Derivatives Service Bureau

Commodities : Option : Non_Standard

UPI Product Definition

Version 3

Date	Status	Version	Revision Details
24 Oct 2022	Draft	1	Initial Version
03 Feb 2023	Draft	2	• Update example values in the Request and Record templates layout • Insert Underlier Name attribute and Derivation rules
07 Sep 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.

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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

Each UPI Product Definition template links to reference documents where values will be maintained for the sake of consistency and ease of access e.g., Enumerations, Data Dictionary, Validation and Normalizations, etc.

These documents are made available for references as follows:

- UPI Enumerations Document can be found in the Enumerations section on the DSB website.
- UPI Product Definition Data Dictionary can be found in the Other Documents section on the DSB website.
- UPI Product Definition Validations and Normalizations Document can be found in the Other Documents section on the DSB website.
- UPI Underlier Input Method can be found in the Other Documents section on the DSB website.
- Best Practice Guidelines and FAQs can be found in the Other Documents section on the DSB website.
- Links to the relevant JSON templates can be found in the GitHub Environment Section on the DSB website.

2 Product Taxonomy

2.1 CFI Taxonomy

Source: ISO 10962 (CFI Code) – Third edition 2015-07-15

Attr #	Title	Values	Name	Description
	Instrument (Category)	**H**	Non-listed and complex listed options	
	Asset Class (Group)	**T**	Commodities	
Attr #1	**Underlying Assets**	**J**	Energy	An option that references an energy-related product, or a derivative of an energy-related product, including electricity, renewable energy, or any power/energy delivered through a utility network of provider; diesel fuel, fuel oil, gas oil, gasoline, heating oil, jet fuel, kerosene, natural gas, oil (Brent, Tapis, Dubai, WTI)
		K	Metals	An option that references a precious or industrial metal, such as aluminium, copper, gold, lead, nickel, platinum, silver, tin, zinc
		A	Agriculture	Commodities which include forestry, fishing, livestock, grain, dairy, corn, cocoa, soybeans, sugar, coffee
		N	Environmental	Includes carbon-related, emission reduction, weather
		G	Freight	An option in respect of which the specified commodity is a freight index route
		P	Polypropylene products	Polypropylene products
		S	Fertilizer	Ammonia, DAP (diammonium phosphate), potash, sulfur, urea, UAN (urea and ammonium nitrate)
		T	Paper	Containerboard, newsprint, pulp, recovered paper
		I	Index	An option where the underlying reference entity is a commodity index
		Q	Multi-commodity	An option that references multiple commodity underlying types
		M	Others	Others (miscellaneous)
Attr #2	**Option style and type**	**A**	European-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price only on the expiration date of the call
		B	American-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price at any time during the term of the call option, up to and including the expiration date of the call
		C	Bermudan-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the call
		D	European-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price only on the expiration date of the put

		E	American-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price at any time during the term of the put option, up to and including the expiration date of the put
		F	Bermudan-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the put
		G	European-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price, only on the contract's expiration date; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration
		H	American-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price at any time during the term of the contract, up to and including the expiration date of the call or put; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration
		I	Bermudan-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the contract; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration
Attr #3	**Valuation method or trigger**	**V**	Vanilla	An option for which all terms are standardized
		A	Asian	An option where either the strike price or the settlement price is the average level of an underlying instrument over a redetermined period; the averaging can be either a geometric or arithmetic average
		D	Digital (Binary)	An option that has a pre-determined pay-out if the option is in-the-money and the payoff condition is satisfied; also referred to as a "binary option" or an "all-or-nothing option"
		B	Barrier	An option whose final exercise depends upon the path taken by the price of an underlying instrument; for a "knock-out" barrier option, the option is cancelled if the underlying price crosses a predetermined barrier level; for a "knock-in" barrier option, the option becomes available-for-exercise if the underlying price crosses a predetermined barrier level
		G	Digital Barrier	A digital option embedded with a barrier option; there are different variations of this type of option; as an example, a down-and-out digital call option will pay a fixed payoff, or the underlying, at any time before maturity that the underlying price is equal to or greater than the barrier level; it will pay zero if the underlying price is less than the barrier level
		L	Lookback	An option that minimizes the uncertainties related to the timing of market entry; there are two types of lookback options: fixed and floating; the fixed option strike is determined at purchase, and the floating option strike is determined at maturity
		P	Other Path Dependent	An option on a contract whose payoff is directly related to the price pattern the underlying asset follows during the life of the contract
		M	Others	Others (miscellaneous)
Attr #4	**Delivery Type**	**C**	Cash	The discharge of an obligation by payment or receipt of a net cash amount instead of payment or delivery by both parties

		P	Physical	The meeting of a settlement obligation under a derivative contract through the receipt or delivery of the actual underlying instrument(s) instead of through cash settlement
		E	Elect at exercise	The method of delivery of the underlying instrument when the option is exercised shall be determined at the time of exercise

2.2 ISDA Taxonomy

The table below is based on the products identified as part of the ISDA Commodities Taxonomy v2.0.

Node 1 Asset Class	Node 2 Transaction Type	Node 3 Settlement Type*	Node 4 and/or Node 7 Commodity	Node 5 and/or Node 8 Sub-Commodity
Commodity	Option	Cash	Agricultural Products	Aluminum
		Physical	Composite Commodity Indices	Azuki Beans
			Energy	Baltic Exchange – Dry Bulk Routes
			Freight	Baltic Exchange – Wet Bulk Routes
			Metals	Barley
			Paper	Benzene
			Plastic	Butter
			Composite Commodity Indices	Canola
			Other	Coal
				Cobalt
				Cocoa
				Coffee
				Containerboard
				Copper
				Corn
				Cotton
				Diesel Fuel
				Electricity
				Emissions
				Ethanol and Biofuels
				Fertiliser
				Fluff
				Fuel Oil
				Gas Oil
				Gasoline
				Gold
				Heating Oil
				Iridium
				Iron Ore
				Jet Fuel/Kerosene
				Lead
				Livestock
				Lumber

				Methanol
				Milk
				Molybdenum
				Naphtha
				NaturalGas
				NaturalGasLiquids
				Newsprint
				Nickel
				Oats
				Oil
				Orange Juice
				Other
				Pallladium
				Palm Oil
				Platinum
				Platts Clean Tankerwire
				Platts Dirty Tankerwire
				Pulp
				Rapeseed
				Recovered Paper
				Rhodium
				Rice
				Rubber
				Ruthenium
				Silver
				Sorghum
				Soybeans
				Steel
				Sugar
				Sunflower Seeds
				Tin
				Uranium
				Wheat
				Wool
				Zinc
				Plastics

**There is no exact match in the ISDA Taxonomy 2.0 for this product template. The current taxonomy 2.0 only provides for Settlement values [Cash, Physical]. This product template is a catch all for products that fall outside of these specified transaction types.*

3 REQUEST TEMPLATE

This section describes the input message received by UPI service.

Template name	Template details	Release
Request.Commodities.Option.Non_Standard.UPI.json	Initial version	Initial

Section	Attribute				Format	Cat	Example Value	Validation
Header Section	Asset Class				Set	M	Commodities	
	Instrument Type				Set	M	Option	
	Product				Set	M	Non_Standard	
	Level				Set	M	UPI	
Attribute Section	Notional Currency				Enum	M	USD	Enumerated List
	A1	Underlying Structure (oneOf)			Object	(M)	Single Underlier	See Validation Rules
			Underlier Type (oneOf)		Object	(M)	Commodity Ref Price	
				Underlier ID Source	String	(M)	COMM	[COMM]
				Underlier ID	Enum	(M)	SILVER-FIX	Enumerated List
			Underlier Type (oneOf)		Object	(M)	Commodity Index	
				Underlier ID Source	String	(M)	COIDX	[COIDX]
				Underlier ID	Enum	(M)	OTHER	Enumerated List
			Underlier Type (oneOf)		Object	(M)	Proprietary Index	
				Underlier ID Source	String	(M)	PROP	[PROP]
				Underlier ID	String	(M)	11339-BABXSG01	Enumerated List
	B1	Underlying Structure (oneOf)			Object	(M)	Basket	See Validation Rules
	Base Product							
		Base Product			Enum	M	METL	Enumerated List
		Sub Product			Enum	C	PRME	Enumerated List
		Additional Sub Product			Enum	C	SLVR	Enumerated List
	Option Type				Enum	M	CALL	[PUTO, CALL, OPTL]
	Option Exercise Style				Enum	M	AMER	[AMER, BERM, EURO]
	Valuation Method or Trigger				Enum	M	Vanilla	[Vanilla, Asian, Barrier, etc.]
	Delivery Type				Enum	M	CASH	[CASH, PHYS, OPTL]

3.1 Underlier Input Method

For products that has an option for a Single or Multiple Underliers, users must select an underlying structure applicable [Single Underlier, Basket]. If a Basket is selected, underlier entry is not required.

Title	Description
Select Underlying Structure	User is able to select whether the underlying is a single underlier or basket based on its product. • Single Underlier • Basket
Select Underlier Type	User is able to select a single required Underlier Type from the available options. • Commodity Ref Price • Commodity Index • Proprietary Index
Select Underlier ID Source	User is able to select a single required Underlier ID Source from the available options based on the selected Underlier Type. • Commodity Ref Price [COMM] • Commodity Index [COIDX] • Proprietary Index [PROP]
Input Underlier ID	User enters a valid Underlier ID based on the selected Underlier ID Source.

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

This section describes the record returned by the UPI service.

Version	Template name	Template details	Release
V.1	**Commodities.Option.Non_Standard.UPI.V1.json**	Initial version	Initial

Section	Attribute	Format	Cat	Example Value	Derivation
Header Section	Asset Class	Set	M	Commodities	
	Instrument Type	Set	M	Option	
	Product	Set	M	Non_Standard	
	Level	Set	M	UPI	
	Template Version	Integer	D	1	
Attribute Section	Underlier Characteristic	String	M	Single	[Single, Basket]
	Underlying Instrument Index	Enum	C	OTHER	Enumerated List
	Underlying Instrument Index Prop	String	C	11339-BABXSG01	Enumerated List
	Reference Rate	Enum	C	SILVER-FIX	Enumerated List
	Notional Currency	Enum	M	USD	Enumerated List
	Base Product	Enum	M	METL	Enumerated List
	Sub Product	Enum	C	PRME	Enumerated List
	Additional Sub Product	Enum	C	SLVR	Enumerated List
	Option Type	Enum	M	CALL	[PUTO, CALL, OPTL]
	Option Exercise Style	Enum	M	AMER	[AMER, BERM, EURO]
	Valuation Method or Trigger	Enum	M	Vanilla	[Vanilla, Asian, Barrier, etc.]
	Delivery Type	Enum	M	CASH	[CASH, PHYS, OPTL]
Identifier Section	UPI	String	D	QZMR8F60RCN0	
	Status	String	D	New	[New; Updated; Deleted; Deprecated]
	Status Reason	String	D	<null>	
	Last Update Date Time	DtTm	D	2021-02-23T00:00:13	YYYY-MM-DDThh:mm:ss
Derived Section	Classification Type	String	D	HTKBVC	See Derivation Rules
	Short Name	String	D	NA/Option METL Call USD	See Derivation Rules
	Underlier Name	String	D	SILVER-FIX	See Derivation Rules
	Underlying Asset type	String	D	Metals	See Derivation Rules
	CFI Delivery Type	String	D	[Cash, Physical, Elect at exercise]	See Derivation Rules
	CFI Option Style and Type	String	D	American-Call	See Derivation Rules

4.1 Normalization Rules

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

4.2 Derivation Rules

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

4.2.1 Underlying Asset Type

At present, the Underlying Asset Type is taken from ISO 20022 values of the Base Product and are being derived as the CFI values where it is used in the generation of the CFI code.

- If the Underlying Structure selected is a “Single Underlier” and Underlier ID Source is [COMM], the Underlying Asset Type will be derived based on the input Base Product.

Attribute	Underlying Asset Type		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Underlying Asset Type	AGRI	Mapped to =>	Agriculture
	NRGY	Mapped to =>	Energy
	ENVR	Mapped to =>	Environmental
	FRGT	Mapped to =>	Freight
	FRTL	Mapped to =>	Fertilizer
	INDP	Mapped to =>	Other
	INFL	Mapped to =>	Other
	OEST	Mapped to =>	Other
	METL	Mapped to =>	Metals
	MCEX	Mapped to =>	Multi Commodity
	PAPR	Mapped to =>	Paper
	POLY	Mapped to =>	Polypropylene Products
	OTHC	Mapped to =>	Other
	OTHR	Mapped to =>	Other

- If the Underlying Structure selected is a “Basket”, the Underlying Asset Type will be derived based on the input Base Product.

Attribute	Underlying Asset Type		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Underlying Asset Type	AGRI	Mapped to =>	Agriculture
	NRGY	Mapped to =>	Energy
	ENVR	Mapped to =>	Environmental
	FRGT	Mapped to =>	Freight
	FRTL	Mapped to =>	Fertilizer
	INDP	Mapped to =>	Other
	INFL	Mapped to =>	Other
	OEST	Mapped to =>	Other
	METL	Mapped to =>	Metals
	MCEX	Mapped to =>	Multi Commodity
	PAPR	Mapped to =>	Paper
	POLY	Mapped to =>	Polypropylene Products
	OTHC	Mapped to =>	Other
	OTHR	Mapped to =>	Other

- If Underlying Structure selected is a “Single Underlier” and Underlier ID Source is [COIDX or PROP], the Underlying Asset Type will be derived based on the input Base Product as follows:
  a. If the input Base Product is MCEX, then set the Underlying Asset Type to “Multi Commodity”.
  b. If the input Base Product is other than MCEX, then set the Underlying Asset Type to “Index”.

Attribute	Underlying Asset Type		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Underlying Asset Type	AGRI	Mapped to =>	Index
	NRGY	Mapped to =>	Index
	ENVR	Mapped to =>	Index
	FRGT	Mapped to =>	Index
	FRTL	Mapped to =>	Index
	INDP	Mapped to =>	Index
	INFL	Mapped to =>	Index
	OEST	Mapped to =>	Index
	METL	Mapped to =>	Index
	MCEX	Mapped to =>	Multi Commodity
	PAPR	Mapped to =>	Index
	POLY	Mapped to =>	Index
	OTHC	Mapped to =>	Index
	OTHR	Mapped to =>	Index

4.2.2 Classification Type

Attribute	Classification Type		
Structure	Instrument Type + Asset Class + Underlying Asset Type + Option Type/Style + Valuation Method or Trigger + Delivery Type		
Example	HTKBVC		
Source	[ISO 10962](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	Commodities	Fixed Mapping	T
Underlying Asset Type	Agriculture	Mapped to =>	A
	Energy	Mapped to =>	J
	Environmental	Mapped to =>	N
	Freight	Mapped to =>	G
	Fertilizer	Mapped to =>	S
	Index	Mapped to =>	I
	Metals	Mapped to =>	K
	Multi Commodity	Mapped to =>	Q
	Paper	Mapped to =>	T
	Polypropylene products	Mapped to =>	P
	Other	Mapped to =>	M
Option Type/Style	PUTO/AMER	Mapped to =>	E
	PUTO/BERM	Mapped to =>	F
	PUTO/EURO	Mapped to =>	D
	CALL/AMER	Mapped to =>	B
	CALL/BERM	Mapped to =>	C
	CALL/EURO	Mapped to =>	A
	OPTL/AMER	Mapped to =>	H
	OPTL/BERM	Mapped to =>	I
	OPTL/EURO	Mapped to =>	G
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
	Others (miscellaneous)	Mapped to =>	M

Delivery Type	CASH	Mapped to =>	C
	PHYS	Mapped to =>	P
	OPTL	Mapped to =>	E

4.2.3 Short Name

Attribute	**Short Name**		
Structure	“NA” + "/" + Instrument Type + Base Product + Option Type + Notional Currency		
Example	NA/Option METL Call USD		
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	Option
Base Product	AGRI	Mapped to =>	AGRI
	NRGY	Mapped to =>	NRGY
	ENVR	Mapped to =>	ENVR
	FRGT	Mapped to =>	FRGT
	FRTL	Mapped to =>	FRTL
	INDP	Mapped to =>	INDP
	INFL	Mapped to =>	INFL
	OEST	Mapped to =>	OEST
	METL	Mapped to =>	METL
	MCEX	Mapped to =>	MCEX
	PAPR	Mapped to =>	PAPR
	POLY	Mapped to =>	POLY
	OTHC	Mapped to =>	OTHC
	OTHR	Mapped to =>	OTHR
Option Type	PUTO	Mapped to =>	Put
	CALL	Mapped to =>	Call
	OPTL	Mapped to =>	OPTL
Notional Currency	Notional Currency	Mapped Enumeration	e.g., USD, EUR, GBP

4.2.4 Underlier Name

Attribute	**Underlier Name**		
Underlying Asset	**Underlier Name Source**	**Underlier Name Source Attribute**	**Underlier Name**
Commodity Index	UPI Record	Underlying Instrument Index	OTHER
Proprietary Index	UPI Record	Underlying Instrument Index Prop	11339-BABXSG01
Reference Rate	UPI Record	Reference Rate	SILVER-FIX

4.2.5 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

4.2.6 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 attribute “Notional Currency” is not a required field as per ISO 4914 (UPI) specification. However, this attribute is added to align with the Multi-Assets Product Definition.

6 APPENDIX 1 – 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
Delivery Type	M	Delivery Type	Delivery Type
			CFI Delivery Type
Option style	M	Option Exercise Style	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	Reference Rate
			Underlying Instrument Index
			Underlying Instrument Index Prop
Underlier ID source	C	Underlier ID Source	Not Required
Underlier type	M	Base Product	Base Product
Underlier sub-type (first level)*	M	Not Required	Underlying Asset Type
Underlier sub-type (second level)	C	Not Required	Not Required

**Underlier Asset Type will be used as the Underlier sub-type (first level) for this product.*

7 APPENDIX 2 - OTC ISIN-UPI MAPPING

This section describes the mapping between the ISIN and UPI input attributes.

One Of	ISIN Input Attributes	Condition	Mapping Logic	UPI Input Attributes	Sample UPI Value	Comments
	Asset Class		Direct Map	Asset Class	Commodities	
	Instrument Type		Direct Map	Instrument Type	Option	
	Use Case		Direct Map	Product	Non_Standard	
	Level		Set to "UPI"	Level	UPI	
	Notional Currency		Direct Map	Notional Currency	USD	
	Expiry Date		No Mapping			
	Price Multiplier		No Mapping			
A	Reference Rate	If Reference Rate = 1	Set to “Commodity Ref Price”	Underlier Type	Commodity Ref Price	"One Of" Underlier Type
			Map to	Underlier ID	SILVER-FIX	
			Set to “COMM”	Underlier ID Source	COMM	
		If Reference Rate > 1	Map to	Underlying Structure	Basket	
B	Underlying Instrument Index	If Underlying Instrument Index = 1	Set to "Commodity Index”	Underlier Type	Commodity Index	"One Of" Underlier Type
			Map to	Underlier ID	OTHER	
			Set to "COIDX”	Underlier ID Source	COIDX	
		If Underlying Instrument > 1	Map to	Underlying Structure	Basket	
C	Underlying Instrument Index Prop	If Underlying Instrument Index Prop = 1	Set to "Proprietary Index"	Underlier Type	Proprietary Index	"One Of" Underlier Type
			Map to	Underlier ID	11339-BABXSG01	
			Set to "PROP"	Underlier ID Source	PROP	
		If Underlying Instrument Index Prop > 1	Map to	Underlying Structure	Basket	
	Base Product		Direct Map	Base Product	METL	
	Sub Product		Direct Map	Sub Product	PRME	
	Additional Sub Product		Direct Map	Additional Sub Product	SLVR	
	Option Type		Direct Map	Option Type	CALL	
	Option Exercise Style		Direct Map	Option Exercise Style	AMER	
	Valuation Method or Trigger		Direct Map	Valuation Method or Trigger	Vanilla	
	Delivery Type		Direct Map	Delivery Type	CASH	
	Transaction Type		No Mapping			
	Final Price Type		No Mapping			

8 APPENDIX 3 – UNDERLYING ASSET TYPE DERIVATION

The table below illustrates the expected input Underlying Structure based on the given underlier types and Underlier ID Sources, i.e., [COMM, COIDX, PROP] where the Underlying Asset Type [CFI:2015 Char#3] is derived based on the input Base Product with exceptions if Underlier ID Source selected is an COIDX or PROP *(refer to Derivation section above).*

UPI			CFI: 2015 Char#3 – Underlying Asset Type (HT****)		
Underlier Characteristic	Underlier Type	Underlier ID Source	AGRI* [Known]	INDP** [Unknown]	MCEX***
Single	Commodity Ref Rate	COMM	A	M	Q
Single	Commodity Index	COIDX	I	I	Q
Single	Proprietary Index	PROP	I	I	Q
Basket	N/A	N/A	A	M	Q

AGRI is the given example of a known Base Product where derived Underlying Asset Type is set to "Agriculture" [CFI:2015 Char#3 (HTA*)] if the selected Underlier ID Source is [COMM].*

INDP is the given example of an unknown Base Product where derived Underlying Asset Type is set to "Other" [CFI:2015 Char#3 (HTM)] if the selected Underlier ID Source is [COMM].*

****MCEX is the given example where derived Underlying Asset Type is set to "Multi Commodity" [CFI:2015 Char#3 (HTQ***)] if the selected Underlier ID Source is [COMM].*