ActiveViam

Database

Atoti FRTB

6.0

Table of Contents

Database

This section provides the database definitions in Atoti FRTB.

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, Atoti FRTB 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 Atoti FRTB uses a star schema with many-to-one joins radiating out from a base table. The base tables are as follows:

Cube	Base Table
StandardisedApproachCube	SASENSITIVITIES

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. This includes FX rates and trade booking.

FX Rates

The FX rates are stored in the FX_RATES table.

Trade Booking

The TRADE_MAPPING table maps trades/positions to books and legal entities by **TRADE_ID** and **AS_OF_DATE**.

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

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

The LEGAL_ENTITY_ATTRIBUTES table provides a description of the legal entities.

BOOK_DESCRIPTION

The BOOK_DESCRIPTION table contains the book descriptions

Column Name	Type	Not Null	Cube Field	Description
BOOK	STRING	Y		Leaf node of the book hierarchy.
DESK	STRING	Y	Desks	The desk to which the book belongs.
AS_OF_DATE	DATE	Y	See field in joined table (SASENSITIVITIES)	Timestamp (at close of business) for the data.

Unique Key

Columns
AS_OF_DATE
BOOK

Incoming Joins

Source Table	Source Columns	Target Columns
TRADE_MAPPING	AS_OF_DATE BOOK	AS_OF_DATE BOOK

BOOK_HIERARCHY

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

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

Column Name	Type	Not Null	Cube Field	Description
BOOK	STRING	Y		Leaf node of the book hierarchy. This matches the last non-_DATAMEMBER_ node in levels 1 - 15.
HIERARCHY_LEVEL1	STRING		Level 1	Node at level 1 of the book hierarchy.
HIERARCHY_LEVEL2	STRING		Level 2	Node at level 2 of the book hierarchy.
HIERARCHY_LEVEL3	STRING		Level 3	Node at level 3 of the book hierarchy.
HIERARCHY_LEVEL4	STRING		Level 4	Node at level 4 of the book hierarchy.
HIERARCHY_LEVEL5	STRING		Level 5	Node at level 5 of the book hierarchy.
HIERARCHY_LEVEL6	STRING		Level 7	Node at level 6 of the book hierarchy.
HIERARCHY_LEVEL7	STRING		Level 6	Node at level 7 of the book hierarchy.
HIERARCHY_LEVEL8	STRING		Level 8	Node at level 8 of the book hierarchy.
HIERARCHY_LEVEL9	STRING		Level 9	Node at level 9 of the book hierarchy.
HIERARCHY_LEVEL10	STRING		Level 10	Node at level 10 of the book hierarchy.
HIERARCHY_LEVEL11	STRING		Level 11	Node at level 11 of the book hierarchy.
HIERARCHY_LEVEL12	STRING		Level 12	Node at level 12 of the book hierarchy.
HIERARCHY_LEVEL13	STRING		Level 13	Node at level 13 of the book hierarchy.

Column Name	Type	Not Null	Cube Field	Description
HIERARCHY_LEVEL14	STRING		Level 14	Node at level 14 of the book hierarchy.
HIERARCHY_LEVEL15	STRING		Level 15	Node at level 15 of the book hierarchy.

Unique Key

Columns
AS_OF_DATE
BOOK

Incoming Joins

Source Table	Source Columns	Target Columns
TRADE_MAPPING	AS_OF_DATE BOOK	AS_OF_DATE BOOK

Populating From a ParentChild Table

Instead of creating and populating the BOOK_HIERARCHY table directly, you can create a BOOK_PARENT_CHILD table to store the parent-child relationships.

Column Name	Type	Not Null	Cube Field	Description
NAME	STRING	Y		Child in the parent-child relationship.
PARENT	STRING			Parent in the parent-child relationship. Null means the child is a root node.
DATE	DATE	Y		Timestamp (at close of business) for the data.

With this table and this SQL script, you can create a series of intermediate views to populate the multiple levels of the BOOK_HIERARCHY table.

DESK_DESCRIPTION

The DESK_DESCRIPTION table contains the desk descriptions.

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y	See field in joined table (BOOK_DESCRIPTION)	Timestamp (at close of business) for the data.
DESK	STRING	Y	Desks	The desk to which the book belongs. This will match one of the non-_DATAMEMBER_ nodes in levels 1 - 15.
FRTB_DESK_MODEL	STRING		FRTB Model	Specifies whether the desk should be treated as IMA or SA for the capital charge calculations.
PLA_ZONE	STRING		PLA Zone	Indicates which zone the desk falls into according to the PLA test metrics [MAR32.42].

Unique Key

Columns
AS_OF_DATE
DESK

Incoming Joins

Source Table	Source Columns	Target Columns
BOOK_DESCRIPTION	AS_OF_DATE DESK	AS_OF_DATE DESK

FXRATES

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

FX Rates are looked up via the default implementation of **IFXRates** API.

Column Name	Type	Not Null	Description
AS_OF_DATE	DATE	Y	Timestamp (at close of business) for the data.
BASE_CCY	STRING	Y	The left side of the currency pair.
COUNTER_CCY	STRING	Y	The right side of the currency pair.
FX_RATE	DOUBLE	Y	Forex rate between the two currencies.

Unique Key

Columns
AS_OF_DATE
BASE_CCY
COUNTER_CCY

LEGAL_ENTITY_ATTRIBUTES

The **LEGAL_ENTITY_ATTRIBUTES** table contains a description of the legal entity.

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y	See field in joined table (SASENSITIVITIES)	Timestamp (at close of business) for the data.
LEGAL_ENTITY	STRING	Y	See field in joined table (TRADE_MAPPING)	The legal entity.
NETTING_SET	STRING		Netting Set	The netting set the legal entity belongs to.

Unique Key

Columns

Columns
AS_OF_DATE
LEGAL_ENTITY

Incoming Joins

Source Table	Source Columns	Target Columns
TRADE_MAPPING	AS_OF_DATE LEGAL_ENTITY	AS_OF_DATE LEGAL_ENTITY

LEGAL_ENTITY_HIERARCHY

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

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data.
LEGAL_ENTITY	STRING	Y		Leaf node of the book hierarchy. This matches the last non-_DATAMEMBER_ node in levels 1 - 15.
HIERARCHY_LEVEL1	STRING		Level 1	Node at level 1 of the book hierarchy.
HIERARCHY_LEVEL2	STRING		Level 2	Node at level 2 of the book hierarchy.
HIERARCHY_LEVEL3	STRING		Level 3	Node at level 3 of the book hierarchy.
HIERARCHY_LEVEL4	STRING		Level 4	Node at level 4 of the book hierarchy.
HIERARCHY_LEVEL5	STRING		Level 5	Node at level 5 of the book hierarchy.

Unique Key

Columns
AS_OF_DATE
LEGAL_ENTITY

Incoming Joins

Source Table	Source Columns	Target Columns
TRADE_MAPPING	AS_OF_DATE LEGAL_ENTITY	AS_OF_DATE LEGAL_ENTITY

Populating From a ParentChild Table

Instead of creating and populating the LEGAL_ENTITY_HIERARCHY table directly, you can create a LEGAL_ENTITY_PARENT_CHILD table to store the parent-child relationships.

Column Name	Type	Not Null	Cube Field	Description
NAME	STRING	Y		Child in the parent-child relationship.
PARENT	STRING			Parent in the parent-child relationship. Null means the child is a root node.
DATE	DATE	Y		Timestamp (at close of business) for the data.

With this table and this SQL script, you can create a series of intermediate views to populate the multiple levels of the LEGAL_ENTITY_HIERARCHY table.

TRADE_MAPPING

The TRADE_MAPPING store maps trades to books, desks and legal entities.

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		Unique Trade (or Position) ID.

Column Name	Type	Not Null	Cube Field	Description
BOOK	STRING	Y	Books	The book to map the trade to (must match the node in the Book Hierarchy).
LEGAL_ENTITY	STRING	Y	Legal Entities	Legal Entity to map the trade to (must match the node in the Legal Entity Hierarchy).
TRADE_DATE	DATE		TradeDates	The date on which the trade took place.

Unique Key

Columns
AS_OF_DATE
TRADE_KEY

Incoming Joins

Source Table	Source Columns	Target Columns	Cube
SASENSITIVITIES	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY	StandardisedApproachCube
IMATRADES	AS_OF_DATE TRADE_KEY	AS_OF_DATE TRADE_KEY	InternalModelApproachCube

Outgoing Joins

Target Table	Source Columns	Target Columns
BOOK_DESCRIPTON	AS_OF_DATE BOOK	AS_OF_DATE BOOK
BOOK_HIERARCHY	AS_OF_DATE BOOK	AS_OF_DATE BOOK
LEGAL_ENTITY_HIERARCHY	AS_OF_DATE LEGAL_ENTITY	AS_OF_DATE LEGAL_ENTITY

Target Table	Source Columns	Target Columns
LEGAL_ENTITY_ATTRIBUTES	AS_OF_DATE LEGAL_ENTITY	AS_OF_DATE LEGAL_ENTITY

Internal Models Approach Database Definition

The IMA Cube Schema starts with the IMATRADES table, which is an index to all the facts in the IMA Cube.

Trade Description

The TRADE_MAPPING table places each trade in the organizational hierarchy. See Global section for more details.

The IMATRADES table provides trade-level data.

ES_SCENARIO_FX_RATES

The **ES_SCENARIO_FX_RATES** table contains vector fields. In databases that do not natively support vectors, the vector fields are stored as separate columns.

ES_SCENARIO_FX_RATES Table Fields

Non-Native Vector Support

Column Name	Type	Not Null	Cube Field	Description
DATA_SET	STRING	Y		The data set to which the entry belongs. The following different values are possible: • "Full Set Current": data for the last 12 months • "Reduced Set Stressed": data with the reduced set of risk factors for the 12-month stress period • "Reduced Set Current": data with the reduced set of risk factors for the last 12 months

Column Name	Type	Not Null	Cube Field	Description
RISK_CLASS	STRING	Y		The risk class, which will be one of the following: • GIRR • CSR • Equity • Commodity • FX • allin
LIQUIDITY_HORIZON	INTEGER	Y		The Liquidity Horizon in days: 10, 20, 40, 60 or 120
BASE_CCY	STRING	Y		The left side of the currency pair
COUNTER_CCY	STRING	Y		The right side of the currency pair
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data

Native Vector Support

Column Name	Type	Not Null	Cube Field	Description
DATA_SET	STRING	Y		The data set to which the entry belongs. The following different values are possible: • "Full Set Current": data for the last 12 months • "Reduced Set Stressed": data with the reduced set of risk factors for the 12-month stress period • "Reduced Set Current": data with the reduced set of risk factors for the last 12 months

Column Name	Type	Not Null	Cube Field	Description
RISK_CLASS	STRING	Y		The risk class, which will be one of the following: • GIRR • CSR • Equity • Commodity • FX • allin
LIQUIDITY_HORIZON	INTEGER	Y		The Liquidity Horizon in days: 10, 20, 40, 60 or 120
BASE_CCY	STRING	Y		The left side of the currency pair
COUNTER_CCY	STRING	Y		The right side of the currency pair
FX_RATE	ARRAY(DOUBLE)	Y		The vector of FX rates between the two currencies. The vector is indexed by the same scenarios as the corresponding IMA ES PV vector.
AS_OF_DATE	DATE	Y		Timestamp (at close of business) for the data

ES_SCENARIO_FX_RATES Unique Key

Non-Native Vector Support

Columns
DATA_SET
RISK_CLASS
LIQUIDITY_HORIZON
BASE_CCY
COUNTER_CCY
AS_OF_DATE

Native Vector Support

Columns
DATA_SET
RISK_CLASS
LIQUIDITY_HORIZON
BASE_CCY
COUNTER_CCY
AS_OF_DATE

ES_SCENARIO_FX_RATES_VECTOR Table Fields

Non-Native Vector Support

Column Name	Type	Not Null
VECTOR_INDEX	INTEGER	Y
DATA_SET	STRING	Y
RISK_CLASS	STRING	Y
LIQUIDITY_HORIZON	INTEGER	Y
BASE_CCY	STRING	Y
COUNTER_CCY	STRING	Y
FX_RATE	DOUBLE	
AS_OF_DATE	DATE	Y

Native Vector Support

No vector table is required when the database natively supports aggregation on vector types.

ES_SCENARIO_FX_RATES_VECTOR Unique Key

Non-Native Vector Support

Columns
VECTOR_INDEX
DATA_SET
RISK_CLASS
LIQUIDITY_HORIZON
BASE_CCY
COUNTER_CCY
AS_OF_DATE

Native Vector Support

No vector table is required when the database natively supports aggregation on vector types.

Outgoing Joins

Non-Native Vector Support

Target Table	Source Columns	Target Columns
ES_SCENARIO_FX_RATES_VECTOR	DATA_SET RISK_CLASS LIQUIDITY_HORIZON BASE_CCY COUNTER_CCY AS_OF_DATE	DATA_SET RISK_CLASS LIQUIDITY_HORIZON BASE_CCY COUNTER_CCY AS_OF_DATE

Native Vector Support

There are no outgoing joins.

IMARISK_FACTORS

IMARISK_FACTORS Table Fields

Column Name	Type	Not Null	Cube Field	Description
RISK_FACTOR	STRING	Y	RiskFactor	The risk factor – the values must be the same as in the 'RiskFactor' field of the Expected Shortfall PL file.
RISK_CLASS	STRING	Y	RiskClass	The risk class, which will be one of the following: • GIRR • CSR • Equity • Commodity • FX • allin For non-modellable, non-idiosyncratic trades, this value should be blank.
NMRF	STRING	Y	Model.NMRF	NMRF stands for 'Non-Modellable Risk Factor' – it is a flag set to 'N' for modellable risk factors and 'Y' for non-modellable risk factors.
IDIOSYNCRATIC	STRING	Y	Idiosyncratic	An optional field, indicating whether or not the Non Modellable Risk Factor is Idiosyncratic.
CCY	STRING	Y	Currency	Currency of the Risk Factor.
AS_OF_DATE	DATE	Y	See field in referencing store (IMATrades)	Timestamp (at close of business) for the data.

IMARISK_FACTORS Unique Key

Columns
DATA_SET
RISK_CLASS
LIQUIDITY_HORIZON
BASE_CCY

Columns
COUNTER_CCY
AS_OF_DATE

Incoming Joins

Source Table	Source Columns	Target Columns
IMATRADES	RISK_FACTOR RISK_CLASS AS_OF_DATE	RISK_FACTOR RISK_CLASS AS_OF_DATE

IMATRADES

The **IMATRADES** table is the base in the IMA Cube star schema. Each row in this table represents a fact in the IMA Cube.

The **IMATRADES** table contains vector fields. In databases that do not natively support vectors, the vector fields are stored as separate columns.

IMATRADES Table Fields

Non-Native Vector Support

Column Name	Type	Not Null	Cube Field	Description
DATA_SET	STRING	Y	Data Set	The data set to which the entry belongs. The following different values are possible: • "Full Set Current": data for the last 12 months • "Reduced Set Stressed": data with the reduced set of risk factors for the 12-month stress period • "Reduced Set Current": data with the reduced set of risk factors for the last 12 months For non-modellable risk-factors, this value should be blank.

Column Name	Type	Not Null	Cube Field	Description
TRADE_KEY	STRING	Y	This field is for internal usage only	The field contains the `tradeID` for full data or `Book#LegalEntity` for summary data
TRADE_ID	STRING	Y	TradeId	The trade Id.
RISK_FACTOR	STRING	Y	RiskFactor	The risk-factor. Note: This is required for non-modellable risk-factors, and optional for modellable risk-factors.
RISK_CLASS	STRING	Y	RiskClass	The risk class, which will be one of the following: • GIRR • CSR • Equity • Commodity • FX • allin
PL_LH	STRING	Y	Liquidity Horizon	The Liquidity Horizon in days: 10, 20, 40, 60 or 120 Note: For non-modellable risk-factors, this value should be blank (though it may be set to 10 without causing any problems). The list must contain all the referring horizons, for instance for a horizon of 40 you must specify “40;20;10”.
CCY	STRING	Y	Currency	The currency of the PnL vector entries.
BASE_PV	DOUBLE	Y	This field is a measure	The base PV.
AS_OF_DATE	DATE	Y	AsOfDate	Timestamp (at close of business) for the data.

Native Vector Support

Column Name	Type	Not Null	Cube Field	Description
DATA_SET	STRING	Y	Data Set	The data set to which the entry belongs. The following different values are possible: • "Full Set Current": data for the last 12 months • "Reduced Set Stressed": data with the reduced set of risk factors for the 12-month stress period • "Reduced Set Current": data with the reduced set of risk factors for the last 12 months For non-modellable risk-factors, this value should be blank.
TRADE_KEY	STRING	Y	This field is for internal usage only	The field contains the `tradeID` for full data or `Book#LegalEntity` for summary data
TRADE_ID	STRING	Y	TradeId	The trade Id.
RISK_FACTOR	STRING	Y	RiskFactor	The risk-factor. Note: This is required for non-modellable risk-factors, and optional for modellable risk-factors.
RISK_CLASS	STRING	Y	RiskClass	The risk class, which will be one of the following: • GIRR • CSR • Equity • Commodity • FX • allin

Column Name	Type	Not Null	Cube Field	Description
PL_LH	STRING	Y	Liquidity Horizon	The Liquidity Horizon in days: 10, 20, 40, 60 or 120 Note: For non-modellable risk-factors, this value should be blank (though it may be set to 10 without causing any problems). The list must contain all the referring horizons, for instance for a horizon of 40 you must specify "40;20;10".
CCY	STRING	Y	Currency	The currency of the PnL vector entries.
BASE_PV	DOUBLE	Y	This field is a measure	The base PV.
PV	ARRAY(DOUBLE)	Y	This field is a measure	The PV vector calibrated for 12 months' worth of data. The entries in this vector represent the PV for each scenario. The values are separated by a semi-colon. This vector may optionally represent the P&L vector by setting the base PV to zero.
AS_OF_DATE	DATE	Y	AsOfDate	Timestamp (at close of business) for the data.

IMATRADES Unique Key

Non-Native Vector Support

Columns
DATA_SET
TRADE_KEY
RISK_FACTOR
RISK_CLASS

Columns
PL_LH
AS_OF_DATE

Native Vector Support

Columns
DATA_SET
TRADE_KEY
RISK_FACTOR
RISK_CLASS
PL_LH
AS_OF_DATE

IMATRADES_VECTOR Table Fields

Non-Native Vector Support

Column Name	Type	Not Null
VECTOR_INDEX	INT	Y
DATA_SET	STRING	Y
TRADE_KEY	STRING	Y
TRADE_ID	STRING	Y
RISK_FACTOR	STRING	Y
RISK_CLASS	STRING	Y
PL_LH	STRING	Y
CCY	STRING	Y

Column Name	Type	Not Null
BASE_PV	DOUBLE	Y
PV	DOUBLE	Y
AS_OF_DATE	DATE	Y

Native Vector Support

No vector table is required when the database natively supports aggregation on vector types.

IMATRADES_VECTOR Unique Key

Non-Native Vector Support

Columns
VECTOR_INDEX
DATA_SET
TRADE_KEY
RISK_FACTOR
RISK_CLASS
PL_LH
AS_OF_DATE

Native Vector Support

No vector table is required when the database natively supports aggregation on vector types.

Outgoing Joins

Non-Native Vector Support

Target Table	Source Columns	Target Columns

Target Table	Source Columns	Target Columns
IMATRADES_VECTOR	DATA_SET TRADE_KEY RISK_FACTOR RISK_CLASS PL_LH AS_OF_DATE	AS_OF_DATE BOOK
IMARISK_FACTORS	RISK_FACTOR RISK_CLASS AS_OF_DATE	RISK_FACTOR RISK_CLASS AS_OF_DATE
TRADE_MAPPING	TRADE_KEY AS_OF_DATE	TRADE_KEY AS_OF_DATE

Native Vector Support

Target Table	Source Columns	Target Columns
IMARISK_FACTORS	RISK_FACTOR RISK_CLASS AS_OF_DATE	RISK_FACTOR RISK_CLASS AS_OF_DATE
TRADE_MAPPING	TRADE_KEY AS_OF_DATE	TRADE_KEY AS_OF_DATE

SCENARIOS

SCENARIOS Table Fields

Column Name	Type	Not Null	Cube Field	Description

Column Name	Type	Not Null	Cube Field	Description
DATA_SET	STRING	Y	Data Set	The data set to which the entry belongs. The following different values are possible: • "Full Set Current": data for the last 12 months • "Reduced Set Stressed": data with the reduced set of risk factors for the 12-month stress period • "Reduced Set Current": data with the reduced set of risk factors for the last 12 months For non-modellable risk-factors, this value should be blank.
INDEX	INTEGER	Y	Internal field	The index in the vector representing the list of Scenarios – the first element has index 0.
SCENARIO	STRING	Y	Scenario Dates	The name of the scenario.
AS_OF_DATE	DATE	Y	See field in referencing store (IMATrades)	Timestamp (at close of business) for the data.

SCENARIOS Unique Key

Columns
DATA_SET
SCENARIO
AS_OF_DATE

Incoming Joins

Source Table	Source Columns	Target Columns

Source Table	Source Columns	Target Columns
IMATRADES	RISK_FACTOR RISK_CLASS AS_OF_DATE	RISK_FACTOR RISK_CLASS AS_OF_DATE

Standardised Approach Database Definition

The SA Cube Schema starts with the SASENSITIVITIES table, which is an index to all the facts in the SA Cube.

Trade Description

The TRADE_MAPPING table places each trade in the organizational hierarchy. See Global section for more details.

The SA_TRADE_DESCRIPTION table provides trade-level data.

Risk Factor Descriptions

The SASENSITIVITIES table references the risk-factor descriptions for all SA facts.

The risk-factor description starts with the RISK_FACTOR_DESCRIPTION table, which contains the description of risk-factor (independent of the underlying).

The RISK_FACTOR_DESCRIPTION contains references to the follow tables:

Risk Class	Underlying Store
GIRR, CSR non-Sec, CSR Sec non-CTP, CSR Sec CTP, Equity, Commodity, FX	UNDERLYING_DESCRIPTION
DRC non-Sec	OBLIGOR
DRC Sec non-CTP	TRANCHE
RRAO	RRAO

Sensitivities

The SASENSITIVITIES table holds all sensitivities.

OBLIGOR

The **OBLIGOR** table contains the description of a DRC non-Sec obligor.

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y	See field in joined table (SASENSITIVITIES)	Timestamp (at close of business) for the data.
OBLIGOR_ID	STRING	Y	DRC Obligor	The ID of the obligor.
RISK_CLASS	STRING	Y		Set to “DRC non-Sec”.
OBLIGOR_CATEGORY	STRING	Y	DRC non-Sec Bucket	the bucket to which the obligor belongs.
RATING	STRING	Y	DRC non-Sec Rating	The credit quality of the obligor.
RISK_WEIGHT	DOUBLE		DRC non-Sec JTD Weightings Override measure	Optional override for the DRC non-Sec Obligor risk-weight.
DRC_FUND_TREATMENT	STRING		DRC Fund Treatment	Flag indicating if the obligor cannot be included in offsetting or diversification with other exposures.

Unique Key

Columns
AS_OF_DATE
OBLIGOR
RISK_CLASS

Incoming Joins

Source Table	Source Columns	Target Columns

Source Table	Source Columns	Target Columns
RISK_FACTOR_DESCRIPTION	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE OBLIGOR RISK_CLASS

OBLIGOR_OVERRIDES

The OBLIGOR_OVERRIDES table contains the Override definitions for the Obligor table.

Column Name	Type	Not Null
OBLIGOR_ID	STRING	Y
RISK_CLASS	STRING	Y
PARAMETER_SET	STRING	Y
OBLIGOR_CATEGORY	STRING	
RATING	STRING	
RISK_WEIGHT	DOUBLE	
DRC_FUND_TREATMENT	STRING	
AS_OF_DATE	DATE	Y

Unique Key

Columns
OBLIGOR_ID
RISK_CLASS
PARAMETER_SET
AS_OF_DATE

Override Base Table

The base table for these overrides is the Obligor table. To define Overrides you must add facts to the base

table. For details on why this is required, see Overrides With DirectQuery.

Inject Base Table

For each override, you must generate multiple entries in the Obligor table with the following structure.

Override Parameter	Obligor Table Field
OVERRIDE KEY FIELD	OBLIGOR_ID
OVERRIDE DATE FIELD	AS_OF_DATE

Where:

- **Override Parameter**: The parameters to determine where to apply this override.
- **Obligor Table Field**: The field in the Obligor base table for this override.

Create Base Store Tuples

See the Create Override Tuples section for an example of how to create the override tuples for the following override fields. These are the fields we want to override in the base override table, in this case the Obligor Table.

Override Table
PARAMETER_SET
OBLIGOR_CATEGORY
RATING
RISK_WEIGHT
DRC_FUND_TREATMENT

These fields form an intermediate table containing the Override's base store fields and will be merged back into the Override base table: Obligor.

Map Override Fields to Base Table Fields

Once you create your tuples for each override field, you can then map the tuples back to the base store using the following relationship:

Override Table	Obligor Table Field	Note

Override Table	Obligor Table Field	Note
OVERRIDE KEY FIELD	OBLIGOR_ID	
OVERRIDE DATE FIELD	AS_OF_DATE	
PARAMETER_SET		No mapping exists
OBLIGOR_CATEGORY	OBLIGOR_CATEGORY	
RATING	RATING	
RISK_WEIGHT	RISK_WEIGHT	
DRC_FUND_TREATMENT	DRC_FUND_TREATMENT	
	RISK_CLASS	No mapping exists

RISK_FACTOR_DESCRIPTION

The RISK_FACTOR_DESCRIPTION table contains the description of risk-factor, independent of the underlying.

The fields used in this table and the purpose depend on the risk-class and risk-measure. See the Implementation and Interpretation Guide for details on each risk-class.

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y	See field in joined table (SASENSITIVITIES)	Timestamp (at close of business) for the data.
RISK_FACTOR	STRING	Y	See field in joined table (SASENSITIVITIES)	The name of the risk factor.
RISK_CLASS	STRING	Y	See field in joined table (SASENSITIVITIES)	The risk-class (“GIRR”, “CSR non-Sec”, “CSR Sec non-CTP”, “CSR Sec CTP”, “Equity”, “Commodity”, “FX”, “DRC non-Sec”, “DRC Sec non-CTP”, “RRAO”)
RISK_MEASURE	STRING	Y	See field in joined table (SASENSITIVITIES)	The risk-measure (“Delta”, “Vega”, “Curvature”, “DRC”, “RRAO”)

Column Name	Type	Not Null	Cube Field	Description
UNDERLYING	STRING	Y	Underlying	The primary component of the risk factor. See datastore references below.
RISK_FACTOR_TYPE	STRING		Risk Factor Types	The type of the risk-factor CSR Delta: “Bond” or “CDS” Equity Delta: “Spot” or “Repo”
COMMODITY_LOCATION	STRING		Commodity Location	Commodity only. Commodity delivery location
UNDERLYING_FXRISK_CCY	STRING		FX Counter Currency	FX only. The counter currency of the risk-factor currency pair.
SENIORITY	STRING		DRC Seniority	Seniority of the exposure
MATURITY	STRING		Original Maturity	The tenor or maturity (e.g. “1D”, “2W”, “12M”, “1Y”, or date “YYYY-MM-DD”).
UNDERLYING_MATURITY	STRING		Original Underlying Maturity	GIRR Vega only. Underlying residual maturity.
ZERO_RISK_WEIGHT	STRING		DRC Zero Risk Weight	Flag, ‘Y’ or ‘N’, indicating if the exposure qualifies for a zero risk-weight (default = N).

Unique Key

Columns
AS_OF_DATE
RISK_FACTOR
RISK_CLASS
RISK_MEASURE

Incoming Joins

Source Table	Source Columns	Target Columns
SASENSITIVITIES	RISK_FACTOR RISK_CLASS RISK_MEASURE AS_OF_DATE	RISK_FACTOR RISK_CLASS RISK_MEASURE AS_OF_DATE

Outgoing Joins

Target Table	Source Columns	Target Columns	Risk Class
UNDERLYING_DESCRIPTION	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE UNDERLYING RISK_CLASS	“GIRR”, “CSR non-Sec”, “CSR Sec non-CTP”, “CSR Sec CTP”, “Equity”, “Commodity”, “FX”
OBLIGOR	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE OBLIGOR RISK_CLASS	“DRC non-Sec”
TRANCHE	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE TRANCHE RISK_CLASS	“DRC Sec non-CTP”
SECURITY	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE SECURITY RISK_CLASS	“DRC Sec CTP”
RRAO	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE RRAOCATEGORY RISK_CLASS	“RRAO”

RISK_FACTOR_DESCRIPTION_OVERRIDES

The RISK_FACTOR_DESCRIPTION_OVERRIDES table contains the Override definitions for the Risk Factor Descriptions.

Column Name	Type	Not Null
AS_OF_DATE	DATE	Y
RISK_FACTOR	STRING	Y

Column Name	Type	Not Null
RISK_CLASS	STRING	Y
RISK_MEASURE	STRING	Y
PARAMETER_SET	STRING	Y
RISK_FACTOR_TYPE	STRING	
COMMODITY_LOCATION	STRING	
SENIORITY	STRING	
MATURITY	STRING	
ZERO_RISK_WEIGHT	STRING	

Unique Key

Columns
AS_OF_DATE
RISK_FACTOR
RISK_CLASS
RISK_MEASURE
PARAMETER_SET

Override Base Table

The base table for these overrides is the Risk Factor Description table. To define Overrides you must add facts to the base table. For details on why this is required, see Overrides With DirectQuery.

Inject Base Table

For each override, you must generate multiple entries in the Risk Factor Description table with the following structure.

Override Parameter	Risk Factor Description Table Field

Override Parameter	Risk Factor Description Table Field
OVERRIDE KEY FIELD	RISK_FACTOR
OVERRIDE DATE FIELD	AS_OF_DATE

Where:

- **Override Parameter**: The parameters to determine where to apply this override.
- **Risk Factor Description Table Field**: The field in the Risk Factor Description base table for this override.

Create Base Store Tuples

See the Create Override Tuples section for an example of how to create the override tuples for the following override fields. These are the fields we want to override in the base override table, in this case the Risk Factor Description Table.

Override Table
PARAMETER_SET
RISK_FACTOR_TYPE
COMMODITY_LOCATION
SENIORITY
MATURITY
ZERO_RISK_WEIGHT

These fields form an intermediate table containing the Override's base store fields and will be merged back into the Override base table: Risk Factor Description.

Map Override Fields to Base Table Fields

Once you create your tuples for each override field, you can then map the tuples back to the base store using the following relationship:

Override Table	Risk Factor Description Field	Note
OVERRIDE KEY FIELD	RISK_FACTOR	

Override Table	Risk Factor Description Field	Note
OVERRIDE DATE FIELD	AS_OF_DATE	
PARAMETER_SET		No mapping exists
RISK_FACTOR_TYPE	RISK_FACTOR_TYPE	
COMMODITY_LOCATION	COMMODITY_LOCATION	
SENIORITY	SENIORITY	
MATURITY	MATURITY	
ZERO_RISK_WEIGHT	ZERO_RISK_WEIGHT	
	RISK_CLASS	No mapping exists
	RISK_MEASURE	No mapping exists
	UNDERLYING	No mapping exists
	UNDERLYING_FXRISK_CCY	No mapping exists
	UNDERLYING_MATURITY	No mapping exists

RRAO

The RRAO table contains the description of the RRAO category.

The RRAO category is not part of the specification, however, it is used to group trades whose RRAO may change between jurisdictions.

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y	See field in (SASENSITIVITIES) table	Timestamp (at close of business) for the data.
RRAOCATEGORY	STRING	Y	RRAO Category	The ID of the RRAO Category.
RISK_CLASS	STRING	Y		Set to “RRAO”.

Column Name	Type	Not Null	Cube Field	Description
RESIDUAL_RISK	STRING		RRAO	Flag 'Y' or 'N' indicating if this RRAO category is subject to residual risk add-on.
EXOTIC_UNDERLYING	STRING		Exotic Underlying	Flag 'Y' or 'N' indicating an exotic underlying for the RRAO category.
OTHER_RESIDUAL_RISK_TYPE	STRING		Other Residual Risk Type	Optional data indicating the residual Risk type.
EXEMPTION_REASON	STRING		RRAO Exemption Reason	Reported reason why the position is exempt from RRAO.
ASSET_CLASS	STRING		RRAO Asset Class	Reported asset class for the position.

Unique Key

Columns
AS_OF_DATE
RRAOCATEGORY
RISK_CLASS

Incoming Joins

Source Table	Source Columns	Target Columns
RISK_FACTOR_DESCRIPTION	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE RRAOCATEGORY RISK_CLASS

RRAOOVERRIDES

The RRAOOVERRIDES table contains the Override definitions for RRAO categories.

Column Name	Type	Not Null
RRAOCATEGORY	STRING	Y
RISK_CLASS	STRING	Y
PARAMETER_SET	STRING	Y
RESIDUAL_RISK	STRING	
EXOTIC_UNDERLYING	STRING	
OTHER_RESIDUAL_RISK_TYPE	STRING	
AS_OF_DATE	STRING	Y
EXEMPTION_REASON	STRING	Y
ASSET_CLASS	STRING	Y

Unique Key

Columns
RRAOCATEGORY
RISK_CLASS
PARAMETER_SET
AS_OF_DATE

Override Base Table

The base table for these overrides is the RRAO table. To define Overrides you must add facts to the base table. For details on why this is required, see Overrides With DirectQuery.

Inject Base Table

For each override, you must generate multiple entries in the RRAO table with the following structure.

Override Parameter	RRAO Table Field

Override Parameter	RRAO Table Field
OVERRIDE KEY FIELD	RRAOCATEGORY
OVERRIDE DATE FIELD	AS_OF_DATE

Where:

- **Override Parameter**: The parameters to determine where to apply this override.
- **RRAO Table Field**: The field in the RRAO base table for this override.

Create Base Store Tuples

See the Create Override Tuples section for an example of how to create the override tuples for the following override fields. These are the fields we want to override in the base override table, in this case the RRAO Table.

Override Table
RESIDUAL_RISK
EXOTIC_UNDERLYING
OTHER_RESIDUAL_RISK_TYPE

These fields form an intermediate table containing the Override's base store fields and will be merged back into the Override base table: RRAO.

Map Override Fields to Base Table Fields

Once you create your tuples for each override field, you can then map the tuples back to the base store using the following relationship:

Override Table	RRAO Field	Note
OVERRIDE KEY FIELD	RRAOCATEGORY	
OVERRIDE DATE FIELD	AS_OF_DATE	
PARAMETER_SET		No mapping exists
RESIDUAL_RISK	RESIDUAL_RISK	
EXOTIC_UNDERLYING	EXOTIC_UNDERLYING	

Override Table	RRAO Field	Note
OTHER_RESIDUAL_RISK_TYPE	OTHER_RESIDUAL_RISK_TYPE	
EXEMPTION_REASON	EXEMPTION_REASON	
ASSET_CLASS	ASSET_CLASS	
	RISK_CLASS	No mapping exists

SASENSITIVITIES

The SASENSITIVITIES table is the base in the SA Cube star schema and holds all the sensitivities. Each row in this table represents a fact in the SA Cube.

Column Name	Type	Not Null	Cube Field	Risk Measure	Description
AS_OF_DATE	DATE	Y	[Dates].[AsOfDate]		Timestamp (at close of business) for the data.
TRADE_KEY	STRING	Y	This field is for internal usage only		Contains the `tradeID` for full data or `Book#LegalEntity` for summary data
UNDERLYING	STRING	Y	[Market Data].[Underlying]		The primary component of the risk factor. See datastore references below.
TRADE_ID	STRING	Y	[Booking].[TradeId]		Unique Trade (or Position) ID
RISK_FACTOR	STRING	Y	[Risk].[RiskFactor]		Risk-factor identifier (unique per risk-class and risk-measure).
RISK_CLASS	STRING	Y	[Risk].[RiskClass]		“Commodity”, “CSR non-Sec”, “CSR Sec non-CTP”, “CSR Sec CTP”, “Equity”, “FX”, “GIRR”, “DRC non-Sec”, “DRC Sec non-CTP”, “RRAO”

Column Name	Type	Not Null	Cube Field	Risk Measure	Description
RISK_MEASURE	STRING	Y	[Risk].[Measure]		“Delta”, “Vega”, “Curvature”, “RRAO”, “DRC”
CCY	STRING	Y	Currency		Currency used in the Sensitivity, Shift_Up_PV, Shift_Down_PV, PresentValue, Notional, GrossJTD, and Adjustment fields.
SENSITIVITY	DOUBLE		This is a measure	Delta and Vega	The sensitivity.
PRESENT_VALUE	DOUBLE		This is a measure	Curvature and DRC	The unshifted PV for Curvature, or the bond-equivalent market value for DRC.
NOTIONAL	DOUBLE		This is a measure	DRC	The bond-equivalent notional for DRC.
SHIFT_UP_PV	DOUBLE		This is a measure	Curvature	PV resulting from parallel shocks up.
SHIFT_DOWN_PV	DOUBLE		This is a measure	Curvature	PV resulting from parallel shocks down.
GROSS_JTD	DOUBLE		This is a measure	DRC	(optional) Gross JTD value (alternative to calculating it from the market value and notional).
ADJUSTMENT	DOUBLE		This is a measure	DRC	The adjustment added to the Gross JTD (when `sa.drc.adjustment.apply=true`)

Column Name	Type	Not Null	Cube Field	Risk Measure	Description
FXCOMPLEX_TRADE	STRING			Delta	FX Only. Boolean 'Y' or 'N' to indicate if the sensitivity can be converted from one reporting currency to another.
FXOTHER_CCY	STRING			Delta	FX Only.
FX_DIVIDER_ELIGIBILITY	STRING			Curvature	FX Only. Boolean 'Y' or 'N' to indicate if the CVR qualifies for dividing by 1.5.
OPTIONALITY	STRING		Delta Optionality	Delta	Indicates whether the instrument has optionality (See BCBS 457 [MAR21.2]). It is set to 'Y' for instruments with optionality (and hence with Vega and Curvature risk); set to 'N' for trades without optionality (with no Vega and Curvature risk).
RISK_WEIGHT	DOUBLE			Curvature	Optional field to allow clients to send the risk weight to apply for curvature. If the field is null, the default value (most severe Delta weight) should be applied.
PV_APPLIED	STRING			Curvature	Boolean 'Y' or 'N' to indicate if PV has been removed from sensitivities or not.

Column Name	Type	Not Null	Cube Field	Risk Measure	Description
PV_LADDER	STRING		Present Value Ladder	Curvature	The cube leaf level (along with the RiskFactor and AsOfDate) to use when interpolating shocked PV ladders.
INSTRUMENT_LGD_TYPE	STRING		[Default Risk Charge]. [DRC Instrument LGD Type]	DRC	Instrument type for LGD (BCBS 457, [MAR22.12]) • equity • junior debt • senior debt • covered bond
DIRECTION	STRING		[Default Risk Charge]. [DRC Direction]	DRC	'long' or 'short'.
INSTRUMENT_TYPE	STRING		[DRC non-Sec Instrument Type]	DRC	Reported Instrument Type ("Derivative" or "Non-Derivative").
GROSS_JTD_OVERRIDDEN	STRING			DRC	
TRANSLATION_RISK_CCY	STRING			Delta	FX only. Indicates the sensitivity represents translation risk; set to the reporting currency.
FXORIGINAL_DIVIDER_ELIGIBILITY	STRING			Delta	FX Only. Boolean 'Y' or 'N' to indicate if the CVR qualifies for dividing by 1.5.
ORIGINAL_OPTIONALITY	STRING			Delta	Set to same value as OPTIONALITY

Unique Key

Columns
AS_OF_DATE
TRADE_ID
TRADE_KEY
UNDERLYING
RISK_FACTOR
RISK_CLASS
RISK_MEASURE

Outgoing Joins

Target Table	Source Columns	Target Columns
SA_TRADE_DESCRIPTION	AS_OF_DATE TRADE_ID	AS_OF_DATE TRADE_ID
RISK_FACTOR_DESCRIPTION	AS_OF_DATE RISK_FACTOR RISK_CLASS RISK_MEASURE	AS_OF_DATE RISK_FACTOR RISK_CLASS RISK_MEASURE

SATRADE_DESCRIPTION

The **SATRADE_DESCRIPTION** table contains trade-level data used in the SA calculations.

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y	See field in joined table (SASENSITIVITIES)	Timestamp (at close of business) for the data.
TRADE_ID	STRING	Y		Database key for trade/position.

Column Name	Type	Not Null	Cube Field	Description
SENSITIVITY_SCALE_CATEGORY	STRING		Sensitivity Scale Category	The category used to scale the SBM sensitivities. This matches the category in the SensitivityScaling configuration table.
NOTIONAL	DOUBLE		This field is a measure	The Notional of the trade/position (used for RRAO and DRC). *Deprecated* for DRC use
NOTIONAL_CCY	STRING			Currency code of the Notional. Required if Notional provided.
PRESENT_VALUE	DOUBLE		This field is a measure	The current present value of the trade/position (used in curvature and DRC). *Deprecated*
PVCCY	STRING			Currency code of present value. Required if present value provided.

Unique Key

Columns
AS_OF_DATE
TRADE_ID

Incoming Joins

Source Table	Source Columns	Target Columns
SASENSITIVITIES	AS_OF_DATE TRADE_ID	AS_OF_DATE TRADE_ID

SECURITY

The **SECURITY** table

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y		See field in joined table (SASENSITIVITIES) Timestamp (at close of business) for the data.
SECURITY	STRING	Y	DRC Sec CTP Security	The underlying product of the trade that could be an obligor or a fully qualified tranche (with the series, attachment and detachment).
RISK_CLASS	STRING	Y		Always “DRC Sec CTP”
BUCKET	STRING	Y	DRC Sec CTP Bucket	Obligor or Index the underlying relies on (see BCBS 457, MRA22.40)
SENIORITY	STRING		DRC Sec CTP Seniority	“Senior” or “Junior”.
RATING	STRING		DRC Sec CTP Rating	From AAA to Default.
TYPE	STRING		DRC Sec CTP Rating Type	Rating type : STC or empty for non-STC.
ATTACHMENT	DOUBLE		DRC Sec CTP Attachment	The start of the tranche or empty if non-tranched product.
DETACHMENT	DOUBLE		DRC Sec CTP Detachment	The end of the tranche or empty if non-tranched product.
INSTRUMENT_TYPE	STRING		DRC Sec CTP Instrument Type	Tranche or non-tranched, depending on the Attachment and Detachment fields.
RISK_WEIGHT	DOUBLE			Optional risk-weight, to override value.

Unique Key

Columns
AS_OF_DATE
SECURITY

Columns
RISK_CLASS

Incoming Joins

Source Table	Source Columns	Target Columns
RISK_FACTOR_DESCRIPTION	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE SECURITY RISK_CLASS

TRANCHE

The **TRANCHE** table contains the description of a DRC Sec non-CTP tranche.

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y	See field in joined table	Timestamp (at close of business) for the data.
TRANCHE	STRING	Y	DRC Sec non-CTP Tranche	ID of the tranche.
RISK_CLASS	STRING	Y		Set to “DRC Sec non-CTP”.
BUCKET	STRING	Y	DRC Sec non-CTP Bucket	The DRC bucket.
SENIORITY	STRING	Y	DRC Sec non-CTP Seniority	Seniority of the tranche.
RATING	STRING		DRC Sec non-CTP Rating	The credit rating of the tranche.
TYPE	STRING		DRC Sec non-CTP Rating Type	The rating type used alongside the rating to determine the SEC-ERBA risk-weight.
REGION	STRING		DRC Sec non-CTP Region	The region used to determine the Bucket.
ASSET_CLASS	STRING		DRC Sec non-CTP Asset Class	The asset class used to determine the Bucket.
ATTACHMENT	DOUBLE		DRC Sec non-CTP Attachment	Attachment point (Decimal values are expected).

Column Name	Type	Not Null	Cube Field	Description
DETACHMENT	DOUBLE		DRC Sec non-CTP Detachment	Detachment point (Decimal values are expected).
RISK_WEIGHT	DOUBLE		DRC Sec non-CTP JTD Weightings Override measure	Optional override for the DRC Sec non-CTP Tranche risk-weight.

Unique Key

Columns
AS_OF_DATE
TRANCHE
RISK_CLASS

Incoming Joins

Source Table	Source Columns	Target Columns
RISK_FACTOR_DESCRIPTION	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE TRANCHE RISK_CLASS

TRANCHE_OVERRIDES

The TRANCHE_OVERRIDES table contains the Override definitions for the Tranches.

Column Name	Type	Not Null
TRANCHE	STRING	Y
RISK_CLASS	STRING	Y
PARAMETER_SET	STRING	Y
BUCKET	STRING	

Column Name	Type	Not Null
SENIORITY	STRING	
RATING	STRING	
TYPE	STRING	
REGION	STRING	
ASSET_CLASS	STRING	
ATTACHMENT	DOUBLE	
DETACHMENT	DOUBLE	
RISK_WEIGHT	DOUBLE	
AS_OF_DATE	DATE	Y

Unique Key

Columns
TRANCHE
RISK_CLASS
PARAMETER_SET
AS_OF_DATE

Override Base Table

The base table for these overrides is the Tranche table. To define Overrides you must add facts to the base table. For details on why this is required, see Overrides With DirectQuery.

Inject Base Table

For each override, you must generate multiple entries in the Tranche table with the following structure.

Override Parameter	Tranche Table Field

Override Parameter	Tranche Table Field
OVERRIDE KEY FIELD	TRANCHE
OVERRIDE DATE FIELD	AS_OF_DATE

Where:

- **Override Parameter**: The parameters to determine where to apply this override.
- **Tranche Table Field**: The field in the Tranche base table for this override.

Create Base Store Tuples

See the Create Override Tuples section for an example of how to create the override tuples for the following override fields. These are the fields we want to override in the base override table, in this case the Tranche Table.

Override Table
PARAMETER_SET
BUCKET
CSRQUALITY
CSRSECTOR
CSRRATING
EQUITY_MARKET_CAP
EQUITY_ECONOMY
EQUITY_SECTOR
POOL
ATTACHMENT
DETACHMENT

These fields form an intermediate table containing the Override's base store fields and will be merged back into the Override base table: Tranche.

Map Override Fields to Base Table Fields

Once you create your tuples for each override field, you can then map the tuples back to the base store using the following relationship:

Override Table	Tranche Field	Note
OVERRIDE KEY FIELD	TRANCHE	
OVERRIDE DATE FIELD	AS_OF_DATE	
PARAMETER_SET		No mapping exists
BUCKET	BUCKET	
SENIORITY	SENIORITY	
RATING	RATING	
TYPE	TYPE	
REGION	REGION	
ASSET_CLASS	ASSET_CLASS	
ATTACHMENT	ATTACHMENT	
DETACHMENT	DETACHMENT	
RISK_WEIGHT	RISK_WEIGHT	
	RISK_CLASS	No mapping exists

UNDERLYING_DESCRIPTION

The UNDERLYING_DESCRIPTION table contains the description of the principal component of the SBM risk-factors.

Each row in the table describes one of the following depending on the risk class:

Risk Class	Underlying
(link to risk-class specific documentation)	(link to risk-class specific underlying)
GIRR	yield, inflation, or cross-currency basis curve
FX	FX rate

Risk Class	Underlying
Equity	equity or equity issuer
CSR non-Sec	relevant issuer credit spread curve
CSR Sec non-CTP	tranche credit spread curves
CSR Sec CTP	underlying credit spread curves
Commodity	distinct commodity

Column Name	Type	Not Null	Cube Field	Description
AS_OF_DATE	DATE	Y	See field in joined table (SASENSITIVITIES)	Timestamp (at close of business) for the data.
UNDERLYING	STRING	Y	See field in joined table (RISK_FACTOR_DESCRIPTION)	The primary component of the SBM risk factor.
RISK_CLASS	STRING	Y	See field in joined table (SASENSITIVITIES)	The risk-class ("GIRR", "CSR non-Sec", "CSR Sec non-CTP", "CSR Sec CTP", "Equity", "Commodity", "FX").
BUCKET	STRING			The Bucket the Underlying belongs to.
GIRR_CURVE_TYPE	STRING		GIRR Curve Types	GIRR Delta and Vega only. The Curve type ("Yield", "Basis", or "Inflation").
GIRR_CCY	STRING		Currencies	GIRR only. The currency of the curve. This is also the Bucket.

Column Name	Type	Not Null	Cube Field	Description
CSRQUALITY	STRING		CSR Quality	CSR only. The credit quality of the curve (“Senior IG”, IG", “HY”, or “NR”).
CSRSECTOR	STRING		CSR Sector	CSR only. The relevant sector of the curve.
CSRRATING	STRING		CSR Rating	CSR non-Sec only. “high” for AA- and above covered bonds.
EQUITY_MARKET_CAP	STRING		Equity Market Cap	Equity only. The equity issuer market cap (“Large”, “Small”, “Other”).
EQUITY_ECONOMY	STRING		Equity Issuer Economy	Equity only. The equity issuer economy (“Emerging”, “Advanced”, “Other”).
EQUITY_SECTOR	STRING		Equity Sector	Equity only. The equity issuer sector.
POOL	STRING		CSR Sec non-CTP Pool	CSR Sec non-CTP only. The underlying pool for the tranche.
ATTACHMENT	DOUBLE		CSR Sec non-CTP Attachment	CSR Sec non-CTP only. Attachment point for the tranche.
DETACHMENT	DOUBLE		CSR Sec non-CTP Detachment	CSR Sec non-CTP only. Detachment point for the tranche.
UNDERLYING_FXORIGINAL_CCY	STRING			FX only. Set to the same as UNDERLYING.

Column Name	Type	Not Null	Cube Field	Description
GIRR_BASIS_CCY	STRING		GIRR Basis Ccy	GIRR only. The counter currency for GIRR cross-currency basis curves.

Unique Key

Columns
AS_OF_DATE
UNDERLYING
RISK_CLASS

Incoming Joins

Source Table	Source Columns	Target Columns
RISK_FACTOR_DESCRIPTION	AS_OF_DATE UNDERLYING RISK_CLASS	AS_OF_DATE UNDERLYING RISK_CLASS

UNDERLYING_DESCRIPTION_OVERRIDES

The UNDERLYING_DESCRIPTION_OVERRIDES table contains the Override definitions for the Underlying Descriptions.

Column Name	Type	Not Null
UNDERLYING	STRING	Y
RISK_CLASS	STRING	Y
PARAMETER_SET	STRING	Y
BUCKET	STRING	

Column Name	Type	Not Null
CSRQUALITY	STRING	
CSRSECTOR	STRING	
CSRRATING	STRING	
EQUITY_MARKET_CAP	STRING	
EQUITY_ECONOMY	STRING	
EQUITY_SECTOR	STRING	
POOL	STRING	
ATTACHMENT	DOUBLE	
DETACHMENT	DOUBLE	
AS_OF_DATE	DATE	Y

Unique Key

Columns
UNDERLYING
RISK_CLASS
PARAMETER_SET
AS_OF_DATE

Override Base Table

The base table for these overrides is the Underlying Description table. To define Overrides you must add facts to the base table. For details on why this is required, see Overrides With DirectQuery.

Inject Base Table

For each override, you must generate multiple entries in the Underlying Description table with the following structure.

Override Parameter	Underlying Description Table Field
OVERRIDE KEY FIELD	UNDERLYING
OVERRIDE DATE FIELD	AS_OF_DATE

Where:

- **Override Parameter**: The parameters to determine where to apply this override.
- **Underlying Description Table Field**: The field in the Underlying Description base table for this override.

Create Base Store Tuples

See the Create Override Tuples section for an example of how to create the override tuples for the following override fields. These are the fields we want to override in the base override table, in this case the Underlying Description Table.

Override Table
PARAMETER_SET
BUCKET
CSRQUALITY
CSRSECTOR
CSRRATING
EQUITY_MARKET_CAP
EQUITY_ECONOMY
EQUITY_SECTOR
POOL
ATTACHMENT
DETACHMENT

These fields form an intermediate table containing the Override's base store fields and will be merged back into the Override base table: Underlying Description.

Map Override Fields to Base Table Fields

Once you create your tuples for each override field, you can then map the tuples back to the base store using the following relationship:

Override Table	Underlying Description Table Field	Note
OVERRIDE KEY FIELD	UNDERLYING	
OVERRIDE DATE FIELD	AS_OF_DATE	
PARAMETER_SET		No mapping exists
BUCKET	BUCKET	
CSRQUALITY	CSRQUALITY	
CSRSECTOR	CSRSECTOR	
CSRRATING	CSRRATING	
EQUITY_MARKET_CAP	EQUITY_MARKET_CAP	
EQUITY_ECONOMY	EQUITY_ECONOMY	
EQUITY_SECTOR	EQUITY_SECTOR	
POOL	POOL	
ATTACHMENT	ATTACHMENT	
DETACHMENT	DETACHMENT	
	RISK_CLASS	No mapping exists
	GIRR_CURVE_TYPE	No mapping exists
	GIRR_CCY	No mapping exists
	UNDERLYING_FXORIGINAL_CCY	No mapping exists