabilityNet fact are:

Period: 2014-01-01 to 2014-12-31

Dimensions: SubsequentEventTypeAxis=SubsequentEventMember

Unit: USD

Rule version: 1.0

DQC_0005.49

The date of 2014-12-31 used for Revenues and the Statement Scenario [Axis] and Scenario Forecast [Member] with a value of 500,000,000 is earlier than or the same as the reporting period end date of 2014-12-31. Either remove the statement scenario axis and forecast member from this value, change the end date for the value or update the Document and Entity Information document period end date. The properties of this us-gaap:Revenues fact are:

Period: 2014-01-01 to 2014-12-31

Dimensions: StatementScenerioAxis=ScenarioForecastMember

Unit: USD

Rule version: 1.0

For Developers

The Global Rule Logic document contains general guidelines for implementation of rules.

The rule message template contains text and parametric reference to arguments of the rule operation, using the syntax ${parameter} to indicate that insertion of a parameter's value is to occur.

Message template

DQC_0005.17

The date of ${fact1.period} used for ${fact1.label} with a value of ${fact1.value} is earlier than the reporting period end date ${dei:DocumentPeriodEndDate.fact.value}. Update the date used for ${fact1.label} to be the same as the cover sheet of the filing.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0005.48

The date of ${fact1.period.endDate} used for ${fact1.label} and the ${us-gaap:SubsequentEventTypeAxis.label} with a value of ${fact1.value} is earlier than or the same as the reporting period end date of ${dei:DocumentPeriodEndDate.fact.value}. Either remove the subsequent event axis from this value, change the end date for the value or update the Document and Entity Information document period end date.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0005.49

The date of ${fact1.period.endDate} used for ${fact.label} and the ${us-gaap:StatementScenarioAxis.label} and ${us-gaap:ScenarioForcastMember.label} with a value of ${fact1.value} is earlier than or the same as the reporting period end date of ${dei:DocumentPeriodEndDate.fact.value}. Either remove the statement scenario axis and forecast member from this value, change the end date for the value or update the Document and Entity Information document period end date.

The properties of this ${fact1.name} are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

Rule element ID index

The rule element id is used to identify unique elements or combinations of elements tested in the rule.

Rule element ID	Element label	Element name
DQC_0005.17	Entity Common Stock, Shares Outstanding	EntityCommon StockSharesOutstanding
DQC_0005.48	Subsequent Event Type [Axis]	SubsequentEvent TypeAxis
DQC_0005.49	Statement Scenario [Axis] and Scenario Forecast [Member]	StatementScenarioAxis and ScenarioForecastMember

DEI and Block Tag Date Contexts

Rule ID: DQC_0006

Status: Final

Release date: November 19, 2015

Effective date: January 1, 2016

Rule function

This rule tests that the dates used for certain Document and Entity Information, accounting policy, text block and table text block elements are consistent with the fiscal period focus of the filing (e.g. Q1, Q2, Q3 or FY).

In general, filings cover quarterly and annual periods in roughly 90 day increments. Due to allowable variations in reporting period length, filing periods may be more or less than the standard increment. The increments tested for each filing period are as follows:

Q1 65 to 115 days

Q2 155 to 205 days

Q3 245 to 295 days

FY 340 to 390 days

The following Document and Entity Information elements are included in this test:

Amendment Description
Amendment Flag
Current Fiscal Year End Date
Document Period End Date
Document Fiscal Year Focus
Document Fiscal Period Focus
Document Type
Entity Registrant Name
Entity Central Index Key
Entity Filer Category

This rule does not test any non numeric items that are not text block, table text block, and accounting policy elements.

This rule also does not test any transition period filings, which are identified by the letter "T" in the form name. Transition period filings are submitted when a filer changes their

fiscal year. Transition period filings may cover periods which are different from the general quarter or annual length.

This rule currently tests filings from filers who incorporate and begin filing during the year. Although the rule will return an error message for these filings, they are valid exceptions to the rule. These cases are very rare.

Authoritative reference

EDGAR Filer Manual 6.6.1; EDGAR Filer Manual 6.6.2 requires the dates for text blocks, table text blocks, and accounting policy elements must be the current reporting period. This is true even when the information in the text blocks, table text blocks or accounting policies relates to a prior period.

Problem solved by the rule

Filers apply incorrect reporting dates to elements. This error impacts the consumption of the elements because users will extract the data based on the expected reporting date.

Example rule message

(Note: Presentation style of rule messages may differ among software implementations of the rules.)

The number of days, 270, in the date range reported for Document Type, 2015-01-01 to 2015-09-30 is not consistent with the Document Fiscal Period Focus value of Q2.
The properties of this dei:DocumentType fact are:
Period: 2015-01-01 to 2015-09-30
Dimensions: none
Unit: none
Rule version: 1.0

For Developers

The Global Rule Logic document contains general guidelines for implementation of rules.

The rule message template contains text and parametric reference to arguments of the rule operation, using the syntax ${parameter} to indicate that insertion of a parameter's value is to occur.

Message template

The number of days, ${fact1.period.durationDays}, in the date range reported for ${fact1.label}, ${fact1.period.startDate} to ${fact1.period.endDate} is not consistent with the ${dei:DocumentFiscalPeriodFocus.fact.label} value of ${dei:DocumentFiscalPeriodFocus.fact.value}.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

Rule element ID index

The rule element id is used to identify unique elements or combinations of elements tested in the rule.

Rule element ID	Element label	Element name
DQC_0006.14	Document Fiscal Period Focus	DocumentFiscalPeriodFocus

Element A must be less than or equal to Element B

Rule ID: DQC_0009
Status: Final
Release date: November 19, 2015
Effective date: January 1, 2016

Rule function

This rule tests that the fact value for certain elements are less than or equal to the fact value of other elements.

XBRL facts reported are expected to follow accounting logic. Consequently, certain reported values are expected to have a mathematical relationship to other reported values.

Example - The value reported for the element **Common Stock, Shares, Outstanding is** expected to be less than or equal to the value reported for the element **Common Stock, Shares, Issued,** which in turn are expected to be less than or equal to the values reported for the element **Common Stock, Shares Authorized**. This is because shares must be authorized before they can be issued, and before they become outstanding.

Example - The element **Undistributed Earnings of Foreign Subsidiaries** is used for the amount of foreign earnings permanently reinvested outside the country of domicile. The related deferred tax liability value, tagged with the element **Deferred Tax Liability Not Recognized, Amount of Unrecognized Deferred Tax Liability, Undistributed Earnings of Foreign Subsidiaries** should be less than or equal to the value reported for the element **Undistributed Earnings of Foreign Subsidiaries**.

Example - The value reported for the element **Defined Benefit Plans, Estimated Future Employer Contributions in Current Fiscal Year** should be less than or equal to the value reported for the element **Defined Benefit Plan, Expected Contributions in Current Fiscal Year**, which represents the total of actual contributions and estimated future contributions for the fiscal period.

Defined Benefit Plan, Expected Contributions in Current Fiscal Year

Calculations		
730000 - Disclosure - Compensation Related Costs, Retirement Benefits		
Defined Benefit Plans, Estimated Future Employer Contributions in Current Fiscal Year	Dr	
+ Defined Benefit Plan, Contributions by Employer	Dr	
Defined Benefit Plan, Expected Contributions in Current Fiscal Year	Dr	

Example - The element **Defined Benefit Plan, Accumulated Benefit Obligation** differs from the element **Defined Benefit Plan, Benefit Obligation** in that the definition for the

accumulated benefit obligation includes no assumption about future compensation levels. For plans with flat-benefit or nonpay-related pension benefit formulas, the values for accumulated benefit obligation and projected benefit obligation are the same. Based on this accounting difference it is expected that the value for the element **Defined Benefit Plan, Accumulated Benefit Obligation** would always be less than or equal to the value being reported for the element **Defined Benefit Plan, Benefit Obligation**.

Example - The value reported for the element **Defined Benefit Plan, Pension Plans with Accumulated Benefit Obligations in Excess of Plan Assets, Aggregate Projected Benefit Obligation** must be less than or equal to the value reported for the element of **Defined Benefit Plan, Accumulated Benefit Obligation (ABO)** because the ABO of the first element is a portion of the aggregate ABO amount of the second amount.

See file DQC_0009_ListOfElements for the elements tested by this rule and as listed on p. 15-20 of this document. Elements are listed in order by the most commonly occurring errors.

Problem solved by the rule

Filers incorrectly select elements and report incorrect values for certain elements. This is a problem for consumption because the data for the element will be extracted incorrectly for analysis. These rules can detect inappropriate element selection and incorrect values by comparing the values among pairs of elements that should have specific relationships. For example, some filers incorrectly use the element for unrepatriated foreign earnings instead of the element for the deferred tax liability on unrepatriated foreign earnings. This rule can detect the error by ensuring that the tagged value for unrepatriated foreign earnings is greater than the tagged value for the associated tax liability on those earnings.

Example rule message

(Note: Presentation style of rule messages may differ among software implementations of the rules.)

An example of the general rule message is shown below. Appendix A details specific rule messages for certain combinations of elements. If a message is not defined for a specific set of elements, the general rule message is used.

General rule message example

The value of common stock shares outstanding, 500,000, should be less than or equal to common shares authorized, 400,000.
The properties of this us-gaap:CommonStockSharesOutstanding fact are:
Period: 2014-12-31
Dimensions: Class Of Stock Axis=Common Stock A Member
Unit: shares
Rule version: 1.0

For Developers

The Global Rule Logic document contains general guidelines for implementation of rules.

The rule message template contains text and parametric reference to arguments of the rule operation, using the syntax ${parameter} to indicate that insertion of a parameter's value is to occur.

General message template

The value of ${fact1.label}, ${fact1.value}, should be less than or equal to ${fact2.label}, ${fact2.value}.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

Rule element ID index

The rule element id is used to identify unique elements or combinations of elements tested in the rule.

Rule element ID	Element label (fact1) (Lesser)	Element name 1 (fact1)	Element label (fact2) (Greater)	Element name (fact2)
DQC_0009.15	Common Stock, Shares, Outstanding	CommonStockSharesOutstanding	Common Stock, Shares Authorized	CommonStockSharesAuthorized
DQC_0009.19	Preferred Stock, Shares Outstanding	PreferredStockSharesOutstanding	Preferred Stock, Shares Issued	PreferredStockSharesIssued
DQC_0009.21	Common Stock, Shares, Issued	CommonStockSharesIssued	Common Stock, Shares Authorized	CommonStockSharesAuthorized
DQC_0009.22	Preferred Stock, Shares Issued	PreferredStockSharesIssued	Preferred Stock, Shares Authorized	PreferredStockSharesAuthorized
DQC_0009.23	Preferred Stock, Shares Outstanding	PreferredStockSharesOutstanding	Preferred Stock, Shares Authorized	PreferredStockSharesAuthorized
DQC_0009.24	Common Stock, Shares,	CommonStockSharesOutstan	Common Stock, Shares,	CommonStockSharesIssue

Rule element ID	Element label (fact1) (Lesser)	Element name 1 (fact1)	Element label (fact2) (Greater)	Element name (fact2)
	Outstanding	ding	Issued	d
DQC_0009 .47	Deferred Tax Liability Not Recognized, Amount of Unrecognized Deferred Tax Liability, Undistributed Earnings of Foreign Subsidiaries	DeferredTaxLiabilityNotRecognizedAmountOfUnrecognizedDeferredTaxLiabilityUndistributedEarningsOfForeignSubsidiaries	Undistributed Earnings of Foreign Subsidiaries	UndistributedEarningsOfForeignSubsidiaries
Pension Comparison Tests				
DQC_0009 .39	Defined Benefit Plan, Plans with Benefit Obligations in Excess of Plan Assets, Aggregate Benefit	DefinedBenefitPlanPlansWithBenefitObligationsInExcessOfPlanAssetsAggregateBenefitObligation	Defined Benefit Plan, Benefit Obligation	DefinedBenefitPlanBenefitObligation

Rule element ID	Element label (fact1) (Lesser)	Element name 1 (fact1)	Element label (fact2) (Greater)	Element name (fact2)
	Obligation			
DQC_0009.40	Defined Benefit Plan, Pension Plans with Accumulated Benefit Obligations in Excess of Plan Assets, Aggregate Accumulated Benefit Obligation	DefinedBenefitPlanPensionPlansWithAccumulatedBenefitObligationsInExcessOfPlanAssetsAggregateAccumulatedBenefitObligation		
	Defined Benefit Plan, Accumulated Benefit Obligation	DefinedBenefitPlanAccumulatedBenefitObligation		
DQC_0009.41	Defined Benefit Plan, Pension	DefinedBenefitPlanPensionPlansWithAccumulatedB	Defined Benefit Plan, Fair Value of	DefinedBenefitPlanFairValueOfPlanAsset

Rule element ID	Element label (fact1) (Lesser)	Element name 1 (fact1)	Element label (fact2) (Greater)	Element name (fact2)
	Plans with Accumulated Benefit Obligations in Excess of Plan Assets, Aggregate Fair Value of Plan Assets	enefitObligationsIn ExcessOfPlanAssetsAggregateFair ValueOfPlanAssets	Plan Assets	s
DQC_0009 .42	Defined Benefit Plan, Pension Plans with Accumulated Benefit Obligations in Excess of Plan Assets, Aggregate Projected Benefit Obligation	DefinedBenefitPlanPensionPlansWith AccumulatedBenefitObligationsIn ExcessOfPlanAssetsAggregate ProjectedBenefitObligation	Defined Benefit Plan, Benefit Obligation	DefinedBenefitPlanBenefitObligation
DQC_0009 .45	Defined Benefit	DefinedBenefitPlansEstimated	efined Benefit Plan,	DefinedBenefitPlanExpecte

Rule element ID	Element label (fact1) (Lesser)	Element name 1 (fact1)	Element label (fact2) (Greater)	Element name (fact2)
	Plan, Expected Contributions in Current Fiscal Year	Future EmployerContributionsInCurrentFiscalYear	Expected Contributions in Current Fiscal Year	dContributionsInCurrentFiscalYear
DQC_0009.46	Defined Benefit Plan, Accumulated Benefit Obligation	DefinedBenefitPlanAccumulatedBenefitObligation	Defined Benefit Plan, Benefit Obligation	DefinedBenefitPlanBenefitObligation

Appendix A - Specific rule messages

DQC_0009.15

Use the general message.

DQC_0009.19

Use the general message.

DQC_0009.21

Use the general message.

DQC_0009.22

Use the general message.

DQC_0009.23

Use the general message.

DQC_0009.24

Use the general message.

DQC_0009.39

The value of ${fact1.label}, ${fact1.value}, should be less than or equal to ${fact2.label}, ${fact2.value}. ${fact1.label} is a subset of ${fact2.label}.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0009.40

The value of ${fact1.label}, ${fact1.fact.value}, should be less than or equal to ${fact2.label}, ${fact2.value}. $fact1.label} is a subset of ${fact2.label}.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0009.41

The value of ${fact1.label}, ${fact1.value}, should be less than or equal to ${fact2.label}, ${fact2.value}. ${fact1.label} is a subset of ${fact2.label}.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

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DQC_0009.42

The value of ${fact1.label}, ${fact1.value}, should be less than or equal to ${fact2.label}, ${fact2.value}. ${fact1.label} is a subset of ${fact2.label}.
The properties of this $(fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0009.45

The value of ${fact1.label}, ${fact1.value}, should be less than or equal to ${fact2.label}, ${fact2.value}. The value of the remaining contribution for the year should be less than or equal to the expected contributions for the entire year.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0009.46

The value of ${fact1.label}, ${fact1.value}, should be less than or equal to ${fact2.label}, ${fact2.value}. ${fact1.label} must be less than or equal to ${fact2.label}, as it does not include assumptions about future compensation levels.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0009.47

Use the general message.

Negative Values

Rule ID: DQC_0015
Status: Final
Release date: November 19, 2015
Effective date: January 1, 2016

Rule function

The US GAAP Taxonomy is designed so that the majority of elements have a positive value. This rule tests whether the values for a given list of elements are negative. The rule does not test elements when a specified member is present which would allow the value to be negative.

See file DQC_0015_ListOfElements which provides a list of elements that should not be negative. The rule tests whether these elements have a negative value in an XBRL document. The elements are listed in order of most commonly occurring errors.

See file DQC_0015_MemberExclusions for a list of members that, when used with these elements, allow the value of the element to be negative. The rule does not test these member/element combinations.

Authoritative reference

SEC Staff Observations December 13, 2011, June 15, 2011, November 1, 2010, October 6, 2009

The US GAAP taxonomy is designed for the majority of elements to have a positive value, so that the value reported in the XBRL document represents the correct balance type for the element (e.g., debit balance type for assets and expenses and losses or credit balance type for liabilities and income and gains). If the value reported in the HTML document is shown with parentheses, the value reported in the XBRL document should still be positive, other than as described in the following sentence. In some limited cases, if the value also has a specified member associated with it, the value may

be negative (e.g., when an element is used for an adjustment or elimination, the value may need to be negative).

If the value reported in the HTML document is shown in parenthesis (e.g., interest expense or loss on disposition of assets), you may use a negated label to present the value in parenthesis in the SEC Interactive Data viewer without changing the positive value reported in the XBRL document. The value reported in the XBRL document (e.g., interest expense or loss on disposition of assets) should be the same as the value reported in the HTML document, even though the value in the HTML document is shown in parenthesis. Therefore, it is an error to change the value reported in the XBRL document to a negative solely because the value reported in the HTML document is shown in parenthesis.

Problem solved by the rule

Filers continue to have incorrect negative amounts in files, which is inconsistent with the balance types and definitions of the elements used and the structure of the US GAAP Taxonomy. Incorrect values in a filing makes it difficult or impossible to use that data for automated analysis.

Example rule message

(Note: Presentation style of rule messages may differ among software implementations of the rules.)

An example of the general rule message is shown below. Appendix A details specific rule messages for certain elements. If a message is not defined for a specific set of elements, the general rule message is used.

General rule message example

Accrued Liabilities And Other Liabilities has a value of -400,000 which is less than zero. This element should not have a negative value.
The properties of this us-gaap:AccruedLiabilitiesAndOtherLiabilities fact are:
Period: 2012-12-31
Dimensions: none

Unit: USD

Rule version: 1.0

For Developers

The Global Rule Logic document contains general guidelines for implementation of rules.

The rule message template contains text and parametric reference to arguments of the rule operation, using the syntax ${parameter} to indicate that insertion of a parameter's value is to occur.

General message template

${fact1.label} has a value of ${fact1.value} which is less than zero. This element should not have a negative value.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

Rule element ID index

The rule element id is used to identify unique elements or combinations of elements tested in the rule.

See DQC_0015_ListOfElements and DQC_0015_MemberExclusions spreadsheets for rule element ids.

Appendix A - Specific rule messages

DQC_0015.243 (Adjustments to Additional Paid in Capital, Income Tax Benefit from Share-based Compensation)

${fact1.label} has a value of ${fact1.value} which is less than zero. This element represents the excess tax benefit associated with share based compensation, and excludes tax deficiencies that occur when the value of the stock based compensation is

less than the compensation expense recognized. If this is a tax deficiency, use the element Adjustments to Additional Paid in Capital, Income Tax Deficiency from Share-based Compensation.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.262 (Amortization of Lease Incentives)

${fact1.label} has a value of ${fact1.value} which is less than zero. This element represents the amortization of lease incentives offered by the lessor to the lessee, and should only be used by the lessor to reflect the allocated expense associated with the incentive over the life of the lease.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.310 (Available-for-sale Securities, Accumulated Gross Unrealized Loss, before Tax)

${fact1.label} has a value of ${fact1.value} which is less than zero. This element represents the total losses on available for sale securities with net losses reported in accumulated other comprehensive income. The value of this element cannot be negative, as that would represent a gain on available for sale securities. If this is a gain, use the element Available-for-sale Securities, Accumulated Gross Unrealized Gain, before Tax.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.456 (Capital Leases, Future Minimum Payments, Executory Costs)

${fact1.label} has a value of ${fact1.value} which is less than zero. This element should be a positive amount as it represents the insurance, maintenance, and taxes to be paid by the lessor that offset the future minimum payments of the lessee.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0015.457 (Capital Leases, Future Minimum Payments, Interest Included in Payments)

${fact1.label} has a value of ${fact1.value} which is less than zero. It represents the difference between the total future minimum lease payments and the discounted present value of those lease payments. It is often shown as a deduction from the total minimum lease payments to calculate the present value of the minimum lease payments. A negative value would imply a negative interest rate which is unlikely.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0015.476 (Cash Acquired in Excess of Payments to Acquire Business)

${fact1.label} has a value of ${fact1.value} which is less than zero. If a negative value was reported to represent payments greater than the cash acquired, use the element Payments to Acquire Businesses, Net of Cash Acquired.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.493 (Certain Loans Acquired in Transfer Accounted for as Debt Securities, Accretable Yield, Accretion)

${fact1.label} has a value of ${fact1.value} which is less than zero. In the roll forward of accretable yield, the accretion amount is deducted and is often shown as a negative value. However, the accretion amount that reduces the balance should be reported as a positive amount.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.496 (Certain Loans Acquired in Transfer, Accretable Yield)

${fact1.label} has a value of ${fact1.value} which is less than zero. This amount is often shown as a deduction from contractual cash flows to calculate the value of loans accounted for under ASC 310-30. It should be reported as a positive amount.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.497 (Certain Loans Acquired in Transfer Not Accounted for as Debt Securities, Accretable Yield, Accretion)

${fact1.label} has a value of ${fact1.value} which is less than zero. In the roll forward of accretable yield, the accretion amount is deducted and is often shown as a negative value. However, the accretion amount that reduces the balance should be reported as a positive amount.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

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Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.629 (Deferred Tax Assets, Tax Deferred Expense)

${fact1.label} has a value of ${fact1.value} which is less than zero. If the element is negative because it represents a deferred tax liability, use the element Deferred Tax Liabilities, Deferred Expense.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.633 (Deferred Tax Assets, Valuation Allowance)

${fact1.label} has a value of ${fact1.value} which is less than zero. This element is often shown as a reduction in deferred tax assets. This element should be reported with a positive value when it reduces the value of deferred tax assets.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.640 (Deferred Tax Liabilities, Derivatives)

${fact1.label} has a value of ${fact1.value} which is less than zero. If a deferred tax asset is being reported for derivatives, use the element Deferred Tax Assets, Derivative Instruments.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.951 (Extinguishment of Debt, Amount)

${fact1.label} has a value of ${fact1.value} which is less than zero. This element should not be used to represent a repayment of debt on the cash flow statement. To represent the repayment of debt on the cash flow statement, use an element representing repayments of debt.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0015.1032 (Fair Value, Measurement with Unobservable Inputs Reconciliation, Liability, Transfers Into Level 3)

${fact1.label} has a value of ${fact1.value} which is less than zero. If it is entered as a negative amount to represent a transfer out of Level 3, use the element Fair Value, Measurement with Unobservable Inputs Reconciliation, Liability, Transfers out of Level 3 to represent the reduction in Level 3 liabilities.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

DQC_0015.1240 (Gain on Derivative Instruments, Pretax)

${fact1.label} has a value of ${fact1.value} which is less than zero. If the item represents a gross loss on derivative instruments, use the element Loss on Derivative Instruments, Pretax. If it represents a net loss on derivative instruments, use the element Gain (Loss) on Derivative Instruments, Net, Pretax.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.1306 (Effective Income Tax Rate Reconciliation, Nondeductible Expense, Research and Development, Amount)

${fact1.label} has a value of ${fact1.value} which is less than zero. If this element is a research tax credit, use the element Effective Income Tax Rate Reconciliation, Tax Credit, Research, Amount. If it is nondeductible research and development expense it should be entered as a positive amount.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.1428 (Derivative, Notional Amount)

${fact1.label} has a value of ${fact1.value} which is less than zero. If this represents a short position, use the Position Axis and Short Member with this element to indicate the notional derivative amount is in a short position, and report the value as a positive amount.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.1615 (Loans and Leases Receivable, Related Parties, Collections)

${fact1.label} has a value of ${fact1.value} which is less than zero. This element represents the receipt of collections from related parties which reduces the receivables balance, and not the receipt of cash.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

DQC_0015.2169 (SEC Schedule III, Real Estate, Improvements)

${fact1.label} has a value of ${fact1.value} which is less than zero. This element represents the increase in the value of real estate during the period, and not the cash payments made for real estate improvements. This element should not be used for payments for capital improvements.

The properties of this ${fact1.name} fact are:

Period: ${fact1.period}

Dimensions: ${fact1.dimensions}

Unit: ${fact1.unit}

Rule version: ${ruleVersion}

Appendix B – Post-implementation edits

Member Exclusion list revisions (effective):

Axis changes

- Add AdjustmentsForChangeInAccountingPrincipleAxis (February 17, 2016)
- Add AdjustmentsForNewAccountingPronouncementsAxis (February 17, 2016)
- Add ChangeInAccountingEstimateByTypeAxis (April 6, 2016)
- Add ErrorCorrectionsAndPriorPeriodAdjustmentsRestatementByRestatementPeriodAndAmountAxis (February 17, 2016)
- Add PartnerCapitalComponentsAxis (April 6, 2016)
- Add PartnerTypeOfPartnersCapitalAccountAxis (April 6, 2016)
- Add ProspectiveAdoptionOfNewAccountingPronouncementsAxis (February 17, 2016)
- Add QuantifyingMisstatementInCurrentYearFinancialStatementsByNatureOfErrorAxis (February 17, 2016)

Member changes

- Add AllOtherSegmentsMember on StatementBusinessSegmentsAxis (April 6, 2016)
- Add ChangeDuringPeriodFairValueDisclosureMember on FairValueByMeasurementBasisAxis (April 6, 2016)
- Add CorporateAndEliminationsMember on ConsolidationItemsAxis (April 6, 2016)
- Add CorporateAndOtherMember on StatementBusinessSegmentsAxis (April 6, 2016)
- Add CorporateAndReconcilingItemsMember on ConsolidationItemsAxis (April 6, 2016)
- Add CorporateMember on StatementBusinessSegmentsAxis (April 6, 2016)
- Add CorporateReconcilingItemsAndEliminationsMember on ConsolidationItemsAxis (April 6, 2016)
- Add SubsidiaryIssuerMember to the Legal Entity Axis (February 17, 2016)
- Add UnallocatedFinancingReceivablesMember on FinancingReceivablePortfolioSegmentAxis (May 17, 2016)
- Change "Reconciliat" TO "Reconcili" (February 17, 2016)

Line Item removals (effective):

- AllocatedShareBasedCompensationExpense (248) (February 17, 2016)
- DisposalGroupIncludingDiscontinuedOperationOperatingExpense (862) (May 17, 2016)
- ExcessTaxBenefitFromShareBasedCompensationFinancingActivities (941) (February 17, 2016)
- FairValueMeasurementWithUnobservableInputsReconciliationRecurringBasisLiabilitySettlements (1041) (May 17, 2016)
- IncomeTaxReconciliationTaxExemptIncome (1308) (April 6, 2016)
- InterestCreditedToPolicyOwnerAccounts (1366) (February 17, 2016)
- NoncashOrPartNoncashAcquisitionNetNonmonetaryAssetsAcquiredLiabilitiesAssumed (1781) (February 17, 2016)
- NoncashOrPartNoncashAcquisitionNetNonmonetaryAssetsAcquiredLiabilitiesAssumed1 (1782) (April 6, 2016)
- PaymentsForProceedsFromFederalReserveBankStock (1937) (February 17, 2016)

- RealEstateAndAccumulatedDepreciationCostsCapitalizedSubsequentToAcquisitionCarryingCosts (2164) (April 6, 2016)
- RealEstateAndAccumulatedDepreciationCostsCapitalizedSubsequentToAcquisitionImprovements (2165) (April 6, 2016)
- SECScheduleIIIRealEstateAndAccumulatedDepreciationCostsCapitalizedSubsequentToAcquisitionBuildingsAndImprovements (2320) (April 6, 2016)
- SECScheduleIIIRealEstateAndAccumulatedDepreciationCostsCapitalizedSubsequentToAcquisitionLand (2321) (April 6, 2016)

  ServicingAssetAtAmortizedValueValuationAllowance (2391) (April 6, 2016)

Document Period End Date Context

Rule ID: DQC_0033
Status: Final
Release date: November 19, 2015
Effective date: January 1, 2016

Rule function

This rule tests that the ending date used with Document and Entity Information elements matches the ending context date for the value of the Document and Entity Information element **Document Period End Date**.

This rule excludes the following elements from the test: **Entity Common Stock, Shares Outstanding Entity Public Float Entity Number of Employees Entity Listing, Depository Receipt Ratio**

This rule will not run if the context date for the **Document Period End Date** is different by more than 3 days from the value of that element.

Authoritative reference

EDGAR Filer Manual 6.5.19

Problem solved by the rule

Filers apply incorrect reporting dates to elements. This error impacts the consumption of the elements because users will extract the data based on the expected reporting

period. Using an incorrect date will mean that facts about the company will be in the wrong reporting period.

Example rule message

(Note: Presentation style of rule messages may differ among software implementations of the rules.)

The ending date of 2014-11-30 used for Document Type must be the same as the Document Period End Date, 2014-12-31. Revise either the date of the Document Type or the date of the Document Period End Date.
The properties of this dei:DocumentType fact are:
Period: 2014-01-01 to 2014-11-30
Dimensions: none
Unit: none
Rule version: 1.0

For Developers

The Global Rule Logic document contains general guidelines for implementation of rules.

The rule message template contains text and parametric reference to arguments of the rule operation, using the syntax ${parameter} to indicate that insertion of a parameter's value is to occur.

Message template

The ending date of ${fact1.period.endDate} used for ${fact1.label} must be the same as the Document Period End Date, ${dei:DocumentPeriodEndDate.fact.period.endDate}. Revise either the date of the ${fact1.label} or the date of the Document Period End Date.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

Rule element ID index

Element IDs are not used in the case of this rule since the detection of DEI elements tested is dynamic as reported in the filing.

Rule (no element ID)	Element tested (fact1)
DQC_0033	All DEI elements in the instance are tested except for EntityCommonStockSharesOutstanding, EntityPublicFloat and DocumentPeriodEndDate

Document Period End Date Context / Fact Value Check

Rule ID: DQC_0036
Status: Final
Release date: November 19, 2015
Effective date: January 1, 2016

Rule function

This rule tests that the ending context date for the **Document Period End Date** is not different by more than 3 days from the value of that element.

Authoritative reference

EDGAR Filer Manual 6.5.19; EDGAR Filer Manual 6.5.20 requires that the reporting period end date is reported as a Document and Entity Information value for the element **Document Period End Date**.

Problem solved by the rule

Filers may not update the document period end date when they roll forward their filing to a subsequent filing period when moving from one filing to the next. This error

impacts the consumption of the elements because users will extract the data based on the expected reporting date. For example, if the date is not updated, Q3 data will be reported as Q2 data.

Example rule message

(Note: Presentation style of rule messages may differ among software implementations of the rules.)

The ending date of 2014-11-30 used for Document Period End Date must match the value reported for the element, 2014-12-31. Revise either the ending context date or the value of the Document Period End Date.
The properties of this dei:DocumentPeriodEndDate fact are:
Period: 2014-01-01 to 2014-11-30
Dimensions: none
Unit: none
Rule version: 1.0

For Developers

The Global Rule Logic document contains general guidelines for implementation of rules.

The rule message template contains text and parametric reference to arguments of the rule operation, using the syntax ${parameter} to indicate that insertion of a parameter's value is to occur.

Message template

The ending date of ${fact1.period.endDate} used for ${fact1.label} must match the value reported for the element, ${fact1.value}. Revise either the ending context date or the value of the ${fact1.label}.
The properties of this ${fact1.name} fact are:
Period: ${fact1.period}
Dimensions: ${fact1.dimensions}
Unit: ${fact1.unit}
Rule version: ${ruleVersion}

Rule element ID index

The rule element id is used to identify unique elements or combinations of elements tested in the rule.

Rule element ID	Element label	Element name
DQC_0036.1	Document Period End Date	DocumentPeriodEndDate

APPENDIX

Global Rule Logic

Release date: November 19, 2015

Revised: January 28, 2016

The following guidance applies to all rules, unless the rule documentation specifies otherwise

Rule Numbering Format

The message code of each DQC message is as follows: DQC.US.nnnn.mmm where nnnn is the rule identifier (e.g., 0015 for non-negative rules) and mmm is the index of test within the rule. (The index does not have leading zeros.)

Reporting Period End Date

The reporting period end is the ending date of the Required Context as defined in the SEC EDGAR Filer Manual.

Existence of Components

If one of the components in a comparison does not exist then the comparison will not occur. For example if the rule tests Assets = LiabilitiesAndShareholdersEquity and one of the elements is missing, the test will not run.

Element Name Comparison

When portions of an element name are matched to comparison strings, the comparison is case insensitive unless otherwise stated in the rule. When elements are matched based on their full qualified name (QName), the element name (local part of the QName) comparison is case sensitive and the namespace (URI) comparison follows IETF rules. Element labels are not used for matching unless otherwise stated in the rule.

Decimal Comparison

When comparing two numeric fact values in a rule, the comparison needs to take into account different decimals. Numbers are compared based on the lowest decimal value rounded per XBRL specification. For example, the number 532,000,000 with decimals of -6 is considered to be equivalent to 532,300,000 with a decimals value of -5. In this case the 532,300,000 is rounded to a million and then compared to the value of 532,000,000.   (Note that XBRL specifies

"round half to nearest even" so 532,500,000 with decimals -6 rounds to 532,000,000, and 532,500,001 rounds to 533,000,000.)

Dimensional Equivalence

All comparisons between fact values occur between facts of equivalent dimensions. A rule will produce a message for each occurrence of the compared facts in equivalent dimensions.

Units

If a non numeric fact is compared with a numeric fact then the rule does not match on units.

Message Format Syntax

The rule message template contains text and parametric reference to arguments of the rule operation, using the syntax ${parameter} to indicate that insertion of a parameter's value is to occur.

Each rule has a dynamic message associated with it that uses ${..} to define the parametric references to elements that may be facts or other data of the filing.

Fact Properties

Facts identified by number

Messages for rules that return facts as model object references can refer to those facts ordinally, beginning with index 1. The references to these facts can include the following properties:

- ${fact1.name} Prefixed name of the fact's concept.
- ${fact1.localName} The local name (without prefix) of the fact's concept.
- ${fact1.label} The label of the fact (standard role, English, although a tool may provide options to select another role, such as terse, and another language). The label is obtained from the extension (filing) taxonomy. If there is no label, the prefixed name is shown instead.
- ${fact1.value} The value of the fact. If numeric, field separators are provided for thousands (comma in en-US locale).
- ${fact1.decimals} The value of the decimals attribute if numeric.
- ${fact1.period} The period (forever, instant date, or start-end dates).
    - ${fact1.period.startDate} Start date
    - ${fact1.period.endDate} End date or instant date
    - ${fact1.period.instant} Instant date
    - ${fact1.period.durationDays} End date – start date, in days

- ${fact1.dimensions} prefixed dimension name = prefixed member name, for each non-defaulted dimension, or "none" if no or all-defaulted dimensions
- ${fact1.unit} non-prefixed unit names, e.g., USD or shares, or "none" if no units.

Facts identified by prefixed name

Facts which are not ordinal arguments may be specified by prefixed name, such as dei:DocumentPeriodEndDate.fact. These are specified as ${dei:DocumentPeriodEndDate.fact.name}, ${dei:DocumentPeriodEndDate.fact.value}, etc. The fields are same as for ordinal fact references, as in the section above. The ".fact." must appear between the prefixed name and property name.

Concepts identified by prefixed name

Concepts may be provided for message argument fact dimensions and their members, for example ${my:FooAxis.label} or ${my:BarMember.label}. Concepts have the following properties:

- ${fact1.name} Prefixed name of the concept.
- ${fact1.localName} The local name (without prefix) of the concept.
- ${fact1.label} The label of the concept (standard role, English, although a tool may provide options to select another role, such as terse, and another language). The label is obtained from the extension (filing) taxonomy. If there is no label, the prefixed name is provided instead.

If there are variable references that can't be resolved, such as missing facts, prefixed named concepts not passed in argument facts or their dimensions, or for any other reason, an error message is logged when using Arelle to indicate the unresolved references. The variable reference substitutes as "unavailable" in the expanded message text in addition to the error indicating unresolved references.