DERIVATIVES SERVICE BUREAU (DSB) LTD

Rates : Option : Swaption

UPI Product Definition

Version 4

Date	Status	Version	Revision Details
18 Aug 2022	Draft	1	Initial Version
24 Jan 2023	Draft	2	• Update example values in the Request and Record templates layout • Insert Underlier Name attribute and Derivation rules
31 Aug 2023	Draft	3	• Remove "Classified as Confidential" in the Footer section. • Update Associated Documentation to include Best Practice Guidelines and FAQs. • Update Best Practice Guidelines to include the link to Best Practice Guidelines and FAQs.
12 Dec 2024	Change	4	Updated ISO 10962 (CFI)

Contents

1. Introduction

This document is designed to act as a manual for users to interpret the Product Definitions in the DSB UPI Service.

This document provides the user with the detailed description of the UPI Product Definition content such as attribute enumerations, validation, normalization, and derivation where applicable.

1.1 Associated Documentation

The reference documents below contain values and information maintained by the DSB for consistency and ease of access.

These documents are made available on the ANNA DSB website (Product Definitions page):

Title	Description	Location
Enumerations Document	Lists all fixed values used for a product	Enumerations section
Product Definition Data Dictionary	Defines attributes in the Request and Record templates; and from which they are referenced on	Other Documents section
Product Definition Validations and Normalizations Document	Specifies details on validation and normalization rules	
UPI Underlier Input Method	Defines the structure for the input of the underlier following the rules that allow users to identify the Asset Class, Underlying Structure, Underlying Type, and Underlying ID Source.	
Best Practice Guidelines and FAQs	Lists answers to queries raised by users and provides guidance on the use of the templates	
GitHub Environment Section	ANNA DSB Github Environment where the JSON templates for each product is found	GitHub Environment section
CFI Array Component	Describes the attributes and derivations for CFI 2015 and CFI 2021	CFI Array Component section

2. Product Taxonomy

2.1 CFI Taxonomy

Sources: ISO 10962 (CFI) – Third edition 2015-07 ; ISO 10962 (CFI) – Fifth edition 2021-05

Description	CFI Taxonomy	
Structure	Instrument (Category) + Asset Class (Group) + Underlying assets + Option style and type + Valuation method or trigger + Delivery	
CFI Version	2015	2021
Example Value	HRABVP	HRABVP

Version	Instrument (Category)	Asset Class (Group)	#1 : Underlying assets		#2 : Option style and type		#3 : Valuation method or trigger		#4 : Delivery	
2015	**H**	**R**	A	Basis Swap (Float-Float)	A	European-Call	V	Vanilla	C	Cash
			C	Fixed-Floating	B	American-Call	A	Asian	P	Physical
			D	Fixed-Fixed	C	Bermudan-Call	D	Digital (Binary)	E	Elect at exercise
			G	Inflation Rate Index	D	European-Put	B	Barrier		
			H	Overnight Index Swap (OIS)	E	American-Put	G	Digital Barrier		
			M	Zero Coupon	F	Bermudan-Put	L	Lookback		
			M	Others	G	European-Chooser	P	Other Path Dependent		
					H	American-Chooser	M	Others		
					I	Bermudan-Chooser				
2021	**H**	**R**	A	Basis swap (float-float)	A	European-Call	V	Vanilla	C	Cash
			C	Fixed-floating swap	B	American-Call	A	Asian	P	Physical
			D	Fixed-fixed swap	C	Bermudan-Call	D	Digital (Binary)	E	Elect at exercise
			G	Inflation rate index	D	European-Put	B	Barrier		
			H	OIS	E	American-Put	G	Digital barrier		
			M	Others (miscellaneous)	F	Bermudan-Put	L	Lookback		
					G	European-Chooser	P	Other path dependent		
					H	American-Chooser	C	Cap		
					I	Bermudan-Chooser	F	Floor		
							M	Others (miscellaneous)		

2.2 ISDA Taxonomy

The table below is based on the products identified as part of the ISDA 2.0 taxonomy.

Asset Class	Base Product	Sub-Product	DSB Product Definition Name
Interest Rate	Option	Swaption	Swaption

3. Request Template

The Request Template describes the input message received by the UPI service.

Users can find the detailed description of this template in the Rates spreadsheet that contains the layout of all templates. This can be found in the Rates section of the Product Definitions page on the ANNA DSB website.

Change details of the template can be found on the appropriate Github page.

Template name	Template details	Release
Request.Rates.Option.Swaption.UPI.json	Initial version	Initial

3.1 Underlier Input Method

For products that have a Single Underlier, user has an option to select a Primary or Alternate Underlier, if available.

Title	Description	
Select Underlier ID Source	User is able to select a Primary or Alternate Underlier from the available options. • UPI	
Input Underlier ID	UPI	This is validated against the UPI RDL record.

3.2 Validation Rules

For non-specific product validation rules, please refer to UPI Product Definition Validations and Normalizations Document can be found in the Other Documents section on the DSB website.

4. Record Template

The Record Template describes the record returned by the UPI service.

Users can find the detailed description of this template in the Rates spreadsheet that contains the layout of all templates. This can be found in the Rates section of the Product Definitions page on the ANNA DSB website.

Change details of the template can be found on the appropriate Github page.

Version	Template name	Template details	Release
V.1	Rates.Option.Swaption.UPI.V1.json	Initial version	Initial

4.1 Normalization Rules

Normalization rules are not applicable for this product.

4.2 Derivation Rules

This section describes the derivations of product attributes highlighted in the Record Template.

4.2.1 Classification Type

This is a legacy field containing ISO 10962 (CFI) – Third edition 2015-07-15 values.

Attribute	Classification Type		
Structure	Instrument Type + Asset Class + Underlying Asset Type + Option Type/Style + Valuation Method or Trigger + Delivery Type		
Example	HRABVP		
Source	ISO 10962 (CFI) – Third edition 2015-07-15		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Instrument Type	Non-listed and complex listed options	Fixed Mapping	H
Asset Class	Rates	Fixed Mapping	R
Underlying Asset Type	Basis Swap (Float-Float)	Mapped to =>	A
	Fixed-Floating	Mapped to =>	C
	Fixed-Fixed	Mapped to =>	D
	Inflation Rate Index	Mapped to =>	G
	Overnight Index Swap	Mapped to =>	H

	Zero Coupon	Mapped to =>	M
	Others	Mapped to =>	M
Option Style and Type	PUTO/EURO	Mapped to =>	D
	CALL/EURO	Mapped to =>	A
	OPTL/EURO	Mapped to =>	G
	PUTO/AMER	Mapped to =>	E
	PUTO/BERM	Mapped to =>	F
	CALL/AMER	Mapped to =>	B
	CALL/BERM	Mapped to =>	C
	OPTL/AMER	Mapped to =>	H
	OPTL/BERM	Mapped to =>	I
Valuation Method or Trigger	Vanilla	Mapped to =>	V
	Asian	Mapped to =>	A
	Digital (Binary)	Mapped to =>	D
	Barrier	Mapped to =>	B
	Digital Barrier	Mapped to =>	G
	Lookback	Mapped to =>	L
	Other Path Dependent	Mapped to =>	P
	Other	Mapped to =>	M
Delivery Type	CASH	Mapped to =>	C
	PHYS	Mapped to =>	P
	OPTL	Mapped to =>	E

4.2.2 Short Name

Attribute	Short Name		
Structure	"NA" + "/" + Instrument Type + Option Type + Option Exercise Style + Underlying Asset Type + Notional Currency		
Example	NA/O Call Amr Flt Flt EUR		
Source	ISO 18774 (Financial Instrument Short Name) - First edition 2015-11		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Issuer Name	None	Fixed Value	NA/
Instrument Type	Option	Fixed Abbreviation	O
Option Type	CALL	Mapped to =>	Call
	PUTO	Mapped to =>	P
	OPTL	Mapped to =>	Opt
Option Exercise Style	EURO	Mapped to =>	Epn
	AMER	Mapped to =>	Amr
	BERM	Mapped to =>	Brm
Underlying Asset Type	Basis (Float-Float)	Mapped to =>	Flt Flt
	Fixed-Floating	Mapped to =>	Fxd Flt
	Fixed-Fixed	Mapped to =>	Fxd Fxd
	Inflation Rate Index	Mapped to =>	Infl Idx
	Overnight Index Swap	Mapped to =>	OIS
	Zero Coupon	Mapped to =>	Oth
	Others	Mapped to =>	Oth
Notional Currency	Notional Currency	Mapped Enumeration	e.g., USD, EUR, GBP

4.2.3 Underlier Name

Attribute	Underlier Name		
Underlying Asset	**Underlier Name Source**	**Underlier Name Source Attribute**	**Underlier Name**
Underlying ID with Underlying ID Source [UPI]	Underlying UPI record	FISN of Underlying Instrument UPI	NA/Swap Flt Flt EUR

4.2.4 CFI Option Style and Type

Attribute	CFI Option Style and Type		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Option Style and Type	PUTO/AMER	Mapped to =>	American-Put
	PUTO/BERM	Mapped to =>	Bermudan-Put
	PUTO/EURO	Mapped to =>	European-Put
	CALL/AMER	Mapped to =>	American-Call
	CALL/BERM	Mapped to =>	Bermudan-Call
	CALL/EURO	Mapped to =>	European-Call
	OPTL/AMER	Mapped to =>	American-Chooser
	OPTL/BERM	Mapped to =>	Bermudan-Chooser
	OPTL/EURO	Mapped to =>	European-Chooser

4.2.5 CFI Delivery Type

Attribute	CFI Delivery Type		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Delivery Type	CASH	Mapped to =>	Cash
	PHYS	Mapped to =>	Physical
	OPTL	Mapped to =>	Elect at Exercise

5. Supplementary Information

5.1 Best Practice Guidelines

Please refer to Best Practice Guidelines and FAQs that can be found in the Other Documents section on the DSB website.

5.2 Additional Comments

- The short name abbreviation for option type – Put is “P” for rates option while in equity option, short name abbreviation for the option type – Put is “Put”.

- Current OTC ISIN has Underlying Asset Type values such as [Basis Swap (Float-Float); Fixed-Floating; Fixed-Fixed; Inflation Rate Index; Overnight Index Swap (OIS) & Other]. In order to maintain UPI/ISIN hierarchy, Underlying Instrument UPI with derived underlying asset type “Zero Coupon” will be treated as “Other”.

6. Appendix I – ISO 4914 Equivalence

This section describes the attributes as per the ISO 4914 Unique Product Identifier (UPI).

ISO 4914 Reference Data Elements		Request Attribute	Record Attribute
Asset Class	M	Asset Class	Asset Class
Instrument Type	M	Instrument Type	Instrument Type
Currency associated with an underlying reference rate	M	Notional Currency	Notional Currency
Delivery Type	M	Delivery Type	Delivery Type
			CFI Delivery Type
Option Style	M	Not Required	Option Exercise Style
Option Type	M	Option Type	Option Type
Return, pricing method or payout trigger	M	Valuation Method or Trigger	Valuation Method or Trigger
Underlier ID	C	Underlier ID	Underlying Instrument UPI
Underlier ID source	C	Underlier ID Source	Not Required
Underlier Type	M	Not Required	Underlying Asset Type
Underlying rate index tenor period*	C	Not Applicable	
Underlying rate index tenor period multiplier*	C	Not Applicable	

**Underlying Rate Index Tenor Period / Multiplier applies to OTC derivatives with an Underlying Reference Rate (Index).*