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Submitted electronically to fsb@fsb.org

Re: Financial Stability Board Consultation Document regarding “Governance Arrangements for the UPI: Key Criteria and Functions” (October 3, 2017)

IHS Markit (Nasdaq: INFO) is pleased to provide its comments regarding the Consultation Document entitled “Governance Arrangements for the UPI: Key Criteria and Functions” (“CD”) to the Financial Stability Board (“FSB”)’s Working Group on UTI and UPI Governance (“GUUG”).

I. Introduction

IHS Markit is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 key business and government customers, including 80 percent of the Fortune Global 500 and the world’s leading financial institutions.

IHS Markit’s Reference Entity Database (“RED”) has been providing legally verified reference data across credit, loan, and fixed income asset classes to the industry. IHS Markit’s reference data for credit default swaps (“CDS”) has been servicing the credit OTC derivatives industry for more than a decade and is an integral part of credit workflows. The RED service has two core components. First, there are Reference Entity Database Codes or “RED6 Codes.” The RED6 Code is a six-digit code that corresponds to a particular reference entity. Second, there is the nine-digit RED Pair Code or “RED9 Code” that is a nine-digit code representing a unique reference obligation with a corresponding reference entity. These RED6 Codes are market standards and are deeply embedded in the pre- and post-execution credit trading workflows. These identifiers are also widely used in risk analytics, pricing and valuations, trade confirmations, electronic trading, clearing, settlement and trade allocations.

II. Summary

The global UPI initiative has the potential of greatly enhancing the utility of OTC derivatives reporting data by greatly facilitating regulators’ aggregation of this data through the standardized representation of products. We support this purpose and intend to help regulators move forward with a plan to increase their ability to aggregate and therefore utilize derivatives data.

The RED database enables IHS Markit to deploy a UPI solution for credit easily and the provides us the data management expertise to manage UPIs in other asset classes.¹ For the asset classes we are recognized to be a UPI Service Provider, we would deliver the UPI in a manner compliant with the GUUG UPI Governance Framework, the UPI technical standard, and authorities' respective reference data requirements for the UPI.

If the GUUG implements our suggestions below and sets forth a Lean UPI Governance Framework aligned with the Public Interest mandate underpinning the global UPI initiative, we believe that a delivery of a comprehensive and reliable credit UPI database could be easily delivered by the end of 2019.² Other asset classes, depending on complexity could also likely be delivered sometime between end-2019 and end-2020. On the other hand, a UPI Governance Framework with an open-ended purpose that strays from the Public Interest, complex (not Lean) governance regime, with UPI Service Provider(s) that lack expertise would take much longer to deliver UPIs needed to support regulators' data aggregation needs and unnecessarily re-engineer reference data markets, likely giving rise to unintended negative policy consequences.

Our recommendations can be summarized in five key points:

First, we propose the use of what we term a “Green code” to enhance the UPI’s contribution to regulators’ ability to aggregate derivatives data, the core purpose of the UPI initiative. The Green code could also enhance the transparency benefit of publicly-available UPIs and regulatory reporting data. The Green code would be a unique code used to represent uncoded underliers, e.g., reference entities, rates, prices, and indexes that can be represented in varying ways when described through plain language text. The Green code is described in the appendix of this letter.

Second, the GUUG should clarify that the UPI Public Interest criterion for the UPI Governance Framework be tied to the explicit purpose of the UPI: to facilitate regulators’ aggregation of data. Until it has a clear mandate to do so, the global UPI initiative should not be used to re-engineer derivatives product reference data market.

Third, the GUUG should set strict requirements on a UPI Service Provider to prevent abuse of the regulatorily guaranteed position of such a firm to prevent conflicts of interest and abuse. For example, the UPI Service Provider should be prohibited from bundling or otherwise profiting from being a UPI Service Provider.

Fourth, the GUUG should create a Lean and transparent governance regime whereby the UPI Service Provider operates under clearly defined criteria subject to oversight by regulators and dialogue with the public. Complex public-private governance models are unnecessary in the product identifier context given that the

¹ See appendix below regarding “Green” codes for uncoded underliers.

² This is assuming that the GUUG publishes a final report by the end of 2018.

market for product reference data is relatively mature that does not have the collective action problem and lack of existing reference data sets that would justify the public-private governance that applies for other categories of reference data.

Finally, the GUUG should aim to adopt a service provider model that minimizes costs and that can more expeditiously develop the UPI for all asset classes. We think the single asset class / single UPI Service Provider model best addresses these goals.

III. Answers to CD Questions

Q2. Are there ways in which any of the key criteria should be modified? If so, which ones and how?

We support the criteria for the Governance Arrangements but recommend two clarifications:

1. Public Interest

We recommend clarifying the Public Interest criterion to bind the Governance Framework to the Public Interest underpinning the UPI initiative and not any other purpose to be defined later. The Public Interest criterion provides that the UPI “governance should be driven by the public and regulatory interest.”³ The rationale behind the Public Interest criterion focuses on improving transparency in the OTC derivatives markets, mitigating systemic risk, and protecting against market abuse by having all OTC derivatives transactions reported to a trade repository (TR).⁴ A UPI furthers the efficacy of public reporting by providing an effective means to uniquely and consistently identifying OTC derivative products, thereby facilitating regulators’ aggregation of OTC derivatives data held in TR.⁵ Facilitating the aggregation of OTC derivatives data is therefore the public and regulatory interest that is at the core of the UPI’s legal basis.

The GUUG should clarify that any UPI Governance Arrangement is bound by the Public Interest that prompted the UPI and not create room to extend the Public Interest beyond its intended scope except when supported by law or G20 commitment. Any changes to the UPI, i.e. the UPI Governance Arrangements, the UPI Technical Guidance and UPI System, should be solely based on needs consistent with the clearly stated Public Interest criterion.

Without this clarification, future UPI Governance Arrangements, an activist portion of the industry or regulatory community could succeed in expanding the purpose of the UPI, e.g., to benefit certain market participants, by reducing their need to license reference

³ CD at 5.

⁴ Id.

⁵ Id.

data, at the expense of others, e.g., those that invest in developing such data. We understand that some market participants and regulators envision expanding the purpose of the UPI to extend beyond public transparency and regulatory data aggregation purposes to provide an alternative to proprietary data, e.g., reference data and benchmarks.

In the case of credit reference data, the fact would remain that for trading and settlement use cases the UPI lacks the Precision and Comprehensiveness to be an adequate substitute to proprietary reference data. This would mean that in order to meet the trading and settlement use case for the UPI, the UPI Governance Arrangements, the UPI Technical Guidance and UPI System would have to be modified to meet trading and settlement use cases. Such an expansion of the scope of the UPI purpose would not comply with existing G20 mandates or GUUG members' legal mandates. The consequences of this UPI "mission creep" would be that producers of high-quality reference data (and any other proprietary data provider, such as benchmark publishers) would have reduced incentive to continue to invest in these products since they can be used for trading and settlement purposes without a license. This could to a "tragedy of the commons" for the derivatives data markets.

What is the "tragedy of the commons?" The story of the "tragedy of the commons" comes from the 19th century when William Forster Lloyd observed that in a public grazing pasture (the "commons"), each herder has the private incentive to graze the commons without regard to the costs of such grazing to the community. When all of the herders respond to these incentives, the pasture is not adequately maintained and becomes barren and overgrazed.⁶

When the public UPI begins to replace private reference data and benchmarks then the reference data and benchmarks industries will likely see a dramatic drop in investment, e.g., when it is no longer necessary to license underlying reference data or benchmark because one could use a UPI that contains such reference data or benchmark, particularly if there are no usage restrictions whatsoever that apply to the UPI or the UPI Reference Data Library. The "tragedy" of the product reference data market can also occur when certain use cases of the UPI replace core use cases of proprietary data leading the data vendor to have to choose between terminating a data product or to charge very high fees to recoup investment for non-core use cases.⁷ This would not be the case if the Public Interest clarification we recommend is adopted.

⁶ See e.g., The Tragedy of the Commons, Garret Hardin, Science, Dec. 13, 1968, available at <http://science.sciencemag.org/content/162/3859/1243.full>.

⁷ For example, if IHS Markit no longer performs legal validation of entities that do not have validated reference entity code, there would a risk of a break for credit derivatives based on such underliers, e.g., where the underlier code is an unvalidated LEI or more categorically where there is no LEI for the underlier. In such a circumstance, an out-of-the-money counterparty may succeed in frustrating settlement by citing such reference data breaks. This is not a theoretical concern, this is what drove the industry to begin to use RED codes and support the investment required to build RED codes.

We do not believe it is the intention of G20 or all regulators to designate the UPI Governance Arrangement as a regulator-backed derivatives product data monopoly. In order for the UPI Governance Arrangement to meet the reference data and benchmark needs of the industry, beyond the current UPI Public Interest mandate, it would have to build a massive bureaucracy. If such a bureaucracy is intended, it should be supported by a G20 mandate or new laws supporting such a mandate across the globe.

Without making the Public Interest clarification we recommend, the GUUG could be intervening in the markets in a manner that may be contrary to international investment law. If the GUUG or any national authority endorses a UPI Governance Framework that would allow a UPI Service Provider to leverage their position as a publicly-endorsed utility to reduce the value of private data investments, e.g., reference benchmarks or other reference data, without the due process of law or policymaking amending the scope of the global UPI initiative, then this endorsement would resemble “indirect expropriation.”⁸

Finally, we note that we do not believe that the existing UPI technical standards nor the GUUG CD set forth a governance framework that are inherently problematic or disruptive, but we do think the potential for such a disruption is possible if the Public Interest clarification we recommend above is not adopted.

2. Intellectual Property

Second, we recommend clarifying the Intellectual Property criterion to explicitly recognize that in all jurisdictions the intellectual property of certain reference data elements, e.g., reference benchmarks, etc., that are a part of the UPI technical standards are subject to intellectual property rights, e.g., trademark and copyright.

Q3. Should the UPI System operate on a cost recovery model? If not, what is the suggested alternative and how does it fit with other governance criteria?

We think that the operating principle for the UPI cost recovery model is that the UPI Service Provider should be neither burdened or derive benefit from producing UPIs and maintaining the UPI Reference Data Library. In other words, the UPI should be deployed in a manner that is unbundled and revenue neutral.

Applying this principle to costs, the UPI System should operate on a cost recovery model. The danger is, however, that a UPI Service Provider could abuse such cost recovery. We therefore recommend that the GUUG develop clear guidelines as it relates to cost.

⁸ The 1992 World Bank Guidelines section IV (1) on “Expropriation and Unilateral Alterations or Termination of Contracts,” available at <http://documents.worldbank.org/curated/en/955221468766167766/pdf/multi-page.pdf>, provides that “[a] state may not expropriate or otherwise take in whole or in part a foreign private investment in its territory, or take measures which have similar effects, except where this is done in accordance with applicable legal procedures, in pursuance in good faith of a public purpose, without discrimination on the basis of nationality and against the payment of appropriate compensation.”

We also believe that the benefits of producing the UPI should be contained. For example, there should be no bundling of UPI with non-UPI services.

Q4. How should cost recovery be defined in the context of UPI? How should a UPI Service Provider be permitted to recover its costs? Should start-up, infrastructure, and initial creation of UPI Code costs be treated differently than ongoing maintenance and other continuing costs of operating a UPI Service Provider?

The most extensive costs for the UPI Service Provider are likely to occur at the start-up stage, i.e. when the UPI System infrastructure is built and the first and largest set of UPI codes and the UPI Reference Data Library are created. These costs are likely to be substantial and as such should be allowed to be amortized and recovered over a period of years at a rate that reflects a standard time cost of money. In contrast, operational costs should be estimated a year in advance.

Q5. How should costs be allocated amongst stakeholders?

The most equitable way to allocate costs among stakeholders is to charge stakeholders based on (1) frequency of use and (2) type of use. A market participant should be charged based on each look-up or UPI reference in a regulatory reporting record. Higher cost allocations should be charged to dealers and market infrastructures who derive the most value from reference data generally. UPI look ups and references that lead to the creation of a new UPI should be charged more to provide the UPI Service Provider funds to build the UPI Reference Data Library to help defray start-up costs. In no event should market observers, e.g., regulators, researchers, curious members of the public, be charged a fee to access the UPI Reference Data Library.

Q6. How should a UPI Service Provider provide its rationale for calculating cost recovery? What level of transparency and frequency of disclosure of cost by a UPI Service Provider is required to demonstrate that the UPI System is being administered on a cost-recovery basis? For example, should a UPI Service Provider be required to undertake an audit or other type of review of its costs? To whom should transparency be provided (e.g. to Authorities and/or the public) and under what circumstances?

The basis for cost recovery should be marginal cost. Cost recovery budgets should be developed annually and disclosed publicly at a balance sheet level. These cost recovery plans should be reviewed at a granular level annually through external audit. The cost of the external audit itself should be a cost included in the cost recovery plans. The external audit report should be made available to regulators mandating the use of the UPI.

A UPI Service Provider should be required to meet certain clear cost-recovery requirements with clearly defined rules to prevent opportunistic behavior. For example:

1. There should be no ability to bundle additional data or services through the UPI distribution channels, i.e. any data or services that may complement the UPI System but are not required to be a part of the UPI under a given jurisdiction's requirements should be delivered completely outside the UPI delivery system.
2. Revenues exceeding costs can only be used for specific purposes, i.e. (a) to cover future expenses or (b) to refund the UPI Service Provider for any capital set aside at start-up or (c) as recoupment of start-up costs not yet recovered.
3. Fair, reasonable, and non-discriminatory ("FRAND") terms should govern connectivity to the UPI, preferential access to Application Programming Interfaces ("APIs") should not be used as a mechanism to favor affiliates of the UPI Service Provider over others.
4. Outsourcing of any service, e.g., management services, should be on a fixed fee basis and under no circumstances as a percentage of revenues to prevent conflicts of interest.

Q7. Should there be different categories of users to describe entities that interact with the UPI Service Provider(s), utilise the UPI System, or access the UPI Reference Data Library in different ways, such as creation of a UPI Code versus leveraging an existing UPI Code, and at different frequencies? How should those categories be defined and should there be different associated costs based on the type and frequency of use of UPI Codes? How would different cost considerations apply to different aspects of the UPI System?

See answer to Q5 above.

Q8. Should access to, and use of, the UPI Reference Data Library (which includes the Data Elements therein) be unrestricted? If not, what types of usage restrictions would be appropriate and to whom should they apply? What would be the consequences, including for harmonisation, of having usage restrictions on the UPI Reference Data Library?

We recommend that the GUUG clarify that unrestricted use of the UPI and UPI Reference Data Library extend only to use cases consistent with the Public Interest, as described in our answer to Q2. It is at best inaccurate to say that the UPI Reference Data Library can be used without any restrictions, certain data elements are intellectual property, reference benchmarks, etc.

In many cases, any market participant involved in the use of a particular reference benchmark as a data input or reference rate for valuation, transactional, or benchmarking

purposes must obtain a license with the benchmark administrator.⁹ If a UPI and UPI Reference Data Library includes this benchmark and the UPI containing the proprietary benchmark is available for use without any use restriction whatsoever, then an opportunistic market participant can avoid the need to license the benchmark by referencing the UPI in commercial contexts, e.g., trading and settlement. This would make the benchmark industry susceptible to the “tragedy of the commons” scenario outlined in our answer to Q2 above.

Q9. Should the UPI Reference Data Library be subject to any intellectual property restrictions? If so, what types of restrictions would be appropriate? What would be the consequences of having any intellectual property restrictions on the use of, or access to, the UPI Reference Data Library?

Use of the UPI Reference Data Library should be unrestricted for uses consistent Public Interest basis for the global UPI initiative. Any uses that go beyond this and disrupt existing contractual relationships, trademark, copyright, or the proprietary nature of certain data elements contained in the UPI Reference Data Library should be prohibited without express written consent of the owner of that proprietary reference data or legally sound changes to the UPI mandate. See our answer to Q2 above.

Q10. Are there any types of ownership or membership structures of a UPI Service Provider that could create conflicts of interest? If so, please describe.

The UPI Service Provider should be a legally separated from any commercial business to avoid conflicts of interest. Any resources or products from any third-party, including the parent company of the UPI Service Provider should be provided on fair, reasonable, and non-discriminatory terms and subject to external auditor review.

Q11. What kinds of business continuity arrangements would it be reasonable to expect from a UPI Service Provider?

We believe that the UPI Service Provider should be subject to an specific business continuity requirements. The UPI Service Provider should also have a reliable and prompt mechanism to communicate service outages, planned or unplanned, with customers and regulators.

Q12. What Governance Frameworks for other universal identifiers should or should not be considered in designing the UPI Governance Arrangements and why?

⁹ “A licence is required by any party that: is involved in the use of LIBOR as a data input or reference rate for valuation, transactional, or benchmarking purposes; redistributes LIBOR to third parties; offers contracts for trading or clearing that reference LIBOR; and/or wishes to access ICE’s historical database of LIBOR rates.” ICE Benchmark Administration, Licensing and Distribution FAQ, Feb. 2015, available at https://www.theice.com/publicdocs/IBA_LICENSING_FAQ.pdf (emphasis added).

The UPI is distinguishable in that most of the metadata contents of the UPI Reference Data Library are already present in the marketplace and need to be rearranged and standardized to support the Public Interest goal of the UPI initiative. In contrast, the legal entity identifier (LEI) and unique transaction identifier (UTI) initiatives had no similar such precedent. Accordingly, the UPI should not proceed as though it were a completely new source of data and the GUUG should ensure that the UPI is complementary to the datasets that will be contained in the UPI Reference Data Library.

Q14. Do you agree with the two articulated areas of governance identified above?

Yes, we agree that the two areas of governance can be divided into (1) functions related to ongoing generation of UPIs and (2) functions associated with oversight of the UPI System.

Q17. Could a UPI Service Provider also be expected to develop human readable aliases for UPI Codes to satisfy the needs of particular jurisdictions or other stakeholders? Why or why not?

Yes, a UPI Service Provider could develop human readable aliases but regulators should be cognizant of the cost of doing so and that certain descriptors that are contained in the UPI Reference Data Library may have to be redacted. The cost of creating and maintaining such aliases should be borne by those subject to such a aliasing regime.

Q19. Which entity or entities (or type of entity) would be best placed to perform each of the above governance functions?

We believe the Lean criterion is most important for the governance model, i.e. the Governance Arrangements should not be unnecessarily complex or costly. This can be accomplished by clarity on the Public Interest underpinning the UPI, as discussed above, and by having the UPI Service Providers acting as the central self-regulatory organizations, subject to clear governance and data standard requirements, subject to regulatory oversight. Complex governance models with open-ended purposes like the Global LEI Foundation (“GLEIF”) should be avoided as they are inappropriate for UPIs.

The UPI Service Provider should be generally responsible for performing the governance functions subject to public (regulatory) oversight. Any material changes to the UPI System should be published through publicly available rule amendments and there should be a mechanism for the industry and others to comment on such rules. Regulators, in turn, can demand certain rule changes as a condition of their approval of the UPI Service Provider as a source of UPIs. Members of the public, including market participants, should be allowed to petition the UPI Service Provider with rule changes. In any case, whether it is the UPI Service Provider, the regulator, or the public, any policy changes should be consistent with the UPI Governance Framework and criteria.

In certain circumstances, it may be appropriate to have regulators perform the governance functions. For example, it is appropriate to have regulators carry out governance functions associated with implementation and the oversight of ongoing operations in close cooperation with the UPI Service Provider.

A complex, public-private hybrid, like the GLEIF would be inappropriate, unnecessarily complex, and slow down the implementation of the already stalled UPI. The LEI was developed to solve for a particular collective action problem, the problem of mapping the world of legal entities to facilitate aggregation of entity-level risk by regulators that had no precedent in the reference data market. Such a collective action problem benefitted from a broad representation among the industry through the GLEIF and among regulators through the LEI Regulatory Oversight Committee. In short, a public-private governance model without strict constraints has the potential of furthering certain private interests at the expense of other private interests with the legitimizing power of public backing.

In contrast, the UPI is emerging out of an existing reference data ecosystem. This is particularly true in the case of certain asset classes like credit where there is an existing proto-type for the credit UPI in IHS Markit's RED code. The UPI Governance Arrangement should therefore reflect the current market structure for product reference data and work with it, rather than against it.

Q20. Do you see a need for the UPI Reference Data Elements to be standardised by an International Standardisation Body and if so why? Are there aspects in which this would be impracticable? If so, please describe those aspects.

An International Standardisation Body can play a valuable role in standardizing UPI Reference Data Elements, such as the Green codes we propose in the appendix to this letter.

Q21. What benefits of implementation of the UPI, if any, do you see beyond OTC derivatives reporting? Please justify your answer.

While we stress that the explicit focus and benefits of the UPI should be on regulatory reporting. A UPI subject to a UPI Governance Framework commensurate with the underlying UPI Public Interest mandate can lead to enhanced innovation and competition. For asset classes lacking product reference data standards, the UPI will likely reduce transaction costs and operational risks. The UPI will also enhance the ability of reference data innovators to build off of the public UPI and public elements of the UPI Reference Data Library to create new reference data products, e.g., by mapping reference data products to the public UPI to serve new use cases or new products, e.g., trading and settlement.

We stress however that making transactional cost and operational risk reduction a purpose governing the future of the UPI Governance Framework will likely be

counterproductive as a reference data monopoly or “tragedy of the commons” scenario is more likely if the GUUG ignored reference data market dynamics.

Q22. What would be the respective costs and benefits of the different potential models to administer the UPI System specified [below]?

1. One single UPI Service Provider across all asset classes – the key benefit of this approach is there would only be one source and therefore the need to connecting to only one service provider. However, such a Service Provider may have high marginal start-up costs and times for a certain asset classes.
2. One single UPI Service Provider per asset class but multiple Service Providers across the UPI System– the key benefit of this approach is that the UPI System can be built by asset class experts that face a lower start-up cost and times. The main drawback of this approach is that it will require clearly defined rules and consistency in data access and delivery to minimize the cost of connecting to multiple service providers.
3. Multiple UPI Service Providers within an asset class and a number of different UPI Service Providers, each of which covers all asset classes – this approach can only work with a clearly defined rules and processes to reduce redundancy. The more complex the model, the more need for such rules and processes.

In general, a single UPI Service Provider should be selected per asset class, subject to clearly defined rules (that can be developed by these service providers) to prevent redundancies and a consistent approach to UPI assignment. This is particularly true in two circumstances:

1. Where there is a low marginal cost UPI Service Provider that can meet the asset class’ UPI requirements that is willing to comply with the Governance Framework and at a low marginal start-up and operational cost and can do so expeditiously. This is the case where there is an existing reference data expert in the asset class willing and able to produce the UPI for that asset class.
2. Where there is no existing low marginal cost UPI Service Provider and the underlying reference data management challenges are manageable. Our Green code proposal is targeted at these asset classes, e.g., FX and commodities. These are relatively low marginal cost to build the reference data set necessary to group together products with common underliers.

Q23. What would be the impact on market participants and other key stakeholders of having multiple UPI Service Providers (whether across asset classes or serving the same asset class) in terms of:

- (a) cost;
- (b) ease of use of the UPI System;

*(c) their ability to conform to the UPI Technical Guidance; and
(d) their ability to associate UPIs with products in a timely manner at least to facilitate the discharge of reporting obligations for OTC derivative transactions?*

We think that multiple providers in a single asset class should be avoided, especially at the outset given the costs and complexity of such an approach. Therefore our comments here relate to multiple service providers across asset classes.

With respect to all of these factors the marginal cost of utilizing a single asset class UPI Service Provider where that service provider is already the source of reference data for that asset class is minimal since that reference data vendor can now deliver through a parallel but separate mechanism the UPI at low or no cost, easily, in a compliant, and timely way. This is all assuming that the lowest marginal cost UPI Service Provider is willing to deliver the UPI pursuant to the Governance Framework.

Where there is no low cost service provider and the reference data is not complicated, e.g., foreign exchange, then a single asset class Service Provider is still the optimal model for cost, ease, compliance, and timeliness. This is because the marginal start-up cost will be low, as will the complexity relating to connecting to this service provider, and the risk of redundancies

A major danger with a single UPI Service Provider across all asset classes is that such a provider can exert monopoly power, particularly if it is given an open-ended mandate and squeeze out other reference data providers, exacerbating the risk of crowding out competition and a “tragedy of the commons.”

Q24. Should one or a limited number of UPI Service Providers be selected at the outset? Should the UPI Governance Arrangements allow for additional UPI Service (s) to be incorporated over time?

We recommend selecting the governance model, the GUUG should seek the approach that presents the lowest marginal costs and can be delivered most expeditiously. As discussed above in our answers to Q22 and Q23, we think this is the single asset class / single UPI Service Provider model. The GUUG should allow for additional UPI Service Providers in the event the designated UPI Service Provider is failing to meet regulators’ expectations in terms of performance or cost.

We hope that our comments are helpful to the FSB GUUG. We would be more than happy to elaborate or further discuss any of the points addressed above in more detail. In the event you may have any questions, please do not hesitate to contact Salman Banaei, Executive Director for Regulatory and Government Affairs at salman.banaei@ihsmarkit.com or [+1 347.324.8818](tel:+1347.324.8818).

IV. Appendix – Introduction to Green Codes

Problem

International derivatives regulators face the challenge of aggregating risk exposures by underlier long names, e.g., reference entity names and index names, as well as reference prices. The problem is, these long names are not standardized. See e.g., challenges with representing risk exposure to [WM Reuters FX](#) and [IHS Markit CDX indices](#) because of variations in reporting the underlier long name.

Green Code Proposal

In order to facilitate regulators' aggregation of derivatives unique product identifiers (UPIs) and to enhance the utility of the transparency of the UPI database, IHS Markit is proposing the General REference Entity and Name (**Green**) code. The Green code would be a unique 8 digit alphanumeric representation of a particular underlier, a reference entity, index, or price.

Under the CPMI-IOSCO technical guidance regarding the "[Harmonisation of the Unique Product Identifier](#)," the Green code would be a UPI reference data element corresponding to an "Underlier." A particular Green code would be used to keep UPIs with a common underlier clearly and precisely designated. Without any usage restrictions, any market observer could access a Green code and any mappings of the Green code contained in the open and public [UPI Reference Data Library](#) to (1) a unique long name and (2) all "open" underliers.

IHS Markit believes that the use of Green codes in the UPI Reference Data Library will greatly enhance regulators' ability to aggregate the derivatives data they receive in order to perform the market and risk surveillance necessary to carry out their mandates. This is particularly true for underlier names that are not currently represented in a standard form or do not correspond to a unique code. The use of GREEN codes will also enhance the utility of the public UPI Reference Data Library, particularly for those that lack access to proprietary underlier codes.

Mappings to other underliers would depend on regulatory requirements and any applicable intellectual property rights. Full transparency into these underliers would be provided to those with appropriate permissions, consistent with the relevant regulatory context.

FAQ

- *What asset classes would IHS Markit propose to create Green codes?*

IHS Markit would propose to create Green codes for any asset class it receives the appropriate permissions to create UPIs. We would consult with the industry in deploying the Green code for each asset class we intend to create Green codes.

- *How would IHS Markit intend to recover costs for producing Green codes?*

IHS Markit would develop a cost estimate based on the marginal costs, initial and operational, to produce and distribute Green codes. Because IHS Markit currently operates a credit derivatives reference data service, RED, IHS Markit’s marginal costs for credit derivatives-related Green codes would be relatively low. For other asset classes, the marginal cost of producing Green codes would be a function of regulatory requirements and industry cooperation and the complexity and number of underlier long names for that particular asset class, among other things. Costs would then be apportioned in accordance with final guidance from the Financial Stability Board (FSB) regarding [UPI governance](#).

- *Would market observers need a license to access or use Green codes in the UPI Reference Data Library?*

IHS Markit would plan on making access to Green codes in the UPI Reference Data Library open and free to the public, consistent with the FSB’s final guidance regarding [UPI governance](#). To understand a particular UPI containing a Green code, a market observer would not need to enter into any license to interpret the UPI, Green code, or any Green code reference data mappings to open and public identifiers or underlier long names contained in the UPI Reference Data Library.

- *Would the use of a GREEN code eliminate the need to license an underlier for trading and settlement and other non-regulatory uses?*

The user of a GREEN code for purposes that extend beyond the [regulatory mandates supporting the global UPI initiative](#) should consult with their counsel to determine whether the existence of the GREEN code or the long name it corresponds to in the UPI open and public UPI Reference Data Library would supersede or otherwise eliminate the need to obtain a license to use the GREEN code or long name. For example, market participants should consider whether the existence of “ICE LIBOR” (or a Green code corresponding to “ICE LIBOR”) in the open and public UPI Reference Data Library affects their need to obtain a license from ICE Benchmark Administration to create financial products based on this underlier or otherwise trade or settle such products.

<u>Green code examples</u>		
1. Hypothetical Green code IMXYZ123 would correspond to the "IHS Markit CDX North American Investment Grade" index	2. Hypothetical Green code TRABC456 would correspond to the "WM Reuters FX" index	3. Hypothetical Green code LI456DEF would correspond to a CDS contract with the reference entity "ACME Corporation" or LEI 6504XXXXXXXXXXXXXXXXXX
Underlier ID1 source: Green Code	Underlier ID1 source: Green Code	

<p>Underlier ID1: IMXYZ123</p> <p>Underlier ID2 source: IHS Markit</p> <p>Underlier ID2: IHS Markit CDX North American Investment Grade</p>	<p>Underlier ID1: TRABC456</p> <p>Underlier ID2 source: Thomson Reuters</p> <p>Underlier ID2: WM Reuters FX</p>	<p>Underlier ID1 source: Green Code</p> <p>Underlier ID1: LI456DEF</p> <p>Underlier ID2 source: ACME Corporation</p> <p>Underlier ID2: ACME Corporation</p> <p>Underlier ID3 source: LEI</p> <p>Underlier ID3: 6504XXXXXXXXXXXXXXXXXX</p>
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