Consultation document on collecting data on direct and ultimate parents of legal entities in the Global LEI System

Financial InterGroup (FIG) has been active in the financial industry for nearly three decades - as thought leaders and advisors to financial institutions, regulators, vendors and financial infrastructure entities. Its principals and advisors have experiences in finance spanning six decades.

We believe over this span of time we have contributed to the dialogue on financial reform through bringing a unique understanding of the overlapping spheres of knowledge embodied in risk management, data management and technology as practiced in the financial services industry. We have authored comments in private forums and public consultations and have contributed to the academic literature in this regard. Much of this work is in the public domain.

We are pleased to do so again in responding to this consultative paper below.

Annex: Questionnaire

Please type your answers into the questionnaire below and send it to leiroc@bis.org by close of business 19 October 2015. Where possible, please specify the reasons for the preferences expressed or the details of any trade-offs you see. The questions are organized along the sections of the consultation document.

The responses to the survey will be shared within the ROC membership and with the GLEIF. Neither participants' identity nor any specifically identified reference to their opinion will be made public without their express consent. However, the responses themselves may be quoted on an anonymized basis. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure.

Identification of the respondent and confidentiality
Respondent: **Financial InterGroup** Name and email of a contact person: **Allan D. Grody, agrody@FinancialinterGroup.com** ☐ **Please check this box if you object to any of the responses below being quoted on an anonymised basis and specify here any sections or questions to which this objection applies**
Please specify here as needed which response(s) should not be quoted:

1	Uses of organization relationship information
1.1 Are there important potential future uses of any type of relationship data that would pose additional requirements that should be taken into account when designing the initial implementation of relationship data?	
Please insert your response here: Yes, as the primary purpose of the LEI and its associated reference and relationship data maintained in the Global LEI System (GLEIS) is to enable the aggregation of financial transaction data that will in turn facilitate supervisory oversight and analysis of accumulating systemic risks. This capability will provide the means by which supervisors can more effectively ensure orderly and stable global markets and economies. This is set out in the Financial Stability Board's mandate from the G20 (embodied in Recommendation 2 of the FSB Report - Global Legal Entity Identifier for Financial Markets, 8 June 2012). To meet the systemic risk objectives supervisors must be able to effectively monitor the aggregate exposures of all the LEI-identified financial transactions associated with individual financial market participants. Aggregated financial transaction data must be available for analysis and matching to the limits set by local regulation in line with globally agreed limits and stress scenarios with the aim of minimizing systemic shocks. This requires an understanding of an LEI's relationship to its respective 'risk regime' from which risk limits are set, i.e. an identification of its operating status in accordance with local or global regulatory definitions as a bank, bank holding company, SIFI, credit union, broker/dealer, FCM, CCP, collective investment trust, etc. This information is best collected at the LEI level where it can be retrieved as standard data elements. The ROC in this consultation also notes other uses for relationship data for: bank supervision (large exposures; data aggregation and risk reporting); securities regulation (aggregation of OTC derivatives data); licensing (banking, insurance and securities sectors); resolution of failing financial institutions; financial stability; anti-money laundering and countering the financing of terrorism. All of these uses are contingent on effective data aggregation, which in turn is dependent on understanding the ownership or control relationships between LEIs, including their categorization in sovereign jurisdictions, markets and global risk regimes and, ultimately the relationship of all LEIs to their ultimate controlling parents. In addition, there are other uses for relationship data, for example, establishing credit limits for the total value of trading allowed and total number of positions held in derivatives, foreign exchange and securities markets. This could include using relationship data to aggregate credit and position limits for checks through central hubs currently contemplated under US regulation of the listed and over-the-counter derivatives markets. It should be noted that such US sponsored initiatives would eventually need to be extended globally due to the interconnected nature of markets and the presence of global counterparties and traders. The systemic exposure of the financial system to financial institutions' extension of credit and trading privileges beyond each trader's or counterparty's total capacity is not detectable now due to a lack of accurate global relationship data.	

Ideally this data needs to be accessible in real-time or at least daily, to accommodate changes that would update the respective credit and trading limits.

Another use of relationship data is by credit granting institutions to definitively and in a standard manner identify the creditworthiness and contingent guarantees associated with issuing credit lines to entities.

Accommodating these additional requirements, along with the ROC's already identified relationship data uses, requires that relationship data be updated more rapidly than annually; indeed, such updates will be required nearer to real-time upon a change becoming effective in any sovereign jurisdiction.

The ROC has already noted that consolidated financial statements are, at best, available quarterly, which should not be the standard for the updating of relationship data. Auditors can be available to review and validate relationship data both for initial data input upon first time conversion to the GLEIS and, thereafter, as changes to relationships occur. Auditors have a privileged early awareness of such changes relative to their clients. Auditors and accounting firms should be solicited directly to be involved in the next phases of the GLEIS as planned for through this and subsequent consultations.

Finally, it is a great accomplishment to accommodate the collective interests of forty (40) sovereign regulators in assembling a global identifier and a name and address file for financial market participants involved in the supply chain of the global financial system. However, before we make incremental additions, as is proposed by the ROC in this consultation, we should understand clearly what our end objectives are. Regulatory frameworks are appropriate as a starting point, but from a systems design perspective we should make sure the pillars of unique identification are strong enough to support the overall structure, and, most importantly learn from the early lesson of first implementations. To this end we have attempted to bring our understanding of risk, data and technology together in this response.

2 Definition of parent relationships

2.1. Do accounting definitions provide the best basis for identifying data to support the purpose of the GLEIS as discussed, for example, in paragraph 2.2.1, and as opposed to, for example, legal control? If you suggest another basis, such as legal control, please explain how you would define the basis and what standards could be referenced for defining the basis.

2.2. Are there known differences among existing accounting standards that could be expected to have material effects on the definition of parents proposed in this section?

Please insert your response here:

2.1 If the desire for simplicity as expressed through the ROC's referenced survey of regulators and LOUs (ROC consultation section 2.2.1 at Page 8) is to be fulfilled, and the momentum of issuance of LEIs sustained, the application of either legal control definitions or accounting consolidation principles, the two options presented by the ROC, is not recommended for the initiating implementation for relationship data. Rather a concept of an "ultimate controlling registration parent" should be initiated, defined as the entity approved to allow registering LEIs and approving relationship data for recording in the GLEIS. This would provide a more practical basis on which to construct the GLEIS initially, i.e. relegating accounting rules, at least initially, to a secondary rather than a primary consideration when, as is the case today, the ROC is confronted with anomalies of non-harmonized accounting standards and their associated complexities.

In this approach, controlling entities (they should know who they are) would be required to register themselves as "the entity approved to allow registering LEIs" with a schedule of those subsidiary legal entities so approved. Aggregating data through this simpler "parent" registering entity device would provide a foundation on which any subsequent relationship data reported in the consolidated financial statements of an 'Ultimate Accounting Consolidation Parent" can be verified and updated as required.

2.2 The complexity of 'Accounting Consolidation' as in 'Ultimate Accounting Consolidation Parent" is beyond the ability of any LOU to deal with. Even if they were to employ accountants to evaluate the set of LEIs that a registrant may ask to be registered in their LEI registry it is questionable whether they will have sufficient detailed knowledge of a firm's hierarchical ownership and control structures to effectively fulfil this role. Also, because LEIs of legal entities belonging to the same ultimate parent may be registered in multiple LOUs, the task of registering the relationship data of global enterprises across multiple registries will become inordinately complex. An overall systematic approach to both register such relationship data as well as maintain it would be required. Perhaps this is contemplated in the RFP soon to be issued by the GLEIF.

The determination of control and ownership hierarchies for accounting consolidation purposes is a highly technical activity that requires a good deal of professional interpretation and judgement typically exercised by certified or chartered accountants who are expert in such matters. For this reason, such determination should be effected at the registering parent entity level with the assistance and ultimate 'certification' or 'assurance' by independent accountants or auditors. In such a regime, no subsequent validation would or should be required at LOUs.

For example to understand the amount of professional interpretation and judgment required, one of the Big 4 public auditing firms, PricewaterhouseCoopers (PWC), has set out its understanding of the framework for consolidation in its publication 'IFRS and US GAAP: similarities and differences', October 2014:

> Its definitions of consolidation principles under GAAP and IFRS notes that IFRS is a principles-based framework providing indicators of control, some of which individually determine the need to consolidate. However, where control is not apparent, consolidation is based on an overall assessment of all of the relevant facts, including the allocation of risks and benefits between the parties. The indicators provided under IFRS help the reporting entity in making that assessment. Consolidation in financial statements is required under IFRS when an entity is exposed to variable returns from another entity and has the ability to affect those returns through its power over the other entity.
>
> US GAAP has a two-tier consolidation model: one focused on voting rights (the voting interest model) and the second focused on a qualitative analysis of power over significant activities and exposure to potentially significant losses or benefits (the variable interest model). Under US GAAP, all entities are first evaluated to determine whether they are variable interest entities (VIEs). If an entity is determined not to be a VIE, it is assessed on the basis of voting and other decision-making rights under the voting interest model.
>
> Even in cases for which both US GAAP and IFRS look to voting rights to drive consolidation, differences can arise. Examples include cases in which *de facto* control (when a minority

shareholder has the practical ability to exercise power unilaterally) exists and how the two frameworks address potential voting rights. As a result, careful analysis is required to identify any differences. Differences in consolidation under US GAAP and IFRS may also arise when a subsidiary's set of accounting policies differs from that of the parent. While under US GAAP it is acceptable to apply different accounting policies within a consolidation group to address issues relevant to certain specialized industries, exceptions to the requirement to consistently apply standards in a consolidated group do not exist under IFRS. In addition, potential adjustments may occur in situations where a parent company has a fiscal year-end different from that of a consolidated subsidiary (and the subsidiary is consolidated on a lag). Under US GAAP, significant transactions in the gap period may require disclosure only, whereas IFRS may require recognition of transactions in the gap period in the consolidated financial statements.

'Control' as in the definition "Direct Controlling Parent" in an accounting context is also a highly complex area and the issue isn't just concerned with known differences among existing accounting standards; it also relates to interpretations of those standards and the informed judgements that must be made after considering "all relevant facts and circumstances" (IFRS) to determine whether control exists. It would appear reasonable that only an international accounting firm in large complex organizations could reliably interpret applicable accounting standards and make informed judgments to conclude on what entities should be consolidated on a parent by parent basis

Further, despite the advent of IFRS, local 'national' GAAPs continue to exist for the preparation of statutory accounts in sovereign jurisdictions, even for countries that have adopted IFRS. These are required, amongst other things, to determine tax liability.

These complexities lead us to conclude further, as the ROC has noted, that the registration by individual component entities of a parent to include the identification of their "ultimate accounting consolidating parent" will be problematic. Many entities simply won't know who their 'ultimate accounting consolidation parent' is. Neither would they know their 'direct accounting consolidation parent'. An operating unit within an entity that requires an LEI in order to execute trades (as is the current situation with registering LEIs for conducting swaps transactions) can't be relied upon to identify the appropriate consolidating parent, whether direct or ultimate accounting consolidation parent.

Consolidation approaches should be determined and administered at the top of an organization under the guidance and professional judgments of suitably expert independent accountants and auditors.

2.3. Do you have any comments on the initial definitions of relationships proposed, particularly in terms of their clarity for implementation and validation)?

Please insert your response here:

As noted earlier, the relationships drawn from accounting definitions would appear to be a most reasonable next step to constructing relationship data in the GLEIS provided independent accountants and auditors are involved in the manner described in 2.2 above.

Also legal entity classifications are needed for each LEI (Corp., Inc., PC, LLC, SA, Ltd, GmbH, Trust, et al) which we understand the ROC has already given charge to an industry committee to define. In addition, classifications of LEIs relating to specific categories of financial entity are also required, i.e. Bank, Bank

Holding Company, Broker-dealer, Futures Commission Merchant, Investment Advisor, Hedge Fund, Swaps dealer, CCP, etc.; and similar categories in UK, EU, et al regulated entities.

The financial market participant category would allow for aggregation through to interconnected entities under specific risk regimes, capital limits, trading and position limits, credit limits, etc.

2.4. For future phases of Level 2 data, should the priority be to add other definitions of parents (e.g.: scope of regulatory consolidation applying to specific sectors such as banks or insurance companies; legal control), or to add other relationships as defined in accounting standards (e.g.: joint venture/joint arrangements, significant influence; interests in unconsolidated structured entities)?

Please insert your response here:

Yes, most definitely for all of the identified further definitions above of parent. For without it each regulator in each market/sovereign jurisdiction would be attempting its own definitions, thus defeating the purpose of data aggregation for global systemic risk analysis.

2.4 Are there other, alternative approaches to recording relationships -- other than the one described here based on an accounting framework -- that you believe would be preferable for the initial phase of data collection?

Please insert your response here:

An "Ultimate Accounting Consolidation Parent" should ultimately be the entity approved to allow registering LEIs and approving relationship data for recording in the GLEIS. However, given the many issues discussed in 2.2 above, the designation of "ultimate controlling registration parents" offers a simpler, more expedient and, initially, more robust foundation on which to construct the GLEIS.

3 Data collection, validation and updates

3.1 Considering both efficiency and data quality, do you agree with the preliminary conclusion that reporting of parent information by the "child" entity, combined with some option for the parent to report, would be the best approach, given that not all parents report to the LEI system?

Please insert your response here:

Only the "ultimate accounting consolidation parent" or "ultimate controlling registration parent" as the preferred alternative should be permitted to add information to the GLEIS. Registration by individual component entities of a parent to include the identification of their "ultimate accounting consolidating parent" or even their "direct accounting consolidating parent" will be problematic. Further, it would appear reasonable that only suitably expert accountants could reasonably interpret applicable accounting standards to conclude on what entities should be consolidated on a parent by parent basis.

On the other hand designating an "ultimate controlling registration parent" would be within the purview of an acceptable activity of each LOU given they are required to identify who is ultimately responsible for renewing (and paying for) the LEI at its annual re-certification date. Performing this task can be made part of the GLEIF's recent accreditation standards for each LOU.

To resolve the present reporting inconsistency associated with transactions where only one counterparty has a registered LEI and the other is either not yet required by regulation or is not compelled by their agent/counterparty to do so, a specially identified LOU (designated with its own four digit unique LOU

prefix) could be assigned to generate unique LEI codes. In these cases the counterparty in possession of a registered LEI would be designated as the sponsor. Using the registered LEI, the four digit LOU prefix and two check digits would be removed and replaced by the special LOU prefix and a new check digit calculated. The entire LEI of the second (undisclosed) counterparty would thus be represented by the known counterparty in the transaction. The original sponsoring counterparty and its LEI could be identified in the LEI registry along with any internal description it may use to mask the identity of its non-conforming counterparty and placed in the reference data submitted with the registration. This special LOU can be operated by the GLEIF to administer the global uniqueness principles and perhaps to establish another purpose for the 'associated entity' field in the Common Data Format (CDF) now used exclusively for fund families that have sub-funds.

The special LOU prefix for non-participating legal entities can become the source of regulatory scrutiny to identify non bona fide counterparties and as a means to spur non-conforming sovereign jurisdictions to become sponsors of LEI registries. The ROC's consultation asks for just such means to spur non-compliant jurisdictions and legal entities to obtain a LEI.

3.2 If both members of parent-child relationships have LEIs and both report, how should reporting about common relationships be reconciled? More generally, should the system seek to reconcile the network structure of relationships determined from the accumulation of information on direct parents?

Please insert your response here:

Reconciliation at the level of the LOU becomes superfluous if independent auditors or similarly qualified independent assurance providers are used to validate the source of all LEI and relationship data for each "ultimate controlling registration parent" or (eventually) "ultimate accounting consolidation parent" and their respective subsidiary entities. The independent firm that performs the validation should be identified in the GLEIS.

There is a high probability that inconsistencies in the data emanating from multiple subsidiary entities relative to the same direct or ultimate parent will routinely occur. As commented above, in global enterprises subsidiary entities cannot be relied upon to provide accurate data relative to their direct or ultimate parents. It follows that any processes introduced by the GLEIF aimed at the identification of inconsistencies in data emanating from multiple subsidiary entities will serve little purpose if the only source of reliable data is the respective direct parent entities.

Notwithstanding the above, the design and implementation of such reconciliation processes will be complex and costly. The only place these multiple LEI's come together is through the GLEIF where local LEI registries are downloaded daily and consolidated by concatenating multiple LEI files into one centralized file along with a change file from the previous day's updates. In this regard, the ROC consultation mentions extensive work previously done by the Private Sector Preparatory Group and members of the ROC in designing a data model for relationship data and an approach to managing history and envisions using this work to design such a 'data model'.

However, the early thought of how to reconcile the network structure of relationships determined from the accumulation of information on direct parents across the many LEI registries was conceived more like an Internet search function. The LEI registries were to be technically federated, that is searchable across

each LEI registry through prescribing to standard communication protocols as with databases searchable across the Internet. That was the original 'virtual consolidation' originally described in the GLEIS recommendations to the FSB and accepted by the FSB.

With unique, universal and unambiguous identifiers and common data elements housed in databases across the Internet and accessible through Internet protocols, the interim-GLEIS can be designed for real-time processing at lower cost and less risk. The financial industry already has vast Internet-based virtual private networks threaded throughout the financial services industry. Search and aggregation techniques designed for the Internet can be deployed in the GLEIS, giving instantaneous access to disbursed data. This is the technology and techniques that gives us instant access to the World Wide Web's data via a simple search query.

Perhaps in the GLEIF's soon to be released RFP such approaches will be considered.

For a more detailed technical description see 'Final Report on Global Identification Standards for Counterparties and other Financial Market Participants', Mar. 9, 2015, **www.ssrn.com/abstract=2016874.**

3.3. In your view, are the sources proposed in section 3.1 appropriate for validating data on relationships based on accounting definitions? Should the type of source used to validate the data be disclosed in the GLEIS (if so, how granular should the disclosure be)? What, if any, other aspects of data provenance should be disclosed?

Please insert your response here:

As with the original intent of at-source validation and registration of LEIs and its reference data so should the LEI's relationship data be sourced and registered from its originating source. Given the complexity of this data, its accounting origins and professional interpretations required, it appears practicable to enlist auditors to apply their third party assurance services to organize, validate and register this data into the GLEIS, in partnership with the their parent registrant clients. There is an increasing call for the engagement of independent auditors for many new services associated with the global risk regime's implementation.

It would also seem a natural extension of the auditors' work to organize this data in computer-readable form, co-jointly certify the validity of the data with their clients, place it in a standardized template using XBRL tagging conventions (commonly used by auditors in financial statement reporting) and register it in the GLEIS directly. This would eliminate the necessity of validation through secondary sources, a costly and burdensome effort now performed by LOUs for individual LEIs. See 'The Global Risk Regime – New Roles for Auditors', Sept. 28, 2015, **www.ssrn.com/abstract=2508399**

3.4 To what extent in the first phase of Level 2 data collection should the GLEIS aspire to incorporate changes in a relationship that happen or become known between publication points in the accounting cycle of an entity? Would it be appropriate to use different sources to validate a relationship at different points in time? Would it be appropriate to record such information based on a statement by the entity, provided it is appropriately flagged and that validation occurs at the next accounting cycle or the next annual revalidation?

Please insert your response here:

The ROC has suggested using accounting consolidation standards within prescribed timetables for publishing financial statements. However, the ROC also observes that these statements are not updated

and available in real-time, but only at quarterly or annual intervals. While this conveys an interest in more frequent updating, if not real-time updating, a potential extended role for independent auditors or other assurance providers is not explicitly stated. It should be.

It is independent auditors who are privately informed well in advance of the public when changes to hierarchical control and ownership structures are planned and executed. It follows that independent auditors are best positioned to validate and report information for the GLEIS as they already require this information for determining audit planning, determining audit materiality and preparing and/or auditing consolidated financial statements. The engagement of independent auditors to provide additional assurance services relative to reporting to the GLEIS would resolve many of the issues noted by the ROC for validating relationships at different points in time on a near real-time basis.

3.5. What is the best strategy, in your view, for maximizing coverage and data quality for Level 2 data? How do you assess the costs for registrants to provide this information (independently from the fee charged by LOUs), and the benefits for registrants and other users? How might the incentives of entities be shaped in order to encourage participation?

Please insert your response here:

As discussed in 3.4 above, the best strategy is to engage with independent auditors to provide Level 2 data. Auditors' assurance costs for these services might well be lower than the costs of LOUs duplicating the auditors' already provided service in understanding legal entities associated with the preparation and/or audit of consolidated financial statements notwithstanding the extreme difficulties and complexities LOUs would encounter in performing these activities remotely.

We note that LEI pricing has not undergone any pricing revisions; nor has sourcing, on-boarding and validation of ownership and control hierarchies yet been priced by LOUs.

4 Data organisation

4.1. Do you have suggestions on the content or high-level arrangement of Level 2 data and any supporting metadata?

Please insert your response here:

In the GLEIS a change in control of a legal entity due to a merger, acquisition, spin-off, etc. may require that the assigned LEIs be flagged as "expired" and a new LEI assigned. Each LEI registry maintaining that code would have to be updated. In a later phase of the GLEIS, each instance of its appearance in the hierarchies of the old and new LEIs would also have to be updated.

In cases where control is simply related to internal organizational changes, a new flag such as "reorganized" can be inserted into the LEI reference data. These relationships between LEIs can be accommodated in the same common file format as the LEI Common Data Format (CDF), assuming that the format of the GLEIF database and each LEI Registry database are the same as the CDF of the daily communication message files (we are not sure that this is the case as each LEI Registry is operated by independent LOUs). The GLEIF can require LOUs to standardize these data files by including such in their recent Accreditation process applied to existing and new LOUs.

The use of the XBRL template as the input mechanism from the registering parent as recommended in this response can be used to make changes to the reference data in each of the LEI Registries. Those changes to the LEI Registries that contain the LEIs need to be designated “expired” or “reorganized”. This of course requires the interim-GLEIS to be transitioned to a more robust GLEIS with these systems components as part of it.

Without a global capability to update the GLEIS simultaneously (there may be many LOUs maintaining multiple LEIs of a reorganized parent entity) each LEI registry might be out of synch with the overall parent entities’ reorganization. Each LEI registry maintaining that code would still have the same outdated code pointing to the same LEI, even though it may now be part of some other parent entity or has been flagged as expired or reorganized.

We note that ESMA’s recent final rules on MiFID II/ MiFIR do not require a transaction based look-up of the LEI prior to using it in transaction reporting. It would therefore seem that older codes or older reference data would be retained for some extended period of time. Given this reality, a more systematic near real-time approach needs to be designed by the GLEIF to notify all users of the GLEIS when such reorganization changes are taking place. ESMA notes that neither changes nor updates to the GLEIS are in real-time.

For example, real-time updating to update each LEI Registry could be deployed with coordination required in some systematic, automated approach. It should be noted that multiple LEI registries each contain a component of the data that needs to be used to aggregate transactional data to observe systemic risk. These components cannot be left to individual processes run by silo facilities operators that operate LEI registries. Its updating will be out of synch time-wise owing to: separate time-zones; unmatched transactions that will exist due to local manual processes for reconciliation; and because separate systems run by each LOU operator must integrate changes across multiple LEI registries without common protocols of operation or communication interfaces.

While global financial institutions and global data vendors deal with this every day, having to interface data and systems and updates across multiple silos of their geographically disbursed global organizations, they are not confronted by different business units reporting to a completely different management organization at the top of its structures. Such is the case represented in the myriad of infrastructure facilities operators of LEI registries and trade repositories. Global financial institutions and data vendors have a single line of authority to top management and have a coordinated firm-wide strategy to conduct such activities, or are striving to achieve such.

There are thirty (30) LEI registries that exist today. All are housed within larger businesses including exchanges, clearing entities, data vendors, software companies, patent offices, statistical agencies, payment systems operators, national business registries, central banks, etc. They all have their own managements, independent strategies and incentive systems.

It would seem improbable that such disbursed and separately controlled LEI data can be reconciled and organized effectively to allow its use in observing systemic risk building up across the financial system, without a systems-wide application to record and update the same changes to each LEI Registry in something close to real-time. This is especially the case in stress situations when timely access to

aggregated data across multiple LEI registries is crucial. Common standards of identification, common communications and application protocols, managed through a global standards-setting body like the GLEIF, would make this possible. This is how changes are coordinated across conformed versions of databases and software across the Internet.

The GLEIS was expected to be designed around a "network card" and "plug-in architecture", the recommendations accepted by the FSB (embodied in Recommendation 16 of the FSB Report - Global Legal Entity Identifier for Financial Markets, 8 June 2012). As the interim-GLEIS moves toward finalizing its design, the storage of both relationship data and its history would be facilitated in a technically federated virtual LEI database; separate in physical presence but centralized in Internet-like fashion.

4.2. Do you have suggestions on a particular high-level approach or necessary conditions for organizing the representation of the history of Level 2 data?

Please insert your response here:

Using a global capability to update the GLEIS simultaneously, a last expiration date and/or last reorganization date can be placed into each LEI record as reference data. Similarly a change date for each change of the ISO 17422 LEI data elements can be made part of the data file.

Access to this data would be facilitated by a common set of identifiers (the LEI) and common data elements housed in commonly formatted databases conforming to Internet protocols. The interim-GLEIS can be designed for real-time processing around the vast Internet-based virtual private networks threaded throughout the financial services industry. Search and aggregation techniques designed for the Internet can be deployed in the GLEIS, giving instantaneous access to disbursed data. This is the technology and techniques that provide billions of businesses and individuals instant access to the World Wide Web's databases via a simple search query.

5 Business model for relationship data in the GLEIS

5.1. Should the implementation of Level 2 data take place through the LOUs following procedures similar to the ones applying for Level 1 data, or should other possibilities be considered?

Please insert your response here:

Independent auditors are best positioned to provide Level 2 data validation. Indeed, it is questionable whether the provision of such services by LOUs to an acceptable quality standard is feasible.

Notwithstanding the question of whether the provision of validation services for relationship data by LOUs is feasible, such services will invariably be costly and could arguably cause LEI registration and renewal fees to become unattractive for current and prospective LEI registrants.

However, LOUs should maintain the registers of the relationship data and the history data in addition to the LEI registry data. In some cases sovereign regulations will require it as is now the case with Level 1 LEI data. In addition they should be required to conform to common communication protocols (the "network card" and "plug-in architecture accepted by the FSB) and common data-base formats, the Internet-like logical data-base model also recommended and accepted by the FSB. This would allow the current

physically centralized data-base organized daily by the GLEIF to be transitioned to a logically centralized data-base as the 'internet-like' design for the GLEIS was intended and accepted by the FSB.

LOUs have to evolve from separate silos of LEI registration and issuance to nodes in a real-time network that connects each LEI Registry as a logical data-base in a virtual system. Presumably, the GLEIF's recently announced accreditation program can be the catalyst to cause LOUs to accept the next phase in the evolution of the GLEIS or transfer its business to other LOUs that will accept such changes.

The ROC correctly, in our opinion, set up a distributed GLEIS with multiple LOUs operating LEI Registries owing to sovereign jurisdictional issues and the desire not to have a system wherein any single point of failure could cause the overall system to fail. However, those requirements have repercussions as to how the technical architecture of the system must evolve. Without a global capability to update the GLEIS's component LEI Registries simultaneously (there are many LOUs maintaining component LEIs of a single ultimate parent entity) each LEI registry may become out of synch with the overall parent entities' reorganization. This is unacceptable when regulators need to access LEIs for data aggregation in stress situations. It can present false information just when critical decisions need to be made.

The principal arguments for our recommendation to build the Level 2 data on the framework of the existing decentralized GLEIS, with changes as suggested previously, is highlighted below:

> Relationship structures by definition span multiple legal entities, so the relevant linkage may depend on a particular risk aggregation purpose (the 'risk regime' designation or flag recommended in this response). Therefore keeping base level LEI data (Level 1 data) in the same core system (virtual data-base) would facilitate linkages through additional embedded reference data flags, similar to the flags already contained in the common data format of the GLEIS ('expired' flag) and the recommended 'reorganization' flag.
>
> Contemplating different validation procedures or standards for Level 1 and Level 2 data, as the ROC is, can be countered by contemplating a combined process of validation by accountants at source, still leaving responsibility of the final registration of the LEI and its relationship data with the self-registering parent entity and with the LOU to manage and confirm placement in the registry.
>
> Level 2 data in multiple combinations for different risk regimes, can be linked through relationship-combining "flags" describing separate status information relevant to each relationship combination for each risk regime.
>
> Level 2 data could be linked to multiple sources of data by reference to external publicly available regulatory data, not unlike the business registry identity of each LEI now included as reference data in the GLEIS.
>
> If confidential relationship information is collected or maintained in the future, it would be easier to manage different access rights if the same virtual data-base is used.
>
> The argument is made by the ROC that management of historical data and relationship data would be easier if such information follows a separate evolutionary path or, in the ROCs words, as a separate object. However, if the LEI records are stored in virtual in-memory real-time databases

maintained by each LOU, as we recommend, then the fixed identity of an entity in the LEI Registries at a point in time can be maintained virtually and perpetually regardless of which LOU the LEI may be transferred to.

Having base Level 1 LEI data, along with historical data and relationship data in a single system eliminates interface and mapping issues, minimizes costs as the system evolves, eliminates duplicate versions of LEIs in two or more separate systems and can be administered by the existing GLEIF. It also facilitates faster access that will be necessary across the LEI Registries for different combinations of LEI relationship structures that will eventually be necessary.

For example, in the ROC consultation the Federal Reserves' NIC (National Information Center) database is cited as a potential example of and source of hierarchical data used for risk analysis for US based bank holding companies. In the NIC database the Federal Reserve maintains hierarchies through assigning a parent registration code at the ultimate parent level and assigns a sequential number incremented by one to all subsequent entities in the hierarchy. It additionally maintains a separate (unique) code for each entity in the hierarchy. As changes are entered into the database, the database is re-sequenced to again present a sequential hierarchy, changing all the sequence numbers to conform to the new hierarchy. This technique is more easily done in a centralized database. However, the same concept can be effected through a disbursed virtual database using fast internet accessibility techniques. A numerical code for the LEI would make access even faster. A proposal for a research project to develop a simulation model for testing these and other data aggregation techniques had previously been submitted in private comments to the ROC that gave input to this public consultation.

Finally, neither the ROC nor the GLEIF in advocating the direct at-source registration of LEIs has yet to consider the different way this same protocol is implemented in the two most successful global identifications systems that follow such protocols: the domain names of the Internet and the coding method found in the barcodes of the commercial and retail trade supply chain. GS1 (the barcode assigner) and ICAAN (the internet domain name agency) register a common parent ID and permits the registrant to further identify itself.

Appropriate validation and certification by auditors and accountants using their third party assurance services for both the LEI registration and the relationship data would standardize both processes. It would also remove the validation function from the LOUs, an activity that is based, in the main, on secondary sources. We have described this approach as adapted to the financial services industry in our prior comments to the FSB, the ROC, IOSCO, the CFTC, the SEC, and the OFR. See: Risk, Data and the Barcodes of Finance, Sept. 28, 2015, **www.ssrn.com/abstract=2544356**

6 Conclusion and next steps

6.2. Is there anything important at this stage that has been omitted from the consultation or any other comment or suggestion you would like to make?

Please insert your response here:

We have taken the position in this response that mapping the frameworks of regulation embodied in this public consultation into a practicable systems design would be helpful. That is what we have done.

First, to prepare for the GLEIS transitioning from issuing LEIs to aggregating LEIs we see the current method of LEI data registration and LEI assignments in need of fundamental process reengineering. This is necessary to prepare the LEI's central database to transition from a daily process to real-time as Level 2 data is contemplated for entry into the GLEIS. Further, we see what has already been accomplished, which is formidable, as start-up activities on a long journey. That said, the Unique Trade Identifier (UTI) and the Unique Product Identifier (UPI) are also necessary to accomplish the overall regulatory objectives for the LEI – to aggregate data for systemic risk analysis. Toward this end, we would recommend that the GLEIF become the global standards body for the UTI and UPI in addition to its global role with the LEI.

Further, the ROC's interest in engaging with systemically important financial institutions (SIFIs) for testing alternate approaches to obtaining and validating relationship data should be extended to explore broader issues. We see the direct participation of the SIFIs and the larger (multiple LEI parent registrants) forming their own shared LOU or separate firm-specific LOUs and subscribing to the operational and technical protocols described in this response. To follow the Internet analogy, many large firms maintain their own DNS and email servers. The benefit to them maintaining their own LEI Registries, and to the GLEIS overall, is a stable system where the LEIs and the relationship data registered is the same as they use internally, thus making maintenance and updating simpler and, over time, eliminating mapping between internal systems and the external identifiers maintained in the GLEIS.

Finally, it is important to create incentives for auditors to be directly involved as described earlier, for without them the quality of the relationship data cannot be assured. Also to create incentives for industry members to realize promised benefits for starting on this journey, the realization of Straight-through-Processing - reduced infrastructure costs and reduced operational risk. We believe our recommendations will further these objectives.