Enhancing an LEI/CICI Dataset to Study Operational Risk Propagation
(excerpt from a research proposal)

Background on CICI and LEI

The proposed Legal Entity (LEI) Identifier and its precursor, the CFTC Interim Compliant Identifier (CICI), comprise an important first step in providing a standard to uniquely identify each participant and to (partially) capture relationships among participants. The CICI has been structured to satisfy ISO 17442[5]. The 20 digit LEI code is expected to be identical to that of the CICI for those firms, which received a CICI identifier.

ISO 17442 specifies that the identifier code contains no embedded intelligence. The ISO standard requires the applicant for the LEI to provide the following data attributes:

— The official name of the legal entity as recorded in the business registry, or with the fund manager for collective investment vehicles, or otherwise in the entity's constituting documents. Where applicable, the name of the business registry in which the entity was formed and the identifier of the entity in the business registry should be recorded.
— The address of the headquarters of the legal entity or the fund manager.
— The address and the country of legal formation as represented in ISO 3166.
— The date of the first LEI assignment.
— The date of last update of the LEI set of information.
— The date of expiry and reason for expiry, if applicable. For entities with a date of expiry, reason for the expiry should be recorded and, if applicable, the LEI of the entity or entities that acquired the expired entity.

The CICI identifier, while structured to be numerically identical to the future LEI identifier, is not identical to that proposed in the LEI program. The primary differences are expected to be in the scope of coverage and the required utilization of the Identifier in contracts and reports. The CICI only will be required for all counterparties engaged in a

---

[5] International Standard IS) 17442, Financial Services – Legal Entity Identifier (LEI) First edition 2012-06-01

transaction under the auspices of the CFTC. According to the ISO document the LEI will be available for the following organizations:

— All financial intermediaries;
— banks and finance companies;
— all entities that issue equity, debt or other securities for other capital structures;
— all entities listed on an exchange;
— all entities that trade stock or debt, investment vehicles, including mutual funds, pension funds and alternative investment vehicles constituted as corporate entities or collective investment agreements (including umbrella funds;
— funds under an umbrella structure, hedge funds, private equity funds, etc.;
— all entities under the purview of a financial regulator and their affiliates, subsidiaries and holding companies; counterparties to financial transactions.

The CICI coverage is expected to be a large, but not complete, subset of the LEI coverage. A borrower in a corporate loan contract that does not engage in swap transactions may not be required to obtain a CICI but would be required to obtain the LEI. According to CFTC, the CICI will be used to identify counterparties in transactions under the auspice of the CFTC. Details regarding the utilization of the CICI identifier other than for identifying counterparties in contracts identified in CFTC regulations are not clear. It is not clear if the CICI will be used to identify entities referred to such transactions, but not parties to the transaction (reference entity in a credit default swap).

Developing robust operational risk and data quality metrics for internal bank risk management and for micro- and macro-prudential regulation requires several actions beyond the two-sided LEI/CICI transaction reporting. The LEI/CICI data will need to be enhanced with greater detail regarding the legal entity. For example, the address of

incorporation recorded in the LEI may not reflect where the market risk resides or where the trade processing is being done. Further, most systemically important financial institutions (SIFIs) are represented by an interconnected network of legal entities. Accurate information regarding entity ownership, partnerships, control and liability is required to enable the aggregation of error metrics in meaningful ways.

Task: Workflow of Trade Processing Using CICIs and LEIs

The regulations are quiet with respect to where in the trade process the CICI is attached to the trade. It is unlikely that the CICI for every trade would be attached at the time the trade was done. The allocation of trades to an account by an investment advisory often is done subsequent to the actual time of the trade. Firms will need to develop software to accommodate the CICI reporting requirements. Ultimately, additional reporting requirements will be made including utilizing potential identifiers to classify trade types. Consider the following experiment:

Suppose an intermediary M approaches Bank XX with a request to attach their LEI and the LEI of each counterparty $C_{i,j}$ for each trade T_i in some time interval, e.g., the last 24 hours or the last 30 days.

Can Bank XX (knowing details of the trade including the name of the counterparty as entered on their own trader's blotter and / or the ticket prepared by a salesperson) accurately provide the LEI of the counterparty?

What information does Bank XX record / provide about trade T_i?

What information does counterparty $C_{i,j}$ record for trade T_i?

How do we document the workflow internal to XX and each $C_{i,j}$?

What are the points of synchronization and information exchange?

Is there a quality gap? How can we identify and quality it? How does the workflow contribute to the quality gap?

References

1. Adamic, L., Brunetti, C., Harris, J. and Kirilenko, A., "Trading Networks," Available at SSRN: http://dx.doi.org/10.2139/ssrn.1361184 .
2. Davis Polk, Client NewsFlash, "CFTC Begins Implementation of Mandatory Clearing of Swaps," July 30, 2012.
3. Demystifying Legal Entity Identifiers http://www.dtcc.com/downloads/news/CiCi_Report.pdf
4. Federal Register, Vol. 77, No. 9, Friday, January 13, 2012, Rules and Regulations, pages 2136-2224.
5. Federal Register, Vol. 77, No. 100, Wednesday, May 23, 2012, Rules and Regulations, pages 30596-30764.
6. Federal Register, Vol. 77, No. 113, Tuesday, June 12, 2012, Rules and Regulations, pages 35200-35239.
7. Federal Register, Vol. 77, No 162, Tuesday, August 21, 2012, Proposed Rules, pages 50425-50443.
8. Financial Stability Board, "Technical Features of the Legal Entity Identifier (LEI), March 7, 2012.
9. Fouque, J. and Langsam, J., "Handbook on Systemic Risk," Cambridge University Press (forthcoming).
10. Fouque, J. and Sun, L., "Systemic Risk Illustrated," Handbook on Systemic Risk, edited by Fouque, J. and Langsam, J., Cambridge University Press (forthcoming).
11. Garnier, J., Papanicolaou, G. and Yang, T., " Diversification In Financial Networks May Increase Systemic Risk," Handbook on Systemic Risk, edited by Fouque, J. and Langsam, J. Cambridge University Press (forthcoming).
12. International Standard ISO 17442, Financial Services – Legal Entity Identifier (LEI), First edition 2012.
13. Jagadish, H., "Data for Systemic Risk," in Fouque, J. and Langsam, J. "Systemic Risk Illustrated", Handbook on Systemic Risk, Cambridge University Press (forthcoming).
14. Karsha DASS. "Document Annotation and Semantic Search," Internet resource: https://wiki.umiacs.umd.edu/clip/ngfci/index.php/KarshaDASS
15. PWC, "A Closer Look –The Dodd-Frank Wall Street Reform and Consumer Protection Act; Impact on Swap Data Reporting" June 2011.
16. Raschid, L., "Fiscal Policy, Governance, Citizenry and Financial Indicators: Modeling through the Lens of Social Media, University of Maryland Technical Report, May 2012.
17. Ruiz, E., Hristidis, V., Castillo, C., Gionis, A. and Jaimes, A., "Correlating Financial Time Series with Micro-Blogging Activity," ACM International Conference on Web Search and Data Mining (WSDM) 2012.