

Response to the

CPMI-IOSCO Consultative Report on the Harmonisation of the Unique Product Identifier (UPI)

Delivered to CPMI-IOSCO

by

Tahoe Blue Ltd

February 2016

Table of Contents

I. EXECUTIVE SUMMARY.....	3
II. COMMENTARY	3
III. ACTUS FINANCIAL CONTRACT TYPES	7

I. Executive Summary

The CPMI-IOSCO Consultative Report on the Harmonisation of the Unique Product Identifier is a thorough and focused consultation on the UPI in the context of OTC derivatives that solicits input and feedback on a number of specific questions and topics regarding the UPI and OTC derivatives.

Many of these topics and issues were addressed in depth at the recent CPMI-IOSCO Industry workshop of CPMI-IOSCO WG for Harmonisation of key OTC derivatives data elements that took place on February 10, 2016 in Washington, D.C.

Although the consultative report does contain 16 questions, and it is certainly customary and reasonable to expect that a response submission would address the questions asked in the consultation, we would like to offer a bit of commentary and feedback on the UPI harmonization initiative from a slightly different perspective.

The question that this feedback could be seen to be most relevant to frame this response is perhaps the following:

Question 5: Are the principles and high-level specifications listed and described above comprehensive in representing the characteristics of a classification system? If not, are there other principles and high-level specifications that should be considered? Please list and explain.

As we expect that a wide range of helpful input will be received from multiple respondents on the UPI, we are electing to first offer some thoughts on certain aspects of the higher level approach to the UPI specification and framework.

Following that, we present a financial contract type classification system specification that hopefully can provide some useful insight into other aspects of how to view the identification and classification of financial products using the intrinsic financial instrument types that form the basis for nearly all financial products that are offered or utilized in the financial industry.

II. Commentary

The Committee on Payments and Market Infrastructures (CPMI) and the Board of the International Organization of Securities Commission (IOSCO) are currently working a set of three related consultations: the *Harmonisation of the Unique Transaction Identifier (UTI)*, the *Harmonisation of the Unique Product Identifier (UPI)*, and the *Harmonisation of key OTC derivatives data elements (other than UTI and UPI)*, (e.g., “Other Data Elements ODE”). There are other financial data standardization efforts that address the harmonization of identifiers on a global scale that have already been launched and are being implemented, such as the Legal Entity Identifier (LEI).

Of the three data standards initiatives above with “I” (for “Identifier”) in their names (i.e., UTI, UPI, and LEI), one of them is not like the other two. The UTI and the LEI are clearly identifiers that resolve unique instances of financial industry objects (individual financial transactions or legal entities capable of participating in the financial transactions). The scope, resolution and “granularity” of the UPI is much less clear, and somewhat ill-defined, for the very reason that the very concept of a “unique product” that can or needs to be identified as such is in fact not at all clear, and difficult to define.

To be more exact, the UPI is really part of a classification regime, or taxonomy, and not an identifier of individually unique instances of financial objects, elements or structures in a universe of such things. It might well have been more appropriate to have named the concept a “Unique Product Classification Code” than “Unique Product Identifier”.

As currently envisioned, once the extent, range and level of the descent of the “UPI” scheme into a product classification attribute inheritance tree is determined, the regime actually “identifies” nodes of a classification taxonomy or tree.

As a result, one of the main issues surrounding both the business requirements and the subsequent definition and design of a harmonized UPI has to do with at what level to *stop* classifying, categorizing and disambiguating financial transactions or positions into types or classes of financial “products” (i.e., financial product ‘templates’).

There is an inherent danger in trying to descend too deeply into increasingly discriminating levels of detail and differences among the parameters and terms of financial transactions, contracts or positions when seeking to define a fixed classification scheme for different categories of financial “products”. There is more than one reason why this is true.

For starters, the more levels and nodes in a (fixed) financial product taxonomy that are created, the more voluminous will that (single) classification scheme become, and the more unwieldy that efforts will become to utilize, map or apply product codes from the scheme to arbitrarily large collections of financial transactions or positions.

Secondly, in order to classify the universe of financial transactions, contracts or positions into increasingly distinct categories or identified “product types”, one must continue to involve additional properties, terms and parameters of the financial transactions to do so. Establishing more detailed or specific product differentiation categories can also often include gradations of the domain values of individual terms, parameters or data elements.

Drilling down to additional levels of classification to create further articulated product type codes has a multiplicative (if not exponential) effect on the total number of product types.

Establishing increasingly articulated but fixed product code identifiers for financial transactions or positions in a single taxonomy will likely have a counterproductive effect on the very objectives to establish a product classification system.

This is because a scheme that is overly articulated will only support the roll-up hierarchy of that single, fixed taxonomy.

Even if such an articulated taxonomy is optimally crafted to be initially aligned with the classification use cases and options suitable for general regulatory reporting purposes, upon adoption the taxonomy becomes 'locked in'.

Alternative hierarchies and classifications using fundamental financial instrument contract types in combination with parameters and terms that are the actual data elements of financial transactions and positions of actual products would not be supported by an overly engineered and fixed financial product taxonomy.

Finally, the current harmonization effort is focused primarily on OTC derivatives, and does not take into account the wide range of the other financial products that span the full balance sheets of both the banking and trading books of full-service financial institutions. For example, the diagram on page 5 of the consultation document shows a nesting of:

- Instrument Type
- Product
- Contract
- Transaction

This is a very useful diagram. However, since it is OTC-derivatives-centric, the Instrument Types are limited to those found in various OTC derivatives (i.e., "Forward, Swap, Option, etc", and the "product type" differentiations around those instrument types relate to "elements of the underlier".

While this is a natural pattern for derivatives (almost by definition), many other financial "products" in the full-service financial industry involve other types of financial instrument types, algorithms, and financial terms and structures.

If the harmonization of a "Unique Product Identifier" scheme is to be undertaken, it would seem appropriate that financial "products" other than just OTC derivatives should be included for completeness and comprehensiveness – even if the immediate intent and focus for the UPI is intended for the OTC derivatives markets that have been the subject and focus of heightened regulatory reporting since 2008.

It is for these reasons that we recommend considering – for purposes of financial product classification:

1. The identification of the intrinsic financial instrument contract types that are used to provide all manner of financial products across the full balance sheet of a robust financial enterprise, and

2. The harmonization and standardization of the meaning and function of the relevant contractual terms and data elements that drive the behavior of all financial product types with client or counterparty contracts when originated and applied to the intrinsic financial instrument type algorithmic engine(s).

Put another way:

The identification of the

Root-level, intrinsic financial instrument types used to create, operationalize and offer the full gamut of financial products in the form of contracts and transactions involving customers, counterparties and collateral

Accompanied by

The comprehensive and thorough definition and standardization of the specific terms, properties and parameters that determine the state and drive the behavior of originated, current and ongoing financial contracts on the full balance sheet (banking book and trading book)

Is

Sufficient to support any number of different classifications, consolidations and aggregations of financial products for both regulatory risk reporting and institutional risk management, and in any number of dimensional hierarchies and groupings based on the selection, ordering and quantization of the contract-specific parametric data.

The following section describes some of the characteristics of a good example of one such framework, the Algorithmic Contract Types Unified Standards (ACTUS)¹

¹ http://www.projectactus.org/projectactus/?page_id=471

III. ACTUS Financial Contract Types

FAMILY	CLASS	TYPE	DESCRIPTION	COVERED REAL-WORLD INSTRUMENTS
Basic Contract Types	Maturity	PAM: Principal at Maturity	Principal payment fully at Initial Exchange Date (IED) and repaid at Maturity Date (MD). Fixed and variable rates.	All kind of bonds, term deposits, bullet loans and mortgages etc.
		ANN: Annuity	Principal payment fully at IED and interest plus principal repaid periodically in constant amounts till MD. If variable rate, total amount for interest and principal is recalculated to be fully matured at MD.	Classical level payment mortgages, leasing contracts etc.
		NAM: Negative Amortizer	Similar as ANN. However when resetting rate, total amount (interest plus principal) stay constant. MD shifts. Only variable rates.	Special class of ARM's (adjustable rate mortgages), Certain loans.
		LAM: Linear Amortizer	Principal payment fully at IED. Principal repaid periodically in constant amounts till MD. Interest gets reduced accordingly. If variable rate, only interest payment is recalculated. Fixed and variable rates.	Many amortizing loans
		ANX: Exotic Annuity	Exotic version of ANN However step ups with respect to (i) Principal, (ii) Interest rates are possible. Highly flexible to match totally irregular principal payments. Principal can also be paid out in steps.	A special version of this kind are teaser rate loans and mortgages with annuity features
		LAX: Exotic Linear Amortizer	Exotic version of LAM. However step ups with respect to (i) Principal, (ii) Interest rates are possible. Highly flexible to match totally irregular principal payments. Principal can also be paid out in steps.	A special version of this kind are teaser rate loans and mortgages
		NAX: Exotic Negative Amortizer	Exotic version of NAM However step ups with respect to (i) Principal, (ii) Interest rates are possible. Highly flexible to match totally irregular principal payments. Principal can also be paid out in steps.	A special version of this kind are teaser rate loans and mortgages with variable MD
		CLM: Call Money	Loans that are rolled over as long as they are not called. Once called it has to be paid back after the stipulated notice period.	Inerbank loans with call features
		PBN: Perpetual Bonds	Bonds without any maturity date. Interest is paid into eternity if is not terminated.	Consoles, war loans
	Non-Maturity	UMP: Undefined Maturity Profile	Principal paid in and out at any point in time without prefixed schedule. Interest calculated on outstanding and capitalized periodically. Needs link to a behavioral function describing expected flows.	Saving products of all kind, current accounts. In some countries even variable rate mortgages can be represented with this CT

		CSH: Cash	Cash or cash equivalent position	Cash, deposits at central bank
		STK: Stock	Any instrument which is bought at a certain amount (market price normally) and then follows an index.	All straight stocks
		COM: Commodity	This is not a financial contract in its proper sense. However it tracks movements of commodities such as oil, gas or even houses. Such commodities can serve as underlyings of commodity futures, guarantees or simply asset positions.	Oil, gas, electricity, houses etc.
	Credit Enhancement	CEG: Guarantees	Guarantee is a credit enhancement contract. It creates a relationship between a guarantor, an obligee and a debtor, moving the exposure from the debtor to the guarantor.	Personal guarantee. Government guarantee. Underlyings of CDO's.
		CEC: Collateral	Collateral is a credit enhancement contract. It creates a relationship between a collateral an obligee and a debtor, covering the exposure from the debtor with the collateral.	Mortgages include a collateral contract. Any coverage with financial or physical collateral
Combined Contract Types	Symmetric	SWAPS: Swap	Exchange of two basic CT's (PAM, ANN etc.). Normally one is fixed, the other variable. However all variants possible including different currencies for cross currency swaps, basic swaps or even different principal exchange programs.	All kind of swaps. The variety is defined by the underlying CT's which currently are PAM and ANN in all its flavors. With each new basic CT the variety rises
		SWPPV: Plain Vanilla Swap	Plain vanilla swaps where the underlying is always a PAM and one leg is fixed, the other variable. Plain vanilla cross currency swaps also covered.	More than 90% of all interest rate swaps follow this simple pattern.
		FXOUT: Foreign Ex-change Outright	Two parties agree to exchange two fixed cash flows in different currencies at a certain point in time in future.	Any FX-outright transaction. This is also the underlying of FX-options and FX futures
		FUTUR: Future	Keeps track of value changes for any basic CT as underlying (PAM, ANN etc. but also FXOUT, STK, COM). Handles margining calls.	Standard interest rate, FX, stock and commodity futures.
	Options	OPTNS: Option	Calculates straight option pay-off for any basic CT as underlying (PAM, ANN etc.) but also SWAPS, FXOUT, STK and COM. Single, periodic and continuous strike is supported.	European, American and Bermudan options with interest rate, FX and stock futures as underlying instruments

		CAPFL: Cap Floors	Interest rate option expressed in a maximum or minimum interest rate	Caps and Floor options
		BNDCP: Callable or puttable maturity contract	Bonds with a call or put option. If option is exercised, underlying bond ceases to exist.	Callable and puttable bonds or loans
		BNDWR: Bond with warrant	Bonds with a warrant. If option is exercised, underlying bond continues to exist.	Warrants
		CFXOP: Exotic Cap Floor	Exotic variants of caps and floors	
		IRXOP: Exotic Interest Rate Option	Exotic interest rate options	
		STXOP: Stock Option	Exotic stock options	
		CMXOP: Exotic Commodity Option	Exotic commodity options	
		FXXOP: Exotic FX Option	Exotic FX options	
	Credit Derivatives	CDSWP: Credit Default Swap	All sorts of credit default swaps	
		CRSWP: Total Return Swap	All sorts of total return swaps	
		CLNTE: Credit Linked Note	All sorts of credit linked notes	
	Securitization	SCFMR: Securitized Instruments Market Risk	Instruments bundled and traded in tranches without any specific credit risk feature	MBS, ABS, Principal only, Interest only instruments
		SCRCR: Securitized instrument Credit Risk Feature	Instruments bundled and traded in tranches that include specific credit risk feature	CDO's