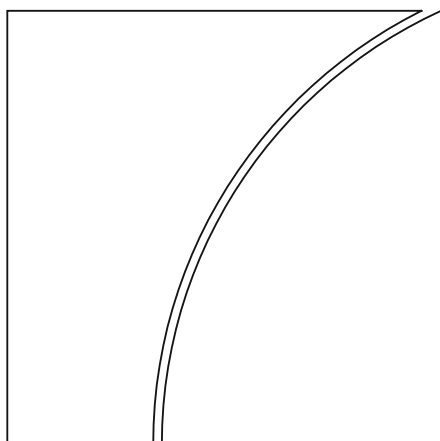


Committee on
Payments and Market
Infrastructures

Board of the International
Organization of Securities
Commissions

Second consultative
report
Harmonisation of the
Unique Product Identifier



August 2016



BANK FOR INTERNATIONAL SETTLEMENTS



OICU-IOSCO

This publication is available on the BIS website (www.bis.org) and the IOSCO website (www.iosco.org).

© *Bank for International Settlements and International Organization of Securities Commissions 2016. All rights reserved. Brief excerpts may be reproduced or translated provided the source is stated.*

ISBN 978-92-9197-613-3

This report has been issued for public consultation. Comments should be sent by 30 September 2016 to the secretariats of both the CPMI (cpmi@bis.org) and IOSCO (upi@iosco.org). The comments will be published on the websites of the BIS and IOSCO unless respondents have requested otherwise.

Contents

Executive summary	1
1. Introduction	2
1.1 Background	2
1.2 CPMI and IOSCO working group for harmonisation of key OTC derivatives data elements	2
1.3 Purpose and organisation of this consultative report	4
2. Key concepts	6
3. Principles and high-level business specifications	7
3.1 Jurisdiction neutrality	7
3.2 Uniqueness	7
3.3 Consistency	8
3.4 Persistence	8
3.5 Adaptability	8
3.6 Clarity	9
3.7 Ease of generation/acquisition/query	9
3.8 Long-term viability	9
3.9 Scope neutrality	10
3.10 Compatibility	10
3.11 Comprehensiveness	10
3.12 Extensibility	10
3.13 Precision	11
3.14 Public dissemination	11
3.15 Representation	11
4. UPI precision and granularity in relation to use case	12
4.1 Summary of discussion in the First Consultative Report	12
4.2 Levels of Granularity	13
5. From reference data to the UPI code	20
5.1 Intelligent and dummy codes	20
5.2 The code format and representation	20
5.3 How underliers should be included	21
6. Summary of the consultation questions	23
Annex 1 – List of members of the Harmonisation Group	25

Executive summary

G20 Leaders agreed in 2009 that all over-the-counter (OTC) derivatives contracts should be reported to trade repositories (TRs) as part of their commitment to reform OTC derivatives markets in order to improve transparency, mitigate systemic risk and protect against market abuse. Aggregation of the data reported across TRs is necessary to help ensure that authorities are able to obtain a comprehensive view of the OTC derivatives market and activity.

The Committee on Payments and Market Infrastructures (CPMI) and the International Organization of Securities Commissions (IOSCO) published OTC derivatives data reporting and aggregation requirements (Data Report) in 2012 and Authorities' access to trade repository data (Access Report) in 2013. In 2014, the Financial Stability Board (FSB) published a study on the feasibility of options for a mechanism to produce and share global aggregated data (Aggregation Feasibility Study). These reports have identified OTC derivatives data elements, including the Unique Product Identifier (UPI), that are critical to many aspects of regulatory initiatives. As stated in the Data Report, "a product classification system would allow regulators to perform data aggregation to monitor exposures to, or positions in, various groupings of products". The purpose of the UPI is to uniquely identify OTC derivatives products that authorities require, or may require in the future, to be reported to TRs.

The UPI system will assign a code to each OTC derivative product which maps to a set of data elements describing the product in a corresponding reference database. The focus of the consultative report Harmonisation of the Unique Product Identifier issued by the CPMI and IOSCO in December 2015 was the reference database (then called a "classification system"). The focus of this second consultative report is the form, content and granularity of the UPI. When used in this report, "UPI" refers to both the code and the associated reference data.

The CPMI and IOSCO aim to produce clear guidance about the definition, format and usage of a UPI that meets the needs of its users, is global in scale, is based on relevant international technical standards where available and is jurisdiction-agnostic. The governance structure, including implementation of the UPI, will be the subject of further work by the FSB and is not covered in this consultative report.

The purpose of this report is to seek comments and suggestions on the proposed approach to UPI guidance. The general points are as follows:

- (i) This report outlines the CPMI's and IOSCO's proposed principles¹ and high-level business specifications for the UPI.
- (ii) This report proposes a level of granularity for the UPI, and requests feedback on that proposal, in particular whether any aspects of the proposal would pose implementation challenges.

In addition to the above general points, the CPMI and IOSCO invite comments on the questions included within each section and repeated in Section 6 ("Summary of the consultation questions").

The publication of final guidance on a UPI by the CPMI and IOSCO is envisaged around the end of 2016.

¹ Use of the word "principles" in this document conveys the criteria of the UPI system that the CPMI and IOSCO believe should be achieved in order to help the technical guidance on the UPI facilitate the global aggregation of OTC derivatives data. This usage of "principles" is different from IOSCO's Core Principles of securities market regulation.

1. Introduction

1.1 Background

As part of their commitment to reform OTC derivatives markets, the G20 Leaders agreed in 2009 that all OTC derivatives contracts should be reported to TRs² in order to improve transparency, mitigate systemic risk and protect against market abuse. At present, a total of 20 TRs are authorised and operating, for at least some asset classes, in FSB member jurisdictions. In five jurisdictions, government authorities or other TR-like entities are currently collecting OTC derivatives transaction reports. Aggregation of the data being reported across these TRs is necessary to help ensure that authorities can obtain a comprehensive view of the OTC derivatives market and activity.

In September 2014, the FSB published the Aggregation Feasibility Study.³ One of the study's conclusions was that "it is critical for any aggregation option that the work on standardisation and harmonisation of important data elements be completed, including in particular through the global introduction of the Legal Entity Identifier (LEI), and the creation of a Unique Transaction Identifier (UTI) and Unique Product Identifier (UPI)".

1.2 CPMI and IOSCO working group on the harmonisation of key OTC derivatives data elements

In connection with the Aggregation Feasibility Study, the FSB asked the CPMI and IOSCO to develop global guidance on the harmonisation of data elements that are reported to TRs and are important for the aggregation of data by authorities⁴ and noted that the FSB would work with the CPMI and IOSCO to provide official sector impetus and coordination for the further development and implementation of uniform global UTIs and UPIs.

In November 2014, the CPMI and IOSCO established a working group on the harmonisation of key OTC derivatives data elements (the Harmonisation Group), in order to develop such guidance, including for UTIs and UPIs.

The mandate of the Harmonisation Group is to develop guidance regarding the definition, format and usage of key OTC derivatives data elements, including UTIs and UPIs. In doing so, the Harmonisation Group takes into account other relevant data harmonisation efforts and encourages the use of internationally agreed global standards for reporting financial transaction data.

The CPMI and IOSCO recognise that the responsibility for establishing and enforcing legal requirements for reporting OTC derivatives transactions to TRs falls within the remit of the relevant authorities. The mandate of the Harmonisation Group does not include addressing issues that are planned or are already covered by other international workstreams, such as the legal, regulatory and technological issues related to the implementation of a global aggregation mechanism, or the governance and legal issues related to the UTI and UPI.

With the Harmonisation Group advancing in its work, the FSB established a working group in early 2016 to take forward the development of governance arrangements for the UTI and UPI. The primary

² Also known as Swap Data Repositories in the United States.

³ www.financialstabilityboard.org/wp-content/uploads/r_140919.pdf.

⁴ The CPMI and IOSCO have previously conducted work related to the reporting of data elements to TRs, and data aggregation. In January 2012, the CPMI and IOSCO published their *Report on OTC derivatives data reporting and aggregation requirements*, which recommended minimum data reporting requirements and contained general guidance about reporting formats, www.iosco.org/library/pubdocs/pdf/IOSCOPD366.pdf; and in August 2013, they published their report *Authorities' access to trade repository data*, www.bis.org/cpmi/publ/d110.pdf.

objective of this governance working group is to propose recommendations for governance arrangements for each identifier to the FSB Plenary, while working closely with the Harmonisation Group. As part of developing its recommendations, the governance group will consult publicly on governance considerations for these identifiers. The timing of such consultation and subsequent recommendations is related to the finalisation of the CPMI and IOSCO Harmonisation Group's technical guidance for the UTI and UPI.

Since the mandate of the Harmonisation Group's work on the UPI is to further the G20 Leaders' agreement in 2009 that all OTC derivatives transactions be reported to TRs by facilitating the global aggregation of these data, the CPMI and IOSCO are considering what technical requirements for a UPI for OTC derivatives would be appropriate. However:

- since the scope of OTC derivatives reportable to a TR varies across jurisdictions, the Harmonisation Group seeks to provide guidance for a UPI that will work in a context where the differences between jurisdictions are unlikely to be harmonised (see Section 3);⁵
- furthermore, as the scope of derivatives transactions reportable to TRs extends beyond OTC derivatives in certain jurisdictions (eg exchange-traded derivatives), the adaptability of the UPI to accommodate a broader range of financial products (including derivative products traded on an exchange) has been taken into account in principles applying to the UPI (see Section 3).

The CPMI and IOSCO intend only to define the technical requirements for a UPI for the unique identification of OTC derivative products in transactions reported to TRs and the eventual global aggregation of these data. The CPMI and IOSCO are conscious that a UPI could serve purposes other than the unique identification of OTC derivative products in transactions reported to TRs and the global aggregation of these data, such as other forms of regulatory reporting specific to particular jurisdictions or pre- and post-trade processes performed by market participants and financial market infrastructures. These other uses could imply an identifier with more granular reference data than that required for a UPI serving authorities' use of TR data. Therefore the UPI could be leveraged to define other more granular derivatives identifiers for other purposes, provided this does not hinder the use of the UPI here-defined for the reporting of OTC derivatives transactions to TRs and global aggregation.

The first consultative report on the UPI issued by the CPMI and IOSCO in December 2015 focused on the "classification system". Responses to the consultative report suggested that the use of the term "classification system" was unclear. In order to avoid this confusion, this second consultative report uses the term "reference data" instead of "classification system".⁶

The focus of this report is the form of the UPI code and the content and granularity of the UPI data elements. Publication of final guidance on the UPI is envisaged around end-2016.

The CPMI and IOSCO have issued consultative reports on:

- harmonisation of the Unique Transaction Identifier, in August 2015 (with UTI guidance envisaged in 2016); and
- harmonisation of a first batch of key data elements other than the UPI and UTI, in September 2015.

The CPMI and IOSCO also plan to issue consultative reports on the harmonisation of a second and third batch of key data elements other than the UTI and UPI in 2016 and 2017, respectively.

⁵ For instance, in the United States this guidance would apply only to swaps and securities-based swaps.

⁶ See the CPMI-IOSCO consultative report on *Harmonisation of the Unique Product Identifier*, www.bis.org/cpmi/publ/d141.pdf.

1.3 Purpose and organisation of this consultative report

The CPMI and IOSCO are developing guidance about the definition, format and usage of OTC derivative product codes and associated reference data, together referred to as the UPI. While the scope of the work includes guidance on all the components of a uniform global UPI, this consultative report focuses on the possible form, content and granularity of reference data assigned to each OTC derivative product. The final guidance document will include recommendations on definition, format and usage, and would be intended to be sufficiently flexible and extensible to accommodate the evolution of markets (such as new products being traded), regulatory regimes and messaging standards. Given that OTC derivatives are traded in markets globally, the CPMI and IOSCO envisage that the final guidance will be global in scale, make use of relevant international technical standards where available and be jurisdiction-agnostic. The governance structure, including implementation of the UPI, will be the subject of further work by the FSB and is not covered in this consultative report.

In developing this consultative report, the CPMI and IOSCO have:

- considered the principles and high-level business specifications for a UPI that would meet authorities' needs, including characteristics relating to uniqueness, persistence, consistency and generation;
- consulted with authorities on their use of UPIs; and
- considered industry's perceptions of and expectations for UPIs, as expressed in workshops and responses to the consultative report published in December 2015.

The organisation of this consultative report is as follows. Section 1 presents an introduction. Section 2 sets out key concepts. Section 3 describes proposed principles and high-level business specifications applying to the UPI which are revised from the principles included in the first consultative report on the UPI that applied only to the reference data and not to the codes used to represent OTC derivative products. Section 4 describes the data elements which are sufficient to uniquely identify an OTC derivative product. This will form the outline of the UPI reference data. Section 5 presents options on how the UPI codes which represent these reference data could be constructed. This consultative report includes specific consultation questions throughout inviting feedback from respondents. Section 6 collates all the questions, for easy reference.

To help ensure that the UPI guidance meets the CPMI's and IOSCO's principles and high-level business specifications, enabling the global aggregation of OTC derivatives transaction data, this report seeks consultation comments and suggestions on the UPI from respondents, particularly on two points:

- (i) This report outlines the CPMI's and IOSCO's proposed principles and high-level business specifications for the UPI and requests respondents' feedback on them, particularly on whether any of these proposals would pose implementation challenges. Providers of product identifiers are encouraged to submit detailed responses setting out how their solutions meet, or could be revised to meet, each of these business specifications.
- (ii) This report proposes an approach for the granularity of the UPI, and requests respondents' feedback on that approach, in particular on whether any aspects could pose implementation challenges.

Comments on these points and on the proposals set out in this report and answers to questions should be sent by 30 September 2016 to the secretariats of both the CPMI (cpmi@bis.org) and IOSCO (upi@iosco.org). The comments will be published on the websites of the BIS and IOSCO unless respondents have requested otherwise.

In providing feedback, it would be helpful if respondents could set out their views on:

- whether this consultative report covers the necessary topics to enable a uniform global UPI;
- whether the proposals in this consultative report are clear and unambiguous;

- whether the level of detail in this consultative report is adequate and, if not, what additional level of detail would be helpful in the final guidance document; and
- whether examples could be given of situations where the proposals might not work.

2. Key concepts

The purpose of the UPI is to uniquely identify OTC derivative products that authorities require to be reported to TRs. This is in order to facilitate the global aggregation of data held in TRs in different jurisdictions such that authorities could obtain a global view of the OTC derivatives market.

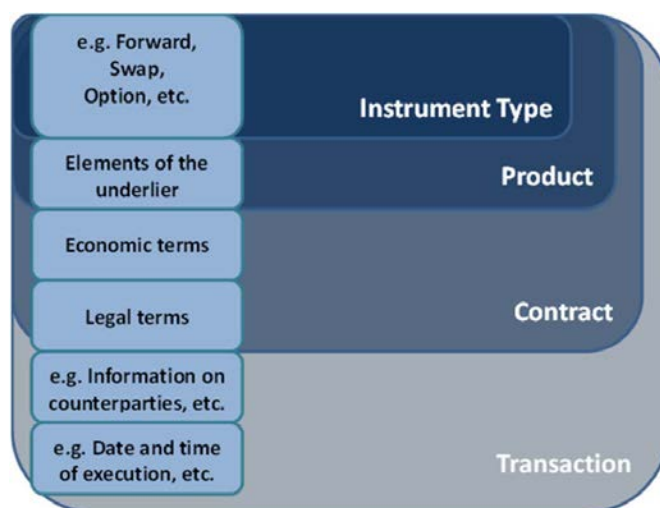
A derivative product can be uniquely characterised by various data elements (“UPI reference data elements”) which can be grouped into three categories: (i) instrument type; (ii) instrument characteristics; and (iii) the underlier’s information. See Section 4.2 for a list of all proposed UPI reference data elements. Through a combination of those reference data elements, the UPI will identify, as far as practicable, each derivative product.

The UPI code will allow flexible aggregation of different types of derivative product by grouping various reference data elements, which are of interest for a particular analysis.

The UPI reference data library comprises the descriptions and semantics of each individual reference data element. The UPI will be represented by a code, ie a series of alphanumeric characters.

The UPI will not go as far as to uniquely identify OTC derivatives contracts or OTC derivatives transactions. OTC derivatives contracts will be described in TR data through a combination of the UPI and some of the other data elements reported to TRs (ie other than UPI reference data elements). OTC derivatives transactions will be described in TR data through a wider combination of data elements and uniquely identified through the UTI. At this time, the CPMI and IOSCO do not intend for the UPI to identify whether or not a particular OTC derivative product is part of a package trade, as this is better captured through other data elements.

The distinction between an OTC derivative product, an OTC derivatives contract and an OTC derivatives transaction is depicted in the diagram below:



3. Principles and high-level business specifications for the UPI

The first consultative report on the harmonisation of the Unique Product Identifier⁷ outlined the main principles and high-level business specifications that the prospective UPI reference data should meet, and sought feedback on the correctness and comprehensiveness of the list of principles. While the general approach outlined in that report was supported by most respondents, as a result of the feedback received some of the principles listed below have been revised to clarify the meaning or to capture some desired characteristics of the prospective UPI reference data that were not properly highlighted in the first consultative report.

This section lists the revised principles and high-level business specifications.

3.1 Jurisdiction neutrality

The approach to the harmonisation of UPI reference data should not depend on factors that are specific to a jurisdiction, but should be based only on exhaustive inherent characteristics of products.

Explanatory business specification:

Neutrality helps ensure that the solution is globally applicable and facilitates aggregation.

For the UPI reference data to achieve full jurisdiction neutrality, the CPMI and IOSCO preliminarily believe that all values that are included in an OTC derivative product's reference data should be standardised among jurisdictions to the fullest extent practicable. The CPMI and IOSCO are developing in parallel the guidance on the standardisation of the data elements other than the UPI and UTI.⁸ Implementation of the UPI guidance should promote the standardisation of the elements in the UPI reference data, to the greatest extent practicable.

3.2 Uniqueness

At a given point in time, every reportable OTC derivative product typically should be identified by one distinct set of data elements. Different reportable OTC derivative products should have different UPIs and hence different UPI codes.

A distinct set of elements should be associated with one code; and conversely, a code should be associated with one distinct set of data elements.

Explanatory business specification:

The values in the UPI reference data should describe OTC derivative products with sufficient detail and precision so that a product is uniquely defined, but should not be so granular as to describe contracts or transactions.

In order to satisfy the adaptability principle, the set of data elements that identify a given product might change over time. Thus, the uniqueness principle has been clarified so that uniqueness applies to the UPIs assigned at a given point in time, ie the same product may be identified by different sets of data elements at different points in time (in case a change in the UPI reference data elements was needed, to satisfy the adaptability principle).

⁷ CPMI-IOSCO, *Harmonisation of the Unique Product Identifier*, consultative report, December 2015, <http://www.bis.org/cpmi/publ/d141.pdf>.

⁸ CPMI-IOSCO, *Harmonisation of key OTC derivatives data elements (other than UTI and UPI) – first batch*, consultative report, September 2015, www.bis.org/cpmi/publ/d132.pdf.

From the second paragraph of the uniqueness principle, it follows that a UPI code should not be assigned to an OTC derivative product after that code has already been assigned to another OTC derivative product.

3.3 Consistency

Regardless of structure, the UPI reference data should describe each OTC derivative product using a consistent set of data elements, although different asset classes may have different sets of data elements.

Explanatory business specification:

For example, the UPI reference data should classify one particular interest rate derivative product using the same set of data elements as any other interest rate derivative product, and should classify one particular credit derivative product using the same set of data elements as any other credit derivative product, even though the set of data elements used to classify all interest rate derivatives may differ from the set of data elements used to classify all credit derivative products.

3.4 Persistence

An OTC derivative product, once described using the UPI reference data elements and assigned a code, should keep the same reference data elements and code, as far as practicable.

Explanatory business specification:

Except as necessary to provide greater specificity, a product should not be assigned different data elements after the original assignment has taken place.

The CPMI and IOSCO intend that UPIs for OTC derivative products persist over the life of the product, as far as practicable. However, situations could arise where it would be advisable for the product classification to be made more specific, as products evolve or if previously obscure or bespoke products are traded more widely. This would be the case where an OTC derivative product has an attribute value that falls into an "Other" category as discussed in more detail in Section 3.5. The reclassification should be forward-looking and adhere to the "Adaptability" principle described below.

The UPI should not depend on those reference data elements which tend to change over the life cycle of the product (eg residual maturity). Thus the reference data elements in the UPI should remain stable after the initial assignment, as otherwise any analysis of products over time would become very difficult or impossible.

3.5 Adaptability

The UPI reference data elements should be capable of adapting swiftly to market changes and innovations, including the introduction of new OTC derivative products, as well as to the evolving aggregation needs of authorities (eg new regulation for a specific product or market segment).

Changes should be capable of being readily incorporated into the UPI reference data.

Explanatory business specification:

A versioning process would facilitate the incorporation of changes. The long-term management of UPI reference data elements should incorporate an approach that allows for comparisons across versions in a straightforward way, eg a mechanism for mapping new UPIs to older UPIs that represent similar products.

A version history should be maintained, with, as far as possible, backward/forward compatibility across versions of UPI reference data elements, although some types of revision might not satisfy the backward compatibility criterion.

For example, in order to meet the “Ease of generation/acquisition” and “Comprehensiveness” principles described in Sections 3.7 and 3.11, respectively, it might be appropriate for the UPI reference data elements to be able to take the value “Other” in order to incorporate new and/or highly bespoke products that are awaiting a more precise definition. In order to preserve the precision of the UPI over time, reporting using these “Other” values should be monitored in order to prompt the addition of new product classifications to the UPI reference data elements and thereby ensure that the volume of trades reported using these values does not exceed a *de minimis* level. A revision to the UPI reference data elements to add a new product classification for a product that has hitherto been reported in an “Other” category could not meet the criterion of backward compatibility but would nonetheless be desirable.

3.6 Clarity

The UPI reference data elements should be clear and unambiguous, supported by comprehensive and freely available documentation, instructions and guidance in order to support market participants’ understanding and use of the UPI reference data (eg to provide precise definitions of each of the values that can be taken by each data element in the UPI reference data library).

3.7 Ease of generation/acquisition/query

It should be possible to easily check whether or not a UPI already exists for a particular product and, if needed, generate or acquire one in a timely manner so that it does not impede trading or impede the ability to report to a TR within the time frame specified in the rules of the jurisdiction(s) governing the transaction.

Explanatory business specification:

It is useful to clarify that the need for generation/acquisition/query of the UPI should not prevent the counterparty from executing the trade or from reporting the transaction on a timely basis. This applies particularly to non-standard and bespoke products, which may require the generation of a new UPI.

3.8 Long-term viability

The UPI reference data should remain valid for a number of years. It should be practicable now and not be limited by technological or legal constraints that exist in 2016 but which could reasonably be expected to change in the future.

In particular, the UPI reference data should be independent with regard to changes in technology, market practice or legal setting that are reasonably likely to happen in the future.

Explanatory business specification:

While the adaptability principle refers to the ability of the UPI reference data to accommodate creation of new types of OTC derivative product, long-term viability encompasses other factors that may influence the way of using the UPI reference data, eg changes in technology, market practice or legal setting. The UPI system should be independent of changes in those factors over the foreseeable future.

3.9 Scope neutrality

The UPI should work in a context where there are some differences in the scope of reporting regimes for OTC derivative products in different jurisdictions and some of these differences are unlikely to be harmonised.

Explanatory business specification:

The scope of OTC derivative products that are subject to a TR reporting requirement varies across jurisdictions and is not harmonised at a global level. Thus, the guidance for UPIs should not depend on the scope of OTC derivative products that fall within a particular jurisdiction's reporting mandate and thus would need UPIs for reporting purposes, but instead should be generally applicable to any OTC derivative product that might fall within a reporting mandate.

3.10 Compatibility

The UPI reference data should rely on open standards that facilitate compatibility with existing automated systems of financial market infrastructures (eg TRs), market participants and regulators.

Explanatory business specification:

The compatibility principle does not require compliance with all possible standards and interfaces used by market participants, as this could prove impractical or could lead to the adoption of suboptimal technologies for the UPI reference data.

3.11 Comprehensiveness

The UPI reference data, in conjunction with other data elements, should be able to accommodate any OTC derivative product falling under a reporting requirement and be capable of meeting diverse regulatory needs, by supporting regulatory functions including market surveillance, risk analysis, dissemination of market information and regulatory research. The UPI reference data could also support enhanced market transparency, improved risk management and increased operational efficiency.

Explanatory business specification:

The main objective of the UPI reference data is to allow an OTC derivative product to be identified by its economic properties and thereby help regulators to aggregate OTC derivatives data. Consequently, regulators' needs remain the primary use cases, which the UPI reference data have to address. It is acknowledged, however, that the UPI could be leveraged to define other more granular derivatives identifiers for other purposes, provided this does not hinder the use of the UPI here-defined for the reporting of OTC derivatives transactions to TRs for regulatory use.

3.12 Extensibility

Some jurisdictions could require the reporting of transactions in products that are not OTC derivatives (eg exchange-traded derivatives) through the same channels (ie using the same reporting formats and rules and/or the same TRs) as for OTC derivative products. Accordingly, compatibility with or adaptability to accommodate a broader range of financial products (including derivative products traded on exchange) should be considered a desirable characteristic of the UPI.

3.13 Precision

The UPI reference data should be well articulated, and should be specific with sufficient detail and level of granularity to enable regulators to fulfil their regulatory responsibilities.

Explanatory business specification:

The UPI reference data should, as far as practicable, describe relevant data items with sufficient distinctiveness and specificity to meet regulators' needs, including the efficient and effective aggregation of data. The level of distinctiveness and specificity could be determined separately by asset class.

3.14 Public dissemination

The UPI should support the public dissemination of OTC derivatives data as may be required by a particular jurisdiction.

Explanatory business specification:

Public dissemination of OTC derivatives transactions involving highly granular UPIs could, in specific situations, potentially disclose the identity of a counterparty to the trade, particularly for thinly traded derivatives contracts and concentrated markets. Depending on the granularity of the ultimate UPI reference data elements, regulators should consider how to apply the UPI for the public dissemination of transactions in light of jurisdiction-specific considerations about what transaction information could be regarded as confidential or sensitive.

3.15 Representation⁹

The format and representation (eg character sets) of the UPI code should be such that the UPI code can be transmitted through generally accepted communication means for financial transactions and be legible and visible on computer displays.

The UPI system should include a single, globally applicable format and representation of the UPI code.

⁹ As this new principle refers specifically to the UPI code, it is being added to this second consultative report. Please refer to Section 5 for additional discussion of this subject, and various questions for commenters regarding the potential representation of UPI codes.

4. UPI precision and granularity in relation to use case

4.1 Summary of discussion in the first consultative report

The discussion of the level of granularity proposed in the first consultative report included the following:

- (i) Applicability of use cases in addition to regulatory use cases related to aggregation.
- (ii) Including identifiers of the asset(s) or index (indices) underlying the transaction.
- (iii) Availability and management of identifiers and reference data.

4.1.1 Applicability of use cases in addition to regulatory use cases related to aggregation

The CPMI and IOSCO, in reviewing feedback on the first consultative report on the UPI, considered use cases such as compression and calculation of positions and risk that would require a much higher level of granularity than was proposed in the first consultative report. In considering whether such industry-use cases should be included in its final guidance for the level of granularity to be addressed by the UPI, it was concluded that addressing use cases outside the regulatory-use cases related to aggregation was beyond the scope of the mandate of this workstream. However, depending on the final guidance issued on the UPI, it might still be possible for the UPI to be used as a foundation on which other use cases could be based, although this might require higher levels of granularity through the addition of the appropriate data elements. Determination of what elements would be needed to address such use cases, and how the UPI could be extended to cover such additional use cases, is outside the scope of the CPMI-IOSCO mandate for the UPI.

4.1.2 Including identifiers of the asset(s) or index (indices) underlying the transaction

Comment on the first consultative report generally suggests that an identifier for the underlying asset(s) or index (indices) should be included as part of the UPI. The CPMI and IOSCO have identified various challenges in connection with including an identifier for the underlying. These include a lack of formally recognised identifiers for underliers in some asset classes and how identifiers for underliers would be verified and maintained. On a technical level, the CPMI and IOSCO are considering whether having the identifier for the underlier being accompanied by its source would address some of these challenges. Another consideration is the inclusion of proprietary benchmarks and indices in either publicly available reference data or as part of a publicly disseminated UPI. Such information is obviously necessary for proper aggregation to determine risk exposure, but may raise governance issues.

With regard to Principle 3.14, Public Dissemination, the CPMI and IOSCO are considering how to address the possibility that including an identifier for an underlying asset in the UPI code could, in specific situations, potentially undermine the confidentiality of the parties to a transaction. In some cases, such as if the identifier were sufficiently granular as to reveal the delivery point of a commodity, or the constituents of an underlying basket of for example equity assets, it could be possible to infer the identity of one or more of the parties involved in a particular transaction. Such considerations related to the specificities of confidentiality requirements of publicly disseminated data are left to the discretion of individual jurisdictions.

4.1.3 Availability and technical management of identifiers and reference data

The availability and technical management of identifiers and reference data will pose a significant challenge to the implementation of the UPI. There are two classes of identifier to be considered: the UPI code itself; and the identifiers for the underlying assets(s) and index (indices). The UPI should represent a combination of data describing the derivative instrument and data identifying the asset(s) or index (indices) underlying the associated contract. As mentioned previously, the lack of formally recognised

identifiers for underliers in some asset classes (eg commodities) and the way identifiers for underliers would be verified and maintained pose significant challenges. Additionally, currently available identifiers for underlying assets and indices are a mix of proprietary and open-source offerings. Such issues go beyond the technical discussion and are left to be addressed by the FSB working group on UTI/UPI governance.

4.2 Levels of granularity of reference data

When discussing the level of granularity of the reference data elements, a distinction is made between the less granular reference data related to the OTC derivative product and the more granular reference data related to the identifier of the asset(s) or index (indices) underlying the product. For example, at the product level, it may be enough to know that a credit default swap (CDS) has a single specific underlying corporate reference obligation, while details such as the credit rating are particular to the underlying asset. Under this approach, the reference data for the UPI would contain only the identifier for the underlying asset(s) and index (indices). The reference data related to the identifier for the underlying asset(s) and index (indices) are often maintained by whatever authority is deemed responsible, such as a national numbering agency or benchmark administrator.

Descriptions of suggested UPI reference data elements

Data element name	Data element description
Asset class	Indicates whether the asset, index or another derivatives contract underlying a derivatives contract is, or references, an equity, rate, credit, commodity or foreign exchange asset.
Currency pair	A currency pair underlying a foreign exchange derivative.
Delivery type	Indicates whether a derivatives contract will deliver a physical asset or a cash equivalent at settlement.
Instrument type	Indicates whether an instrument is a swap, option or forward.
Notional schedule	Indicates whether a notional schedule is constant, amortising, accreting or custom.
Option style	Specifies when an option can be exercised. The value "European" specifies that an option can only be exercised on the expiration date; "American" specifies that an option can be exercised any time up to and including on the expiration date; and "Bermudan" specifies that an option can be exercised only at specified times during the life of the contract. Bermudan -style options include variations such as Canary- and Verde -style options.
Option type	Specifies whether an option gives the buyer the right to buy the underlying, ie "Call", the right to sell the underlying, ie "Sell", or the right to choose whether to buy or sell the underlying at the time of exercise, ie "Chooser".
Return, pricing method or payout trigger	Return values indicate how a contract's payout is determined; Pricing Method values indicate how a contract is valued; Payout Trigger values indicate an event that would result in a contract paying out.
Seniority	Indicates the seniority of the debt, or debt basket or index underlying a derivative.
Settlement currency	The currency delivered at the time of settlement.
Single or multiple currency	Indicates whether a single or multiple currencies underlie a derivative.
Single or multiple tenor	Indicates whether a single or multiple tenors of an index underlie a derivative.
Underlier ID	An identifier that can be used to determine the asset(s) or index (indices) underlying a contract.
Underlier ID source	The origin, or publisher, of the associated underlier ID.
Underlying asset/contract type	A high -level description of the characteristics of an asset, index or contract underlying a derivative.
Underlying asset/contract subtype	A lower level description of the characteristics of an asset or contract underlying a derivative.
Underlying credit index series	A number reflecting the constituents of an index for a given period of time.
Underlying credit index version	A number reflecting any changes to the constituents of an index during the lifetime of the series.
Underlying rate index tenor period	The unit of time for the tenor of an index (eg day, week, month).
Underlying index tenor period multiplier	The number of time units for the tenor of an index.

Possible UPI reference data element values by asset class

Asset class: Credit

Suggested UPI reference data element	Possible UPI reference data element values		
Asset class	Credit		
Instrument type	Swap	Option	Forward
Option style	N/A ¹⁰	European, American, Bermudan etc	N/A
Option type	N/A	Put/receiver, Call/payer, Chooser etc	N/A
Return, pricing method or payout trigger	Credit Default, Total Return, First to Default, Nth to Default, Contingent, Recovery etc	Vanilla, Lookback, Other Path Dependent etc	Spread, Forward price of underlying instrument etc
Delivery type	Cash, Physical etc		
Underlying asset/contract type	Single name (CDS), index (CDS), (CDS on) index tranche etc		
Underlying asset/contract subtype	Sovereign, Municipal, Corporate, Loan pools etc		
Seniority	Senior, Subordinate etc		
Underlier ID source	<i>See description</i>		
Underlier ID	<i>See description</i>		
Underlying credit index series	eg 1, 2, 3, 4, ...		
Underlying credit index version	eg 1, 2, 3, 4, ...		

¹⁰ Throughout these tables, "N/A" denotes "not applicable".

Asset class: Rates

Suggested UPI reference data element	Possible UPI reference data element values		
Asset class	Rates		
Instrument type	Swap	Option	Forward
Option style	N/A	European, American, Bermudan etc.	N/A
Option type	N/A	Put, Call, Chooser etc	N/A
Return, pricing method or payout trigger	N/A	Vanilla, Asian, Digital (Binary), Barrier, Digital Barrier, Lookback, Other Path Dependent, Other, Cap, Floor etc	Spreadbet, Forward price of underlying instrument, Forward rate of underlying X notional, Contract For Difference etc
Notional schedule	Constant, Accreting, Amortising, Custom etc.	N/A	N/A
Single or multiple currency	Single Currency, Cross Currency	N/A	N/A
Single or multiple tenor	N/A	N/A	Single, Multiple etc
Delivery type	Cash, Physical etc.		
Underlying asset/contract type	Basis swap, Fixed – Floating, Fixed – Fixed, Inflation, OIS, Zero Coupon, Other etc	Interest Rate Index, Swaps – Basis swap, Swaps –Fixed/ Floating, Swaps –Fixed/Fixed, Swaps – Inflation, Swaps – (OIS), Options, Forwards, Futures, Other etc	Interest Rate Index, Options, Other, Single Name, Basket etc
Underlier ID source	<i>See description</i>		
Underlier ID	<i>See description</i>		
Underlying rate index tenor period	Day, week, month, year, term etc		
Underlying rate index tenor period multiplier	eg 1, 2, 3, 4, ...		

Asset class: Commodities

Suggested UPI reference data element	Possible UPI reference data element values		
Asset class	Commodities		
Instrument type	Swap	Option	Forward
Option style	N/A	European, American, Bermudan etc	N/A
Option type	N/A	Put, Call, Chooser etc	N/A
Return, pricing method or payout trigger	Contract for Difference, Total Return, Excess Return, Loan/Lease, Physical Commodity, Value of underlying asset, Location Basis, Quality Basis, Calendar Basis etc	Vanilla, Asian, Digital (Binary), Barrier, Digital Barrier, Lookback, Other Path Dependent, Other, Cap, Floor etc	Spreadbet, Forward price of underlying asset, Contract For Difference etc
Delivery type	Cash, Physical, Elect at Settlement etc		
Underlying asset/contract type	Energy, Precious Metals, Non-Precious Metals, Agriculture, Environmental, Freight, Polypropylene Products, Paper, Fertiliser, Index, Multi Commodity, Other etc		
Underlying asset/contract subtype	Aluminium, Azuki Beans, Baltic Exchange – Dry Bulk Routes, Baltic Exchange – Wet Bulk Routes, Barley, Benzene, Butter, Canola, 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, Natural Gas, Natural Gas Liquids, Newsprint, Nickel, Oats, Oil, Orange Juice, Palladium, Palm Oil, Plastics, 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, Other		
Underlier ID source	<i>See description</i>		
Underlier ID	<i>See description</i>		

Asset class: Equities

Suggested UPI reference data element	Possible UPI reference data element values		
Asset class	Equities		
Instrument type	Swap	Option	Forward
Option style	N/A	American, European, Bermudan etc	N/A
Option type	N/A	Put, Call, Chooser etc	N/A
Return, pricing method or payout trigger	Price, Dividend, Total Return, Variance, Volatility, Contract for Difference (CFD) etc	Vanilla, Asian, Digital (Binary), Barrier, Digital Barrier, Lookback, Other Path Dependent, Other etc	Spreadbet, Forward Price of underlying instrument etc
Delivery type	Cash, Physical, Elect at Settlement etc		
Underlying asset/contract type	Single name, Index, Basket etc	Single name, Index, Basket, Options, Forwards, Futures etc	Single name, Index, Basket, Options, Futures etc
Underlier ID source	<i>See description</i>		
Underlier ID	<i>See description</i>		

Asset class: FX

Suggested UPI reference data element	Possible UPI reference data element values		
Asset class	FX		
Instrument type	Swap	Option	Forward
Option style	N/A	American, European, Bermudan etc	N/A
Option type	N/A	Put, Call, Chooser etc	N/A
Return, pricing method or payout trigger	N/A	Vanilla, Asian, Digital (Binary), Barrier, Digital Barrier, Lookback, Other Path Dependent, Other etc	CFD, Spreadbet, Forward Price of underlying instrument etc
Delivery type	Cash, Physical, Elect at Settlement etc		
Underlying asset/contract type	Spot-forward, Forward-forward etc	Forwards, Futures, Spot, Volatility etc	Spot, Forward, Options, Futures etc
Currency pair	eg ISO 4217 currency code		
Settlement currency	eg ISO 4217 currency code		

With respect to the degree of granularity for identifying the underlying asset(s) or index (indices), the CPMI and IOSCO invite commenters to respond to the following questions:

Question 1: Do you believe that the data elements within each asset class described above are appropriate? Why or why not? If there are additional subcategories that you believe should be included for one or more asset classes, please describe them and discuss why you believe they should be included.

Question 2: Do you believe generally that the value "Other" is required in certain data elements? If so, which ones and why?

Question 3: For an OTC derivative product based on a custom basket of securities or assets, please provide your view of the optimal means of representing that OTC derivative product. Do you believe that it is practical to include all of the underlying securities or assets and their risk weights in the UPI reference data? If not, how do you believe that the elements of the custom basket and their risk weights should be reported to a TR?

Question 4: How should underlying assets and reference entities be represented in the UPI reference data library? Would LEIs be suitable, at least for corporate reference entities? Why or why not? Are there suitable identifiers for indices? If not, is it feasible to use an existing identifier such as an ISIN code for them?

Question 5: Do you envisage any obstacles to including the source of the identifier for the underlier as part of the reference data element for the underlier? Please explain and justify.

Question 6: Could there be issues related to including proprietary benchmarks and indices in publicly available reference data or publicly disseminated UPIs? Please elaborate on any issues such as licensing that may exist.

5. From reference data to the UPI code

5.1 Intelligent and dummy codes

As noted above in Section 1.3, the UPI encompasses both reference data and a system of codes for identifying specific OTC derivative products. As used in this discussion, the term “UPI code” denotes a unique set of characters that represents a particular OTC derivative product. Each OTC derivative product should have its own UPI code. Each OTC derivative product should have a UPI code that differs from the UPI code of every other OTC derivative product.

A UPI code could be either a “dummy code” or an “intelligent code”. A “dummy code” is defined as a code whose content has no inherent meaning: the meaning is contained only in the associated reference data. A UPI code system using dummy codes would therefore require reference data where UPI codes could be looked up to reveal the characteristics of the OTC derivative product having a particular UPI code.

An “intelligent code”, by contrast, would represent any characteristic common to different products in the same way in each product’s UPI code.¹¹ Thus, the characteristics of the OTC derivative product identified by an intelligent code could be inferred from the different characters (or groups of characters) that constituted that code.¹² However, it is essential that an intelligent code system have a “user guide” explaining acceptable values within each part of the overall code.

The intelligent code would possibly be of variable length (to accommodate both the fact that different products have different sets of characteristics and because the definition of the underlier(s) would require a variable set of data).

Both dummy codes and intelligent codes could have different uses in different jurisdictions. The CPMI and IOSCO preliminarily understand that, once the UPI reference data library has been established, it could support either a dummy UPI code or an intelligent UPI code, or both. This report seeks comment on the extent to which, and how, the UPI system could support a feature whereby a particular OTC derivative product could be represented with both a dummy code and an intelligent code.

5.2 The code format and representation

This consultative report raises the following additional considerations regarding the format and representation of the UPI codes.

The length of the UPI codes should be such that the number of possible code combinations can accommodate any new OTC derivative products that may be developed, but short enough so that manual entry of a UPI code is practical.

For a dummy code, the CPMI and IOSCO preliminarily believe that a UPI code system involving only a limited number of characters could be viable. The CPMI and IOSCO observe that a UPI code system using as few as six characters (consisting of Indo-Arabic numerals and/or Roman letters) could cover over 2 billion different OTC derivative products. The CPMI and IOSCO are not at this time recommending an approach using only six characters, but seek comment on what would be an optimal length for dummy UPI codes.

If an intelligent code is to be used, then there will have to be a way of encoding the various possible values. This could range between single characters for some of the attributes and a more verbose,

¹¹ By way of a very simple and stylised example, a UPI code system could use the first character of each code to denote the asset class (eg C = credit, E = equity, R = rates, K = commodity, F = foreign exchange and X = other).

¹² Thus, using the stylised example from the previous footnote, any UPI code beginning with the letter “E” would denote some type of OTC derivative product that is based solely on an equity security.

human-readable approach. The CPMI and IOSCO seek comment on what would be the most appropriate way to construct an intelligent code (incorporating each of the different subcategories of information outlined in Section 4.2) and what this would mean for its length.

5.3 How underliers should be included

As discussed above in Section 4, the CPMI and IOSCO now believe that at least some information about the underlying asset(s), index (indices) or reference entity (entities) (collectively, “underliers”) should be reflected in the UPI, although it remains to be determined how much information about the underliers should be thus reflected. In the case of a dummy UPI code, such information about underliers would be maintained in a reference data library to which the public would have access. For an intelligent UPI code, a representation of the underliers would presumably be incorporated into the code in some fashion. However, it is unclear at this time how the underliers should be represented (eg whether the representation of the underlier information within an intelligent UPI code should itself be intelligent or dummy, and how many characters would be needed within an intelligent UPI code to represent the underliers).

The UPI code system should be jurisdiction-agnostic, as far as practicable. One of the issues being considered is whether it would be consistent with this criterion for UPI codes to include Roman letters. It is assumed that Indo-Arabic numerals are sufficiently jurisdiction-agnostic to be suitable. If it is ultimately determined to use only Indo-Arabic numerals, both dummy and intelligent UPI codes would satisfy the criterion of being jurisdiction-agnostic, as neither is dependent on using Roman letters.¹³ Furthermore, even if Roman letters were disallowed from the UPI code system, there would still be 1 million possible code combinations using only six digits (10^6), and 10 billion possible code combinations using 10 digits (10^{10}).

The CPMI and IOSCO invite commenters to respond to the following questions:

Question 7: What are the arguments for and against the use of a dummy UPI code or an intelligent UPI code, or having both types of code coexisting?

Question 8: Do you agree that a well-articulated UPI reference data library could support interoperability between dummy UPI codes and intelligent UPI codes? Why or why not? What steps could be taken with the UPI reference data to facilitate supporting both types of UPI code?

Question 9: What are the minimum and maximum lengths (in terms of number of characters) that you believe the industry could accommodate for a UPI code system? How does this vary between dummy and intelligent codes? What do you believe is the optimal number of characters, and why?

Question 10: For intelligent codes, how should the information be encoded? Are there existing models for this? How much adaptation would existing models require in order to meet the needs described in this consultation?

Question 11: Do you believe that UPI codes should have an inherent means of validation? For example, should UPI codes include a check digit? Why or why not? Does this vary between dummy and intelligent codes and/or depend on the encoding method used in an intelligent code?

Question 12: Another means of having a simple, partial validation for a UPI code would be for all UPI codes to be of uniform length: thus, any code that was not of the required length could be recognised as prima facie invalid. Do you believe that all UPI codes should be of uniform length? Why or why not? Or are optimal UPI codes of one asset class likely to be longer or shorter than optimal UPI codes for other asset classes? If so, do you believe that extra dummy characters should be inserted into the shorter codes to make them of the uniform length? Why or why not?

¹³ For example, in the example provided in footnote 11 regarding an intelligent UPI code system, instead of {C = credit, E = equity, R = rates, K = commodity, F = foreign exchange and X = other} the UPI code system could provide for the following: {1 = credit, 2 = equity, 3 = rates, 4 = commodity, 5 = foreign exchange and 6 = other}.

Question 13: For an intelligent UPI code, how should the underlying asset(s) or reference entity (entities) be represented within the UPI code? Would it be preferable for the part of the UPI code that represents the underlying asset(s) or reference entity (entities) to be dummy while the rest of the code is intelligent? Why or why not?

Question 14: Should the UPI code system avoid using Roman letters? Why or why not? Are there particular jurisdictions whose computer systems cannot accommodate Roman letters?

Question 15: Would it be preferable for the UPI code to use only Roman letters, only Indo-Arabic numerals, or a combination of the two? Why? If Roman letters are included in the UPI code system, should they avoid being case-sensitive? If the UPI code system uses both Roman letters and Indo-Arabic numerals, should the system not disallow particular characters that could be mistaken for each other (the lower-case letter "l" and the number "1", the digit "0" and the upper-case letter "O" etc).

6. Summary of the consultation questions

Question 1: Do you believe that the data elements within each asset class described above are appropriate? Why or why not? If there are additional subcategories that you believe should be included for one or more asset classes, please describe them and discuss why you believe they should be included.

Question 2: Do you believe generally that the value "Other" is required in certain data elements? If so, which ones and why?

Question 3: For an OTC derivative product based on a custom basket of securities or assets, please provide your view of the optimal means of representing that OTC derivative product. Do you believe that it is practical to include all of the underlying securities or assets and their risk weights in the UPI reference data? If not, how do you believe that the elements of the custom basket and their risk weights should be reported to a TR?

Question 4: How should underlying assets and reference entities be represented in the UPI data library? Would LEIs be suitable, at least for corporate reference entities? Why or why not? Are there suitable identifiers for indices? If not, is it feasible to use an existing identifier such as an ISIN code for them?

Question 5: Do you envisage any obstacles to including the source of the identifier for the underlier as part of the reference data element for the underlier? Please explain and justify.

Question 6: Could there be issues related to including proprietary benchmarks and indices in publicly available reference data or publicly disseminated UPIs? Please elaborate on any issues, such as licensing, that may exist.

Question 7: What are the arguments for and against the use of a dummy UPI code or an intelligent UPI code, or having both types of code coexisting?

Question 8: Do you agree that a well-articulated UPI reference data library could support interoperability between dummy UPI codes and intelligent UPI codes? Why or why not? What steps could be taken with the UPI reference data to facilitate supporting both types of UPI code?

Question 9: What are the minimum and maximum lengths (in terms of number of characters) that you believe the industry could accommodate for a UPI code system? How does this vary between dummy and intelligent codes? What do you believe is the optimal number of characters, and why?

Question 10: For intelligent codes, how should the information be encoded? Are there existing models for this? How much adaptation would existing models require in order to meet the needs described in this consultation?

Question 11: Do you believe that UPI codes should have an inherent means of validation? For example, should UPI codes include a check digit? Why or why not? Does this vary between dummy and intelligent codes and/or depend on the encoding method used in an intelligent code?

Question 12: Another means of having a simple, partial validation for a UPI code would be for all UPI codes to be of uniform length: thus, any code that was not of the required length could be recognised as prima facie invalid. Do you believe that all UPI codes should be of uniform length? Why or why not? Or are optimal UPI codes of one asset class likely to be longer or shorter than optimal UPI codes for other asset classes? If so, do you believe that extra dummy characters should be inserted into the shorter codes to make them of the uniform length? Why or why not?

Question 13: For an intelligent UPI code, how should underlying the asset(s) or reference entity (entities) be represented within the UPI code? Would it be preferable for the part of the UPI code that represents the underlying asset(s) or reference entity (entities) to be dummy while the rest of the code is intelligent? Why or why not?

Question 14: Should the UPI code system avoid using Roman letters? Why or why not? Are there particular jurisdictions whose computer systems cannot accommodate Roman letters?

Question 15: Would it be preferable for the UPI code system to use only Roman letters, only Indo-Arabic numerals, or a combination of the two? Why? If Roman letters are included in the UPI code system, should they avoid being case-sensitive? If the UPI code system uses both Roman letters and Indo-Arabic numerals, should the system not disallow particular characters that could be mistaken for each other (the lower-case letter "l" and the number "1", the digit "0" and the upper-case letter "O" etc).

Annex 1 – List of members of the Harmonisation Group

This report was produced for the CPMI and IOSCO by the working group on the harmonisation of key OTC derivatives data elements (Harmonisation Group).

Co-chairs:	Marc Bayle European Central Bank John Rogers US Commodity Futures Trading Commission
Vice-chairs:	Markus Mayers European Central Bank Srinivas Bangarbale US Commodity Futures Trading Commission
Members:	
Canada	Steve Badra-Quirion Autorité des Marchés Financiers Shaun Olson Ontario Securities Commission Yani Wu Ontario Securities Commission
China	Haibo Cheng (until May 2016) China Securities Regulatory Commission Hailong Li (since May 2016) China Securities Regulatory Commission
France	Franck Lasry Autorité des Marchés Financiers Claudine Hurman Bank of France Laurent Kersenbaume Bank of France
Germany	Olaf Kurpiers Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)
Hong Kong SAR	Pansy Pang Hong Kong Monetary Authority
Italy	Carlo Bertucci Bank of Italy
Japan	Daisuke Yamazaki Financial Services Agency
Mexico	Roberto Toledo-Cuevas Bank of Mexico
Netherlands	Marinus Jeuken Netherlands Bank
Russian Federation	Ekaterina Abasheeva Central Bank of the Russian Federation
Singapore	Justin Wong (since October 2015) Monetary Authority of Singapore
United Kingdom	Michael Yoganayagam Bank of England John Tanner Bank of England

United States	<p>Celso Brunetti (until January 2016) Board of Governors of the Federal Reserve System</p> <p>Jeff Monica (since February 2016) Board of Governors of the Federal Reserve System</p> <p>Kate Dolan Commodity Futures Trading Commission</p> <p>Kate Mitchel Commodity Futures Trading Commission</p> <p>Janaki Naga Commodity Futures Trading Commission</p> <p>Esen Onur Commodity Futures Trading Commission</p> <p>Robert Stowsky Commodity Futures Trading Commission</p> <p>Kim Allen Securities and Exchange Commission</p> <p>Michael Gaw Securities and Exchange Commission</p> <p>Carol McGee Securities and Exchange Commission</p> <p>David Michehl (since November 2015) Securities and Exchange Commission</p> <p>Narahari Phatak Securities and Exchange Commission</p>
European Central Bank	<p>Linda Fache Rousová (until July 2016)</p> <p>Christine Jozet</p> <p>Malgorzata Osiewicz</p> <p>Olgerd Unger</p> <p>Grzegorz Skrzypczyński</p>
European Securities and Markets Authority	<p>Giulia Ferraris</p> <p>Joanna Lednicka</p> <p>Olga Petrenko</p>
Observers:	
United States	<p>Thomas Brown Office of Financial Research</p> <p>Cornelius Crowley (until April 2016) Office of Financial Research</p> <p>William Nichols Office of Financial Research</p> <p>Paul D'Amico Office of Financial Research</p> <p>Justin Stekervetz (since January 2016) Office of Financial Research</p>
European Insurance and Occupational Pensions Authority	<p>Patrick Hoedjes</p> <p>Katarzyna Wojtkiewicz</p>
European Banking Authority	<p>Giuseppe Cardi Gabriel</p>
FSB Secretariat	<p>Pietro Franchini (until December 2015)</p> <p>Mark Chambers (since January 2016)</p>
Secretariats:	
Committee on Payments and Market Infrastructures	<p>Cristina Picillo</p> <p>Philippe Troussard</p>
International Organization of Securities Commissions	<p>Verinder Sharma</p>