ActiveViam

Database

Atoti Market Risk

6.0

Table of Contents

Database

This section provides the database definitions in the Atoti Market Risk.

Here are a few points to note about the database descriptions:

- The documentation mentions some constraints, for example NOT NULL and UNIQUE KEY.
  These constraints may not be enforced by all databases and may be difficult to enforce when using views. However, the Atoti Market Risk will assume that the data satisfies these constraints and may behave unpredictably if they are not satisfied.
- The documentation includes the joins used between the tables/views.
  These are provided for informational purposes, though they may optionally be used to construct keys and indices to help maintain data integrity and improve performance.

Each cube in the Atoti Market Risk uses a star schema with many-to-one joins radiating out from a base table. The base tables are as follows:

Cube	Base Table
PnL Cube	PNL
Sensitivities Cube	TRADE_SENSITIVITIES
VaR-ES Cube	TRADEPNLS

Additionally, there are “isolated” tables that are not part of the star schema but are still used in the Cubes.

Global Database Definition

This section describes tables that are common to all cubes, such as FX rates and trade booking.

Trade Booking

The TRADE_ATTRIBUTES table contains data relative to the trades.

The multi-level book organizational hierarchy and desk descriptions are in the BOOK_HIERARCHY table, which is indexed by **BOOK** and **AS_OF_DATE**.

> NOTE
>
> The BOOK_HIERARCHY table is populated from the BOOK_PARENT_CHILD table.

Legal Entities

The multi-level legal entity organizational hierarchy is in the LEGAL_ENTITY_HIERARCHY table, which is indexed by **LEGAL_ENTITY** and **AS_OF_DATE**.

> NOTE
>
> The LEGAL_ENTITY_HIERARCHY table is populated from the LEGAL_ENTITY_PARENT_CHILD table.

Counterparties

The multi-level counterparty organizational hierarchy is in the COUNTERPARTY_HIERARCHY table, which is indexed by **COUNTERPARTY_ID** and **AS_OF_DATE**.

> NOTE
>
> The COUNTERPARTY_HIERARCHY table is populated from the COUNTERPARTY_PARENT_CHILD table.

The COUNTERPARTIES table indexed by **COUNTERPARTY_ID** and **AS_OF_DATE** contains additional data for counterparties.

Risk Factor Catalogue

The RISK_FACTORS_CATALOGUE table indexed by **RISK_FACTOR_ID** and **AS_OF_DATE** table contains additional data for risk factors.

Countries

The COUNTRIES table indexed by **COUNTRY_CODE** and **AS_OF_DATE** contains additional data for countries.

Scenario Descriptions

The SCENARIOS table contains the VaR and ES scenario descriptions.

Market Shifts

The MARKET_SHIFTS and MARKET_SHIFTS_VECTOR tables is used to store market shifts.

Cube Market Data

The CUBE_MARKET_DATA table is used to contain market data defined along three axes (tenors, moneyness and underlying maturities).

Curve Market Data

The CURVE_MARKET_DATA table is used to contain market data defined along a tenor axis.

FX Rate Market Data

The FX rates are stored in the FX_RATE_MARKET_DATA table.

Spot Market Data

The SPOT_MARKET_DATA table is used to contain spot market data.

Surface Market Data

The SURFACE_MARKET_DATA table is used to contain market data defined along two axes (tenors and moneyness).

BOOK_HIERARCHY

The BOOK_HIERARCHY table contains the multi-level book organizational structure.

> NOTE
>
> The content of this table is populated from the content of the BOOK_PARENT_CHILD table.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.

Column Name	Type	Not Null	Cube Field	Default Value	Description
BOOK	STRING	Y		N/A	Leaf node of the book hierarchy. This matches the last non-_DATAMEMBER_ node in levels 1 - 15.
BOOK_HIERARCHY_LEVEL1	STRING	Y	Level 1	N/A	Node at level 1 of the book hierarchy.
BOOK_HIERARCHY_LEVEL2	STRING	Y	Level 2	N/A	Node at level 2 of the book hierarchy.
BOOK_HIERARCHY_LEVEL3	STRING	Y	Level 3	N/A	Node at level 3 of the book hierarchy.
BOOK_HIERARCHY_LEVEL4	STRING	Y	Level 4	N/A	Node at level 4 of the book hierarchy.
BOOK_HIERARCHY_LEVEL5	STRING	Y	Level 5	N/A	Node at level 5 of the book hierarchy.
BOOK_HIERARCHY_LEVEL6	STRING	Y	Level 7	N/A	Node at level 6 of the book hierarchy.
BOOK_HIERARCHY_LEVEL7	STRING	Y	Level 6	N/A	Node at level 7 of the book hierarchy.
BOOK_HIERARCHY_LEVEL8	STRING	Y	Level 8	N/A	Node at level 8 of the book hierarchy.
BOOK_HIERARCHY_LEVEL9	STRING	Y	Level 9	N/A	Node at level 9 of the book hierarchy.
BOOK_HIERARCHY_LEVEL10	STRING	Y	Level 10	N/A	Node at level 10 of the book hierarchy.
BOOK_HIERARCHY_LEVEL11	STRING	Y	Level 11	N/A	Node at level 11 of the book hierarchy.
BOOK_HIERARCHY_LEVEL12	STRING	Y	Level 12	N/A	Node at level 12 of the book hierarchy.
BOOK_HIERARCHY_LEVEL13	STRING	Y	Level 13	N/A	Node at level 13 of the book hierarchy.

Column Name	Type	Not Null	Cube Field	Default Value	Description
BOOK_HIERARCHY_LEVEL14	STRING	Y	Level 14	N/A	Node at level 14 of the book hierarchy.
BOOK_HIERARCHY_LEVEL15	STRING	Y	Level 15	N/A	Node at level 15 of the book hierarchy.
DESK	STRING	Y	Desks	N/A	The desk to which the book belongs. This will match one of the non-_DATAMEMBER_ nodes in levels 1 - 15.
CATEGORY	STRING	Y		N/A	Optional category for the node (and all descendant nodes).

Unique Key

Columns
AS_OF_DATE
BOOK

Incoming Joins

Source Table	Source Columns	Target Columns
TRADE_ATTRIBUTES	AS_OF_DATE BOOK	AS_OF_DATE BOOK

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

BOOK_PARENT_CHILD

The BOOK_PARENT_CHILD table contains the parent/child relationships used to build the book hierarchy.

NOTE

The BOOK_HIERARCHY table is populated from the BOOK_PARENT_CHILD table.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
CHILD	STRING	Y			Name of the node in the Book/Desk hierarchy.
PARENT	STRING				Name of the parent node (or null if there is no parent).
DESK	STRING				Set to "Y" to identify this node as a desk, otherwise left empty.
CATEGORY	STRING				Optional category for the node and all descendant nodes. Placeholder.

Unique Key

Columns
AS_OF_DATE
CHILD

Joins

There is a self-join on the BOOK_PARENT_CHILD table - see database creation script for details.

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

COUNTERPARTIES

The COUNTERPARTIES table contains data for counterparties.

Column Name	Type	Not Null	Default Value[1]	Cube Field	Description

Column Name	Type	Not Null	Default Value	Cube Field	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
COUNTERPARTY_ID	STRING	Y	N/A	CounterpartyIds	Counterparty identifier. Used as a foreign key when counterparty is referenced.
COUNTERPARTY_NAME	STRING	Y	N/A	CounterpartyNames	Full counterparty name.
RATING	STRING	Y	N/A	CounterpartyRatings	Rating of the counterparty.
SECTOR	STRING	Y	N/A	CounterpartySectors	Sector of the counterparty.
COUNTRY_OF_ADDRESS	STRING	Y	N/A	CounterpartyCountriesOfAddress	Country where the counterparty is located, in the form of a unique three-letter country identifier code.

Column Name	Type	Not Null	Default Value	Cube Field	Description
COUNTRY_OF_RISK	STRING	Y	N/A	CounterpartyCountriesOfRisk	Country the risk of counterparty can be attributed to, in the form of a unique three-letter country identi fier code.

Unique Key

Columns
AS_OF_DATE
COUNTERPARTY_ID

Incoming Joins

Source Table	Source Columns	Target Columns
TRADE_ATTRIBUTES	AS_OF_DATE COUNTERPARTY_ID	AS_OF_DATE COUNTERPARTY_ID

Outgoing Joins

Target Table	Source Columns	Target Columns
COUNTRIES	AS_OF_DATE COUNTRY_OF_ADDRESS	AS_OF_DATE COUNTRY_CODE
COUNTRIES	AS_OF_DATE COUNTRY_OF_RISK	AS_OF_DATE COUNTRY_CODE

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and

that a value needs to be explicitly set for non-nullable fields.

COUNTERPARTY_HIERARCHY

The COUNTERPARTY_HIERARCHY table contains the multi-level counterparty organizational structure.

> NOTE
>
> **Note**: The content of this table is populated from the content of the COUNTERPARTY_PARENT_CHILD table.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
COUNTERPARTY_ID	STRING	Y	CounterpartyIds	N/A	Leaf node of the book hierarchy. This matches the last non-_DATAMEMBER_ node in levels 1 - 15.
COUNTERPARTY_HIERARCHY_LEVEL1	STRING	Y	Level 1	N/A	Node at level 1 of the counterparty hierarchy.
COUNTERPARTY_HIERARCHY_LEVEL2	STRING	Y	Level 2	N/A	Node at level 2 of the counterparty hierarchy.
COUNTERPARTY_HIERARCHY_LEVEL3	STRING	Y	Level 3	N/A	Node at level 3 of the counterparty hierarchy.
COUNTERPARTY_HIERARCHY_LEVEL4	STRING	Y	Level 4	N/A	Node at level 4 of the counterparty hierarchy.

Column Name	Type	Not Null	Cube Field	Default Value	Description
COUNTERPARTY_HIERARCHY_LEVEL5	STRING	Y	Level 5	N/A	Node at level 5 of the counterparty hierarchy.
COUNTERPARTY_HIERARCHY_LEVEL6	STRING	Y	Level 6	N/A	Node at level 6 of the counterparty hierarchy.
COUNTERPARTY_HIERARCHY_LEVEL7	STRING	Y	Level 7	N/A	Node at level 7 of the counterparty hierarchy.
COUNTERPARTY_HIERARCHY_LEVEL8	STRING	Y	Level 8	N/A	Node at level 8 of the counterparty hierarchy.
COUNTERPARTY_HIERARCHY_LEVEL9	STRING	Y	Level 9	N/A	Node at level 9 of the counterparty hierarchy.
COUNTERPARTY_HIERARCHY_LEVEL10	STRING	Y	Level 10	N/A	Node at level 10 of the counterparty hierarchy.

Unique Key

Columns
AS_OF_DATE
COUNTERPARTY_ID

Incoming Joins

Source Table	Source Columns	Target Columns
TRADE_ATTRIBUTES	AS_OF_DATE COUNTERPARTY_ID	AS_OF_DATE COUNTERPARTY_ID

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

COUNTERPARTY_PARENT_CHILD

The COUNTERPARTY_PARENT_CHILD table contains the parent/child relationships used to build the counterparty hierarchy.

> **NOTE**
>
> The COUNTERPARTY_HIERARCHY table is populated from the COUNTERPARTY_PARENT_CHILD table.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
CHILD	STRING	Y			Identifier of the node in the Counterparty hierarchy.
PARENT	STRING				Identifier of the parent node (or null if there is no parent).

Unique Key

Columns
AS_OF_DATE
CHILD

Joins

There is a self-join on the COUNTERPARTY_PARENT_CHILD table - see database creation script for details.

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1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

COUNTRIES

The COUNTRIES table contains description data for countries.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
COUNTRY_CODE	STRING	Y		N/A	Unique three-letter country identifier code.
COUNTRY	STRING	Y		N/A	The name of the country.
LATITUDE	DOUBLE	Y		N/A	The latitude of the country in the decimal degrees format.
LONGITUDE	DOUBLE	Y		N/A	The longitude of the country in the decimal degrees format.
REGION	STRING	Y		N/A	The region in which the country is located.
SUB_REGION	STRING	Y		N/A	The sub-region in which the country is located.

Unique Key

Columns
AS_OF_DATE
COUNTRY_CODE

Incoming Joins

Source Table	Source Columns	Target Columns
COUNTERPARTIES	AS_OF_DATE COUNTRY_OF_ADDRESS	AS_OF_DATE COUNTRY_CODE

Source Table	Source Columns	Target Columns
COUNTERPARTIES	AS_OF_DATE COUNTRY_OF_RISK	AS_OF_DATE COUNTRY_CODE

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

CUBE_LEVEL_ADJUSTMENTS

The CUBE_LEVEL_ADJUSTMENTS table contains data representing the definition of cube-level adjustments. This file is generated when data is exported after the sign-off process or a sign-off process instance is completed. It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
ID	STRING	Y		N/A	Execution ID of the adjustment.
TASK_ID	STRING	Y		N/A	The name of the task for which the adjustment was created.
AS_OF_DATE	DATE	Y		N/A	The as-of date for which the adjustment was created
PIVOT_ID	STRING	Y		N/A	The name of the cube for which the adjustment was created
CURRENCY	STRING	Y			The currency used to express the value of the adjustment.
MEASURE	STRING	Y		N/A	The name of the measure to adjust.
VALUE	DOUBLE	Y		N/A	The add-on value used for the adjusted measure.

Unique Key

Columns
ID

Columns
AS_OF_DATE

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

CUBE_MARKET_DATA

The CUBE_MARKET_DATA table contains market data defined along three axes (tenors, moneyness, and underlying maturities). It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
MARKET_DATA_SET	STRING	Y		String defining the market data set, for example “Trader marks” or “Official EOD”.
CURVE_ID	STRING	Y		The ID of the curve to which the market data relates.
TENOR	STRING	Y		Tenor labels, such as 3M, 5Y and so on.
MONEYNESS	STRING	Y		Moneyness labels.
UNDERLYING_MATURITY	STRING	Y		Moneyness, such as 3M, 5Y and so on.
QUOTE	DOUBLE	Y		The quote for the tenor.

Unique Key

Columns
AS_OF_DATE
MARKET_DATA_SET
INSTRUMENT_ID
TENOR

Columns
MONEYNESS
UNDERLYING_MATURITY

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

CURVE_MARKET_DATA

The CURVE_MARKET_DATA table contains market data defined along a tenor axis. It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
MARKET_DATA_SET	STRING	Y		String defining the market data set, for example “Trader marks” or “Official EOD”.
CURVE_ID	STRING	Y		The ID of the curve to which the market data relates.
TENOR	STRING	Y		Tenor labels, such as 3M, 5Y and so on.
QUOTE	DOUBLE	Y		The quote for the tenor.

Unique Key

Columns
AS_OF_DATE
MARKET_DATA_SET
INSTRUMENT_ID
TENOR

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and

that a value needs to be explicitly set for non-nullable fields.

FX_RATE_MARKET_DATA

The FX_RATE_MARKET_DATA table contains all the FX Rates. It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
MARKET_DATA_SET	STRING	Y	N/A	String defining the market data set.
BASE_CCY	STRING	Y	N/A	The left side of the currency pair.
COUNTER_CCY	STRING	Y	N/A	The right side of the currency pair.
QUOTE	DOUBLE	Y	1.0	Forex rate between the two currencies.

Unique Key

Columns
AS_OF_DATE
MARKET_DATA_SET
BASE_CCY
COUNTER_CCY

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

LEGAL_ENTITY_HIERARCHY

The LEGAL_ENTITY_HIERARCHY table contains the multi-level legal entity organizational structure.

NOTE

The content of this table is populated from the content of the LEGAL_ENTITY_PARENT_CHILD table.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
LEGAL_ENTITY	STRING	Y	Legal Entities	N/A	Leaf node of the book hierarchy. This matches the last non-_DATAMEMBER_ node in levels 1 - 15.
LEGAL_ENTITY_HIERARCHY_LEVEL1	STRING	Y	Level 1	N/A	Node at level 1 of the legal entity hierarchy.
LEGAL_ENTITY_HIERARCHY_LEVEL2	STRING	Y	Level 2	N/A	Node at level 2 of the legal entity hierarchy.
LEGAL_ENTITY_HIERARCHY_LEVEL3	STRING	Y	Level 3	N/A	Node at level 3 of the legal entity hierarchy.
LEGAL_ENTITY_HIERARCHY_LEVEL4	STRING	Y	Level 4	N/A	Node at level 4 of the legal entity hierarchy.
LEGAL_ENTITY_HIERARCHY_LEVEL5	STRING	Y	Level 5	N/A	Node at level 5 of the legal entity hierarchy.

Unique Key

Columns
AS_OF_DATE
LEGAL_ENTITY

Incoming Joins

Source Table	Source Columns	Target Columns

Source Table	Source Columns	Target Columns
TRADE_ATTRIBUTES	AS_OF_DATE LEGAL_ENTITY	AS_OF_DATE LEGAL_ENTITY

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

LEGAL_ENTITY_PARENT_CHILD

The LEGAL_ENTITY_PARENT_CHILD table contains the parent/child relationships used to build the legal entity hierarchy.

> NOTE
>
> The LEGAL_ENTITY_HIERARCHY table is populated from the LEGAL_ENTITY_PARENT_CHILD table.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
CHILD	STRING	Y			Identifier of the node in the Legal Entity hierarchy.
PARENT	STRING				Identifier of the parent node (or null if there is no parent).

Unique Key

Columns
AS_OF_DATE
CHILD

Joins

There is a self-join on the LEGAL_ENTITY_HIERARCHY table - see database creation script for details.

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

MARKET_SHIFTS

The MARKET_SHIFTS table contains some of the attributes for market shifts for the Taylor VaR calculations and FX shifts for FX risk computation. It is an isolated table and not part of any cube facts. The market shift vectors are present in the MARKET_SHIFTS_VECTOR table.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
RISK_FACTOR_ID	STRING	Y	N/A	The internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.
SCENARIO_SET	STRING	Y	N/A	Name of the set of scenarios. Example: “Historical”, “Stress”.
TENOR	STRING	Y	N/A	Tenor label, such as 3M, 5Y, and so on, if applicable.
MATURITY	STRING	Y	N/A	Maturity label, such as 3M, 5Y, and so on, if applicable.
MONEYNESS	STRING	Y	N/A	Moneyness label, if applicable.

Unique Key

Columns
AS_OF_DATE
RISK_FACTOR_ID
SCENARIO_SET
TENOR
MATURITY
MONEYNESS

Incoming Joins

Source Table	Source Columns	Target Columns
MARKET_SHIFTS_VECTOR	AS_OF_DATE RISK_FACTOR_ID SCENARIO_SET TENOR MATURITY MONEYNESS	AS_OF_DATE RISK_FACTOR_ID SCENARIO_SET TENOR MATURITY MONEYNESS

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

MARKET_SHIFTS_VECTOR

The MARKET_SHIFTS_VECTOR table contains the market shifts vector for the Taylor VaR calculations and FX shifts for FX risk computation.

Column Name	Type	Not Null	Default Value[1]	Description
VECTOR_INDEX	INT	Y		Index in the market shift vector.
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
RISK_FACTOR_ID	STRING	Y	N/A	The internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.
SCENARIO_SET	STRING	Y	N/A	Name of the set of scenarios. Example: “Historical”, “Stress”.
TENOR	STRING	Y	N/A	Tenor label, such as 3M, 5Y, and so on, if applicable.
MATURITY	STRING	Y	N/A	Maturity label, such as 3M, 5Y, and so on, if applicable.
MONEYNESS	STRING	Y	N/A	Moneyness label, if applicable.
VALUES	DOUBLE	Y		Market shift value corresponding to the index.

Unique Key

Columns
VECTOR_INDEX
AS_OF_DATE
RISK_FACTOR_ID
SCENARIO_SET
TENOR
MATURITY
MONEYNESS

Outgoing Joins

Target Table	Source Columns	Target Columns
MARKET_SHIFTS	AS_OF_DATE RISK_FACTOR_ID SCENARIO_SET TENOR MATURITY MONEYNESS	AS_OF_DATE RISK_FACTOR_ID SCENARIO_SET TENOR MATURITY MONEYNESS

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

RISK_FACTORS_CATALOGUE

The RISK_FACTORS_CATALOGUE table contains enrichment data for risk factors.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.

Column Name	Type	Not Null	Cube Field	Default Value	Description
RISK_FACTOR_ID	STRING	Y	Risk Factors	N/A	Internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.
RISK_CLASS	STRING	Y	Risk Classes	N/A	Risk factor's asset class: "Interest rate", "Credit spread", "Foreign exchange", "Equity", "Commodity", "Hybrid".
QUALIFIER	STRING	Y	Qualifiers	N/A	Identifier of a risk factor's set.
RISK_FACTOR_TYPE	STRING	Y	RiskFactorTypes	N/A	Type of underlying risk factor.
RISK_FACTOR_CCY	STRING	Y	RiskFactorCurrencies	N/A	Three-letter ISO currency code that represents the currency of the risk factor.
CURVE_TYPE	STRING	Y	CurveTypes	N/A	Only populated if the risk class is a rates curve, otherwise left blank. Specifies the type of the curve. For example, "Interest rate", "Tenor basis" or "Inflation".

Unique Key

Columns
AS_OF_DATE
RISK_FACTOR_ID

Incoming Joins

Source Table	Source Columns	Target Columns
TRADEPNLS	AS_OF_DATE RISK_FACTOR	AS_OF_DATE RISK_FACTOR_ID

Source Table	Source Columns	Target Columns
PNL	AS_OF_DATE RISK_FACTOR_ID	AS_OF_DATE RISK_FACTOR_ID
TRADE_SENSITIVITIES_VECTOR	AS_OF_DATE RISK_FACTOR_ID	AS_OF_DATE RISK_FACTOR_ID
TRADE_SENSITIVITIES_VECTOR	AS_OF_DATE RISK_FACTOR_ID2	AS_OF_DATE RISK_FACTOR_ID

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

SCENARIOS

The SCENARIOS table contains the VaR and ES scenario descriptions.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Indicates the date of the file.
SCENARIO_SET	STRING	Y	Scenarios	N/A	The name of the scenario for that Index. For historical scenarios, this could be the date. For stress simulations, it could be the name of the particular event.
INDEX	INT	Y		0	The pointer to the Scenario's position in the PnL[] vector. Values range from 0 to the total number of scenarios in the given scenario set. Note: The index must start at 0 for each ScenarioSet.
SCENARIO	STRING	Y	Scenario Sets	N/A	Non-technical name for the scenario.
LIQUIDITY_HORIZON	INT	Y	Liquidity Horizons	1	The Liquidity Horizon in days. This field is optional.

Unique Key

Columns
AS_OF_DATE
SCENARIO_SET
INDEX
SCENARIO

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

SPOT_MARKET_DATA

The SPOT_MARKET_DATA table contains spot price market data. It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
MARKET_DATA_SET	STRING	Y		String defining the market data set, for example “Trader marks” or “Official EOD”.
INSTRUMENT_ID	STRING	Y		The ID of the instrument to which the market data relates.
QUOTE	DOUBLE	Y		The quote for the market data.

Unique Key

Columns
AS_OF_DATE
MARKET_DATA_SET
INSTRUMENT_ID

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and

that a value needs to be explicitly set for non-nullable fields.

SURFACE_MARKET_DATA

The SURFACE_MARKET_DATA table contains market data defined along two axes (tenors and moneyness). It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
MARKET_DATA_SET	STRING	Y		String defining the market data set, for example “Trader marks” or “Official EOD”.
CURVE_ID	STRING	Y		The ID of the curve to which the market data relates.
TENOR	STRING	Y		Tenor labels, such as 3M, 5Y and so on.
MONEYNESS	STRING	Y		Moneyness labels.
QUOTE	DOUBLE	Y		The quote for the tenor.

Unique Key

Columns
AS_OF_DATE
MARKET_DATA_SET
INSTRUMENT_ID
TENOR
MONEYNESS

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

TRADE_ATTRIBUTES

The TRADE_ATTRIBUTES table contains the fields describing attributes of the trades.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
TRADE_KEY	STRING	Y		N/A	Unique Trade (or Position) ID.
BOOK	STRING	Y	Books	N/A	The book to map the trade to (must match the node in the Book Hierarchy).
LEGAL_ENTITY	STRING	Y	Legal Entities	N/A	Legal Entity to map the trade to (must match the node in the Legal Entity Hierarchy).
COUNTERPARTY_ID	STRING	Y	CounterpartyIds	N/A	Counterparty to map the trade to (must match the node in the Counterparty Hierarchy).
NOTIONAL	DOUBLE				Notional of the trade/position.
NOTIONAL_CCY	STRING	Y	NotionalCurrencies	N/A	Currency of the notional trade.
TRADER	STRING	Y	Traders	N/A	Trader who performed the trade.
SALES	STRING	Y	Sales	N/A	Salesperson who performed the sale of the trade (if applicable).
INSTRUMENT_CLASS	STRING	Y	InstrumentClasses	N/A	Highest level of instrument classification.
INSTRUMENT_TYPE	STRING	Y	InstrumentTypes	N/A	Main instrument classification.
INSTRUMENT_SUB_TYPE	STRING	Y	InstrumentTypes	N/A	Sub-level of instrument classification.

Column Name	Type	Not Null	Cube Field	Default Value	Description
TRADE_DATE	DATE	Y	TradeDates	1970-01-01	Date of the execution of the trade.
TRADE_MATURITY_DATE	DATE	Y	TradeMaturityDates	1970-01-01	Maturity date of the trade.
VAR_INCLUSION_TYPE	STRING	Y		R	Defines on what basis to include the VaR of this trade: • 'R' for repricing • 'S' for sensitivity,
TRADE_SOURCE	STRING	Y	TradeSources	N/A	Identifier of the source system the trade was executed in.
TRADE_STATUS	STRING	Y	TradeStatuses	LIVE	Status representing the step in the trade lifecycle.
ORIGINAL_NOTIONAL	DOUBLE	Y	OriginalNotional		Represents the notional at trade date.

Unique Key

Columns
AS_OF_DATE
TRADE_KEY

Incoming Joins

Source Table	Source Columns	Target Columns
TRADEPNLS	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY

Source Table	Source Columns	Target Columns
TRADE_ATTRIBUTES	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY
TRADE_SENSITIVITIES	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY
PNL	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY

Outgoing Joins

Target Table	Source Columns	Target Columns
LEGAL_ENTITY_HIERARCHY	AS_OF_DATE LEGAL_ENTITY	AS_OF_DATE LEGAL_ENTITY
COUNTERPARTY_HIERARCHY	AS_OF_DATE COUNTERPARTY_ID	AS_OF_DATE COUNTERPARTY_ID
BOOK_HIERARCHY	AS_OF_DATE BOOK	AS_OF_DATE BOOK
COUNTERPARTIES	AS_OF_DATE COUNTERPARTY_ID	AS_OF_DATE COUNTERPARTY_ID

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1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields. □□

PnL Database Definition

Profit & Loss and Product Control

Profit & Loss and Product Control data can be found in the PNL table.

PNL

The PNL table contains Profit & Loss and Product Control data.

Column Name	Type	Not Null	Default Value[1]	Cube Field	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
TRADE_KEY	STRING	Y	N/A		The field contains the `tradeID` for full data, or `Book#VaR Inclusion#PLDriver` for summary data.
TRADE_ID	STRING	Y	*DATAMEMBER*	Trades	If TRADE_ID comes from multiple systems, you may need to prepend source system to the ID for uniqueness. **NOTE** In certain cases, the TRADE_ID could be for adjustment purposes. In such cases we might only have one PnL vector per Book or desk. The TRADE_ID should contain this information clearly (ADDON or ADJ). Example: "IR_IRSWAP_LIBOR3M", "EQ_12345677", etc.
DAILY	DOUBLE	Y	0		The DTD PnL value.
MONTHLY	DOUBLE	Y	0		The MTD PnL value.
YEARLY	DOUBLE	Y	0		The YTD PnL value.
LIFETIME	DOUBLE	Y	0		The LTD PnL value.
TYPE	STRING	Y	N/A	Types	The type of PnL. Example: 'Actual PL'

Column Name	Type	Not Null	Default Value	Cube Field	Description
PLDRIVER	STRING	Y	N/A	PL Drivers	Driver for the PnL value. Example: 'Market moves'
IS_FULL_REVAL	STRING	Y	N/A	IsFullRevals	Indicates whether the PnL comes from a full revaluation in the risk engine.
CCY	STRING	Y	N/A	Currencies	The currency of the PnL value.
MARKET_DATA_SET	STRING	Y	N/A	This field is not currently used	The market data set that should be used when retrieving rates for FX conversion.
BUCKET	STRING	Y	N/A	Buckets	Placeholder for a set of risk factors that are grouped together by common characteristics.
LEG_ID	STRING	N	N/A	Legs	Optional input to send in trades that will have multiple legs under a single TradeId. Only available when the property `mr.pnl.enable.leg-id` is set to true. If using this field, please update your SQL script to include it.

Unique Key

Columns
AS_OF_DATE
TRADE_KEY
TYPE
MARKET_DATA_SET
RISK_FACTOR

Outgoing Joins

Target Table	Source Columns	Target Columns
TRADE_ATTRIBUTES	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

Sensitivities Database Definition

Sensitivity ladder shifts

The SENSI_LADDERS table contains the definition of sensitivity ladder shifts. The ladder shift vectors are present in the SENSI_LADDERS_VECTOR table.

Trade sensitivities

The TRADE_SENSITIVITIES table contains some of the attributes of the Sensitivity data. The ladder vectors can be found in the TRADE_SENSITIVITIES_VECTOR table.

Correlation Market Data

The CORRELATION_MARKET_DATA table is used to contain market data related to the correlation between risk factors

Dividend Market Data

The DIVIDEND_MARKET_DATA table is used to contain market data related to dividends.

Split Ratio Market Data

The SPLIT_RATIO_MARKET_DATA table is used to contain market data related to stock splits.

CORRELATION_MARKET_DATA

The CORRELATION_MARKET_DATA table is used to contain market data related to the correlation between risk factors. It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
MARKET_DATA_SET	STRING	Y		String defining the market data set, for example “Trader marks” or “Official EOD”.
RISK_FACTOR_ID	STRING	Y		The first risk factor in the correlation.
RISK_FACTOR_ID2	STRING	Y		The second risk factor in the correlation.
QUOTE	DOUBLE	Y		The correlation value.

Unique Key

Columns
AS_OF_DATE
MARKET_DATA_SET
RISK_FACTOR_ID
RISK_FACTOR_ID2

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

DIVIDEND_MARKET_DATA

The DIVIDEND_MARKET_DATA table contains market data related to dividends. It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
MARKET_DATA_SET	STRING	Y		String defining the market data set, for example “Trader marks” or “Official EOD”.

Column Name	Type	Not Null	Default Value	Description
INSTRUMENT_ID	STRING	Y		The ID of the instrument to which the dividend relates.
QUOTE	DOUBLE	Y		The dividend value.

Unique Key

Columns
AS_OF_DATE
MARKET_DATA_SET
INSTRUMENT_ID

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

DYNAMIC_TENORS, DYNAMIC_MATURITIES, DYNAMIC_MONEYNESS

The DYNAMIC_TENORS, DYNAMIC_MATURITIES, and DYNAMIC_MONEYNESS tables are used to support dynamic bucketing. These are isolated tables and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Cube Field	Description
TENOR_SET	STRING	Y	'DEFAULT'	Not used in cube	Specifies the label for the context value that users can select at query time to apply this tenor. Example: DECADE
TENOR_LABEL	STRING	Y	'N/A'	Tenor or Maturity or Moneynes	The tenor label corresponding to the vertex of the risk factor, such as 3M, 5Y, and so on.
SENSITIVITY_NAME	STRING	Y	'N/A'	Not used in cube	The sensitivity for which the tenor, maturity, or moneyness label is used.

Column Name	Type	Not Null	Default Value	Cube Field	Description
NUMBER_OF_DAYS	DOUBLE	Y	0.0	Not used in cube	The number of days to include in the bucketed group. Example: 1080
TENOR_INDICES	INT	Y	0	Not used in cube	The index of the tenor, maturity, or moneyness entry.

Unique Key

Columns
TENOR_LABEL
SENSITIVITY_NAME
TENOR_SET

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

SENSI_LADDERS

The SENSI_LADDERS table contains the definition of sensitivity ladder shifts. The ladder shift vectors are present in the SENSI_LADDERS_VECTOR table.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
RISK_CLASS	STRING	Y		N/A	The risk class for which the ladder scale is defined.
SHIFT_TYPE	STRING	Y		R	The type of the scale ('A' for absolute, 'R' for relative).

Unique Key

Columns
AS_OF_DATE
RISK_CLASS

Incoming Joins

Source Table	Source Columns	Target Columns
SENSI_LADDERS_VECTOR	AS_OF_DATE RISK_CLASS	AS_OF_DATE RISK_CLASS

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields. □□

SENSI_LADDERS_VECTOR

The SENSI_LADDERS_VECTOR table contains the values of the sensitivity ladder shift.

Column Name	Type	Not Null	Cube Field	Default Value[1]	Description
VECTOR_INDEX	INT	Y			Index in the ladder shift vector.
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
RISK_CLASS	STRING	Y		N/A	The risk class that the ladder scale is defined for.
SCALE	DOUBLE	Y		0.0	The ladder shift.

Unique Key

Columns
VECTOR_INDEX

Columns
AS_OF_DATE
RISK_CLASS

Outgoing Joins

Target Table	Source Columns	Target Columns
SENSI_LADDERS	AS_OF_DATE RISK_CLASS	AS_OF_DATE RISK_CLASS

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

SPLIT_RATIO_MARKET_DATA

The SPLIT_RATIO_MARKET_DATA table contains market data related to stock splits. It is an isolated table and not part of any cube facts.

Column Name	Type	Not Null	Default Value[1]	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
INSTRUMENT_ID	STRING	Y		The ID of the instrument to which the split relates.
QUOTE	DOUBLE	Y		The split value.

Unique Key

Columns
AS_OF_DATE
INSTRUMENT_ID

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and

that a value needs to be explicitly set for non-nullable fields.

TRADE_SENSITIVITIES

The TRADE_SENSITIVITIES table contains some of the attributes of the Sensitivity data. The ladder vectors can be found in the TRADE_SENSITIVITIES_VECTOR table.

Column Name	Type	Not Null	Default Value[1]	Cube Field	Description
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
TRADE_KEY	STRING	Y	'N/A'		The field contains the `tradeID` for full data or `Book#VaR Inclusion` for summary data.

Column Name	Type	Not Null	Default Value	Cube Field	Description
TRADE_ID	STRING	Y	'*DATAMEMBER*'	Trades	If TRADE_ID comes from multiple systems, you may need to prepend source system to the ID for uniqueness. **NOTE** In certain cases, the TRADE_ID could be for adjustment purposes. In such cases we might only have one PnL vector per Book or desk. The TRADE_ID should contain this information clearly (ADDON or ADJ). Example: "IR_IRSWAP_LIBOR3M", "EQ_12345677", etc.
SENSITIVITY_NAME	STRING	Y	'N/A'	Sensitivity	The name of the sensitivity (cube measure).

Column Name	Type	Not Null	Default Value	Cube Field	Description	
RISK_CLASS	STRING	Y	'N/A'	Risk Classes	Risk factor's asset class: "Interest rate", "Credit spread", "Foreign exchange", "Equity", "Commodity", "Hybrid".	Risk factor's asset class: "Interest rate", "Credit spread", "Foreign exchange", "Equity", "Commodity", "Hybrid".
MARKET_DATA_SET	STRING	Y	'N/A'	This field is not currently used	The market data set that was used when the sensitivity was calculated. This will be used to retrieve appropriate market data values for PnL Explain and Taylor VaR computations.	Internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.
RISK_FACTOR_ID	STRING	Y	'N/A'	Risk Factors	Internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.	Internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.

Column Name	Type	Not Null	Default Value	Cube Field	Description
RISK_FACTOR_ID2	STRING	Y	'N/A'	Risk Factors Secondary	NOTE This field is only present in the Vanna input file. It does not exist for Delta, Gamma, Vega, or Volga inputs. Second risk factor for the Vanna sensitivity. Example: UniCredit_Spot price
TENOR_LABEL	STRING	Y	'N/A'	Tenors	A tenor label, corresponding to the vertex of the risk factor, such as 3M, 5Y, and so on.
TENOR_DATE	DATE	Y	'1970-01-01'		An explicit tenor date, which is used to sort tenors and to re-bucket sensitivities (if supported). Example: 2019-03-16
MATURITY_LABEL	STRING	Y	'N/A'	Maturities	Name for the bucketed group.

Column Name	Type	Not Null	Default Value	Cube Field	Description
MATURITY_DATE	DATE	Y	'1970-01-01'		An explicit maturity date, which is used to sort tenors and to re-bucket sensitivities (if supported). Example: 2019-03-16
MONEYNESS	STRING	Y	'ATM'	Moneyness	A label corresponding to different ways of stating moneyness. Supported formats: moneyness in percent, e.g. 80;100;120; delta-moneyness,e.g. 25p;ATM ;25c
VALUE	DOUBLE	Y	0.0		Sensitivity value.
CCY	STRING	Y	'N/A'	Currencies	The currency of the sensitivity.
HAS_LADDER	STRING	Y	'N'	Ladder Availability	Flag set to "Y" if the Ladder field is not null. Null values are interpreted as "N".

Unique Key

Columns
AS_OF_DATE
TRADE_KEY
SENSITIVITY_NAME
MARKET_DATA_SET

Columns
RISK_FACTOR_ID
RISK_FACTOR_ID2
TENOR_LABEL
TENOR_DATE
MATURITY_LABEL
MATURITY_DATE
MONEYNESS

Incoming Joins

Target Table	Source Columns	Target Columns
TRADE_SENSITIVITIES_VECTOR	AS_OF_DATE TRADE_KEY SENSITIVITY_NAME MARKET_DATA_SET RISK_FACTOR_ID RISK_FACTOR_ID2 TENOR_LABEL TENOR_DATE MATURITY_LABEL MATURITY_DATE MONEYNESS	AS_OF_DATE TRADE_KEY SENSITIVITY_NAME MARKET_DATA_SET RISK_FACTOR_ID RISK_FACTOR_ID2 TENOR_LABEL TENOR_DATE MATURITY_LABEL MATURITY_DATE MONEYNESS

Outgoing Joins

Target Table	Source Columns	Target Columns
TRADE_ATTRIBUTES	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY
RISK_FACTORS_CATALOGUE	AS_OF_DATE RISK_FACTOR_ID	AS_OF_DATE RISK_FACTOR_ID

Target Table	Source Columns	Target Columns
RISK_FACTORS_CATALOGUE	AS_OF_DATE RISK_FACTOR_ID2	AS_OF_DATE RISK_FACTOR_ID

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields.

TRADE_SENSITIVITIES_VECTOR

The TRADE_SENSITIVITIES_VECTOR table contains the ladder data used for calculations related to sensitivities.

Column Name	Type	Not Null	Default Value[1]	Cube Field	Description
VECTOR_INDEX	INT	Y			Index in the ladder vector.
AS_OF_DATE	DATE	Y			Timestamp (at close of business) for the data.
TRADE_KEY	STRING	Y	'N/A'		The field contains the `tradeID` for full data or `Book#VaR Inclusion` for summary data.
SENSITIVITY_NAME	STRING	Y	'N/A'	Sensitivity	The name of the sensitivity (cube measure)..

Column Name	Type	Not Null	Default Value	Cube Field	Description	
RISK_CLASS	STRING	Y	'N/A'	Risk Classes	Risk factor's asset class: "Interest rate", "Credit spread", "Foreign exchange", "Equity", "Commodity", "Hybrid".	Risk factor's asset class: "Interest rate", "Credit spread", "Foreign exchange", "Equity", "Commodity", "Hybrid".
MARKET_DATA_SET	STRING	Y	'N/A'	This field is not currently used	The market data set that was used when the sensitivity was calculated. This will be used to retrieve appropriate market data values for PnL Explain and Taylor VaR computations.	Internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.
RISK_FACTOR_ID	STRING	Y	'N/A'	Risk Factors	Internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.	Internal risk factor/bucket identifier: instrument, curve, vol surface/cube identifier.

Column Name	Type	Not Null	Default Value	Cube Field	Description
RISK_FACTOR_ID2	STRING	Y	'N/A'	Risk Factors Secondary	NOTE This field is only present in the Vanna input file. It does not exist for Delta, Gamma, Vega, or Volga inputs. Second risk factor for the Vanna sensitivity. Example: UniCredit_Spot price
TENOR_LABEL	STRING	Y	'N/A'	Tenors	A tenor label, corresponding to the vertex of the risk factor, such as 3M, 5Y, and so on.
TENOR_DATE	DATE	Y	'1970-01-01'		An explicit tenor date, which is used to sort tenors and to re-bucket sensitivities (if supported). Example: 2019-03-16
MATURITY_LABEL	STRING	Y	'N/A'	Maturities	Name for the bucketed group.

Column Name	Type	Not Null	Default Value	Cube Field	Description
MATURITY_DATE	DATE	Y	'1970-01-01'		An explicit maturity date, which is used to sort tenors and to re-bucket sensitivities (if supported). Example: 2019-03-16
MONEYNESS	STRING	Y	'ATM'	Moneyness	A label corresponding to different ways of stating moneyness. Supported formats: moneyness in percent, e.g. 80;100;120; delta-moneyness,e.g. 25p;ATM ;25c
LADDER	DOUBLE	Y	0.0		Ladder value.

Unique Key

Columns
VECTOR_INDEX
AS_OF_DATE
TRADE_KEY
SENSITIVITY_NAME
RISK_FACTOR_ID
RISK_FACTOR_ID2
TENOR_LABEL
TENOR_DATE
MATURITY_LABEL
MATURITY_DATE

Columns
MONEYNESS

Outgoing Joins

Target Table	Source Columns	Target Columns
TRADE_SENSITIVITIES	AS_OF_DATE TRADE_KEY SENSITIVITY_NAME MARKET_DATA_SET RISK_FACTOR_ID RISK_FACTOR_ID2 TENOR_LABEL TENOR_DATE MATURITY_LABEL MATURITY_DATE MONEYNESS	AS_OF_DATE TRADE_KEY SENSITIVITY_NAME MARKET_DATA_SET RISK_FACTOR_ID RISK_FACTOR_ID2 TENOR_LABEL TENOR_DATE MATURITY_LABEL MATURITY_DATE MONEYNESS

1. If the default value is marked as empty, it means that the default value is 'null' for nullable fields, and that a value needs to be explicitly set for non-nullable fields. □□

VaR-ES Database Definition

PnL Vectors

The VaR-ES Cube Schema starts with the TRADEPNLS table, which contains the PnL data. PnL vectors are present in the TRADEPNLS_VECTOR table.

TRADEPNLS

The TRADEPNLS table contains some of the attributes of the PnL data used as inputs for VaR and ES computations. The PnL vectors are present in the TRADEPNLS_VECTOR table.

Column Name	Type	Not Null	Cube Field	Description

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
TRADE_KEY	STRING	Y		The field contains the `tradeID` for full data or `Book#VaR Inclusion` for summary data.
TRADE_ID	STRING	Y	Trades	If TradeId comes from multiple systems you may need to prepend source system to the ID for uniqueness. Note that in certain cases, the TradeId could be for adjustment purposes. In such cases we might only have one PnL vector per Book or desk. The TradeId should contain this information clearly (ADDON or ADJ). Example: "IR_IRSWAP_LIBOR3M", "EQ_12345677", etc.
SCENARIO_SET	STRING	Y	Scenario Sets	Name of the scenario set for the PnL vector.
CALCULATION_ID	STRING	Y	CalculationIds	Name of the PnL vector calculation run. There may be several runs per AsOfDate.
MARKET_DATA_SET	STRING	Y	This field is not currently used	The market data set that should be used when retrieving rates for FX conversion.
RISK_FACTOR	STRING	Y	Risk Factors	Underlying risk factor (may be more than one) of the risk class.
RISK_CLASS	STRING	Y	Risk Classes	Defines the risk class that the PnL vector is computed for.
SENSITIVITY_NAME	STRING	Y		Name of the sensitivity that the PnL is attributed to.
CCY	STRING	Y	Currencies	Currency in which the PnL values are expressed.
MTM	DOUBLE			The mark-to-market value of the trade.

Unique Key

Columns
AS_OF_DATE

Columns
TRADE_KEY
SCENARIO_SET
CALCULATION_ID
MARKET_DATA_SET
RISK_FACTOR

Incoming Joins

Target Table	Source Columns	Target Columns
TRADEPNLS_VECTOR	AS_OF_DATE TRADE_KEY SCENARIO_SET CALCULATION_ID MARKET_DATA_SET RISK_FACTOR	AS_OF_DATE TRADE_KEY SCENARIO_SET CALCULATION_ID MARKET_DATA_SET RISK_FACTOR

Outgoing Joins

Target Table	Source Columns	Target Columns
TRADE_ATTRIBUTES	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY
RISK_FACTORS_CATALOGUE	AS_OF_DATE RISK_FACTOR	AS_OF_DATE RISK_FACTOR_ID

TRADEPNLS_VECTOR

The TRADEPNLS_VECTOR table contains the PnL vectors used as inputs for VaR and ES computations.

Column Name	Type	Not Null	Cube Field	Description
VECTOR_INDEX	INT	Y		Index in the PnL vector.

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
TRADE_KEY	STRING	Y		The field contains the `tradeID` for full data or `Book#VaR Inclusion` for summary data.
SCENARIO_SET	STRING	Y	Scenario Sets	Name of the scenario set for the PnL vector.
CALCULATION_ID	STRING	Y	CalculationIds	Name of the PnL vector calculation run. There may be several runs per AsOfDate.
MARKET_DATA_SET	STRING	Y	This field is not currently used	The market data set that should be used when retrieving rates for FX conversion.
RISK_FACTOR	STRING	Y	Risk Factors	Underlying risk factor (may be more than one) of the risk class.
PNL_VECTOR	DOUBLE	Y		PnL value corresponding to the index.

Unique Key

Columns
VECTOR_INDEX
AS_OF_DATE
TRADE_KEY
SCENARIO_SET
CALCULATION_ID
MARKET_DATA_SET
RISK_FACTOR

Outgoing Joins

Target Table	Source Columns	Target Columns

Target Table	Source Columns	Target Columns
TRADEPNLS	AS_OF_DATE	AS_OF_DATE
	TRADE_KEY	TRADE_KEY
	SCENARIO_SET	SCENARIO_SET
	CALCULATION_ID	CALCULATION_ID
	MARKET_DATA_SET	MARKET_DATA_SET
	RISK_FACTOR	RISK_FACTOR