FIG Research - Financial Data Standards Initiatives – Much Done, More to Do

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Introduction

It has been nearly three (3) decades ago since Financial InterGroup initiated the first (and only) global cross-Industry financial data standards conference. Presenters included executives from all the major financial data standards bodies at the time, including – ISITC, SWIFT, ANSI, FIX, IIA, MFA, FIA, ISO, CUSIP, SIA, DTC and the WFE. These standards bodies collectively oversaw data standards in the global clearance and settlement infrastructure. From that confereces' keynote speakers two take-a-ways emerged, as relevant today as it was first observed back then.

The first was the observation by the Chairman of the World Federation of Exchanges. He had been chairing the Securities Standards Advisory Board (SSAB) and trying for two years to achieve some semblance of cooperation on data standards among the many participating standards groups. He delivered the news to the conference that he was giving up on trying. His conclusion: the standards governance bodies were very competitive with each other, protecting their own turfs and not willing to subsume their self-interest for the collective interest of all.

The second take-a-way was from an executive from the precusor to GS1, the barcode people, who was invited to speak on their experience. He attributed the success of the coding system embedded in barcodes to the commitment of the CEOs in the retail and manufacturing sectors. They saw the importance of data standards and communicated that urgency to the staff's assigned to work on a solution.

The issues that were addressed at the conference again surfaced nearly a decade later when the Group of Thirty Study on Global Clearance and Settlement was published in 2003.

"Unfortunately, attention to the overall system of global securities clearing and settlement has been in short supply"…."Many of us in the corporate boardroom have shied away from the clearing and settlement area because of its sheer complexity…" "those with operational responsibility for clearing and settlement will certainly have to understand these matters in detail, but top-level support does not require a detailed knowledge of the mechanics."

Paul A. Volker, Chairman of the Board of Trustees, Group of Thirty

The Group of Thirty monitored their recommendations and published a follow up report Global Clearing and Settlement: Final Monitoring Report in 2006.

"The implementation of reference data standards has proven difficult. With no global owner of reference data and friction between the needs of the domestic and cross-border market users, progress has been slow. Future progress will require greater efforts by market infrastructure operators and international institutions with global reach."

Collective action and CEO commitment are again the issues, notwithstanding that a lot of progress has been made. These issues were apparent in 1995 at the cross-industry standards conference and, again, in 2006, when the Group of Thirty issued their final monitoring report. It was only after the near collapse of the financial system in 2008 that these issues again surfaced. Work then began with a new mantra "regulatory compulsion" now a requirement. Since then, however, many new issues have surfaced including an extension of the industry's' collective action issue to now encompass regulatory inaction.

Stalled US regulation on financial data standards

The recently adopted US House of Representative's Financial Transparency Act (FTA), HR 2989, requires financial regulators that are members of the US Treasury's Financial Stability Oversight Council (FSOC) - the SEC, FDIC, OCC, Federal Reserve, Bureau of Consumer Financial Protection, National Credit Union Administration and the Federal Finance Housing Agency, to set and implement the exact same reporting data standards. This legislation was authored by the House in May 2021, passed and referred to the Senate for its consideration in October 2021. Importantly, the FTA shifts the dynamic from the reporting agencies to the financial institutions themselves. Prior to the FTA, and after the financial crisis of 2008, the Office of Financial Research (OFR) along with the FSOC was established to collect standardized information from financial regulators. Financial regulators, in turn, would establish their own requirements for data reported to them from financial institutions.

FTA now mandates that regulators require the same standard data from financial institutions. The OFR , in a legislative oversight, was never empowered to address directly what each financial institution needed to do to standardize data in order to report to its supervising agency. Each supervising agency maintained that power. The FTA is a belated attempt to correct this oversight.

Financial transactions are to be reported with standard data from financial institutions directly to their regulators. These transactions will then get passed to the FSOC, presumably aggregated first through the Office of Financial Research (OFR), although the OFR is not explicitly mentioned in the FTA.

The FTA also requires these data standards be incorporated into reporting by Credit Agencies, the Municipal Rule Making Association, Investment Advisors National Exchanges, Financial Market Infrastructures, and in corporate communications such as proxies, corporate disclosures and solicitations. In effect, the FTA requires that all financial transaction data be standardized with the same product or legal entity being identified the same way across all of these reporting entities, and formatted in the same way. It will finally make financial data computer literate, allowing computerized searching of multiple agencies' reports of the same financial institution, the same client or counterparty, and the same financial product across all the agencies.

LEI Issuance, Renewals and Parent LEIs

If passed, the Financial Transparency Act it will go a long way toward accelerating the global adoption of LEIs as the universal code for legal entity identification. The premise of such adoption was and still is regulatory compulsion. The US was the primary advocate for the LEI since the

financial crisis, but has fallen behind other regulators in mandating its use. While achieving a milestone of 2 million LEIs issued, the goal is global adoption by 2027, estimated at 20 million.

Global adoption and annual renewal of LEI information (reference data) includes both registering and renewing LEIs and their relationship data (intermediate and ultimate parents). Achieving global adoption is the responsibility of the Global LEI Foundation (GLEIF), the implementation entity established for the LEI by the G20 and its Financial Stability Board and overseen by the Regulatory Oversight Committee. With global adoption, this information can be organized to represent an organization's hierarchy of risk and control, a necessity to accomplish the final goal – observing the buildup of systemic risk across the globe.

LEI Issuance & Non-renewed (Lapsed) LEIs*	2016 Year-end	2017 Year-End	2018 Year-end	2019 Year-end	2020 Year-end	2021 Year-end	Jan 2022 Mo-end	Feb 2022 Mo-end
Total LEIs issued at Yr/Mo-end	481,522	975,741	1,337,925	1,542,037	1,777,458	2,038,661	2,050,428	**2,080,671**
Total Active LEIs at Yr/Mo-end						1,954,190	1,973,745	**1,992,796**
Non-renewed rate – issued LEIs	29.0%	17.4%	23.5%	29.8%	32.9%	33.9%	34.3%	**34.6%**
Non-renewed rate – active LEIs						35.3%	35.8%	**36.1%**
Newly Issued	4,976	40,237	29,987	16,652	19,364	30,777	21,767	**20,243**
Relationship Data								
Number of Immediate & Ultimate LEI Parent Records	n/a	88,198	152,318	208,139	230,755	264,013	266,408	**268,297**
Number of Unique LEIs Reporting both Parent Relationships	n/a	51,944	89,826	119,637	132,096	123,079	123,438	**123,786**
Number of Immediate & Ultimate LEI Parent Exception Records	n/a	1,067,968	2,156,909	2,519,418	2,965,315	3,468,286	3,508,031	**3,546,379**
Number of LEIs with Complete Parent Information	n/a	572,818	1,146,554	1,341,015	1,563,458	1,786,117	1,863,483	**1,874,328**

* In 2016 the GLEIF began recording LEIs and in 2017, LEI Relationship data, in its databases. Since 2016 the GLEIF has been publishing statistics on LEI issuance and renewals, and since May, 2017, on LEI Relationship data. This chart summarizes progress of LEI issuance and its corresponding Relationship Data initiative based on **GLEIF's Mar 7, 2022 Global LEI Data Quality Report** and FIG's historical LEI database.

The vLEI

GLEIF has been working to extend the Global LEI System to address a digitally verifiable encrypted version of the LEI - the vLEI - enabling any legal entity to use its LEI to establish real-time, digital trust with counterparty organizations and their authorized representatives. The vLEI is a standardized way in which a legal entity's LEI code could be embedded in digital certificates. To support this effort, GLEIF has initiated an international, cross-industry development program to create the credentialing network and technical support infrastructure for issuing the vLEI.

GLEIF unveiled its models for the vLEI's technical infrastructure and issuance process, outlining how a legal entity's LEI code would be bonded into a Verifiable Credential and issued by GLEIF, via a network of qualified vLEI issuers. It is anticipated that the infrastructure and protocols already established by GLEIF would assure the integrity of the vLEI trust chain. vLEIs would be traceable through a cryptographically protected chain of credentials, back to their source LEI record in the GLEIF database.

The CUSIP dispute

One of the most important and enduring financial data standards is the CUSIP code, a nine-digit alphanumeric identifier code for US stocks and bonds. The CUSIP identification numbering system, in today's automated global financial ecosystem, is fundamental to how the infrastructure of the financial system works. Its equivalent can be found in other parts of the world, with National Numbering Agencies (NNAs) assigning codes in each jurisdiction: Sicovam numbers in France, Valorem in Switzerland, Sedol in the UK, WKN in Germany, the SICC code in Japan, the APIR in Australia, etc.; and codes issued by Information Services Providers (ISPs) – Reuters RIC and PermID codes, Markit's RED codes, Bloomberg's FIGI codes. That the CUSIP code ("the CUSIP") is not an open source (free use) code has irked many financial institutions, and engendered law suits in Europe and now in the US.

In Europe, CUSIP issues had been litigated since 2008, with the focus mainly on appropriate licensing issues with Standard & Poor's (S&P) and through intermediary information service providers. The solutions to date have end users and ISP's with more favorable licensing agreements. However, the EU has questioned the practices of S&P and also questions the American Bankers Association (ABA's) claim to the intellectual property rights of the CUSIP code.

The underlying issues now contained in a US based class action lawsuit relates to its creators S&P and owners ABA as to whether they have an intellectual property right and/or a copyright to the code and/or the related reference data. The dispute questions whether the individual code itself; its compilation of multiple codes and its reference data in a database; or its association within an ISIN code constitute licensable and/or copyrightable material entitling S&P or the ABA to claim fees per CUSIP and/or compilation of CUSIPs in a data base with an ISIN or in native CUSIP form.

In the US the CUSIP has been given the government's approval for regulatory reporting. Worldwide, governments have given priority to ISIN reporting where the CUSIP is embedded, with a two-character code for US headquartered companies, in the ISIN. Also, the LEI (Legal Entity Identifier) is given regulatory reporting preference for identifying financial market participants. However, the LEI, unlike the claims on the CUSIP and ISIN's embedded with the CUSIP, is an open-source identifier operated by a not-for-profit entity, the Global LEI Foundation.

Cryptography and cryptocurrency standards

The Department of Commerce, through its National Institute of Standards and Technology (NIST) will be publishing an encryption standard that, it is expected, will be able to withstand code breaking computer power of algorithms generated by Quantum computers. The major top-tier financial institutions and global systemically important banks (G-SIBs) are already seeking to use this new standard to hack-proof financial transactions. The risks of cybersecurity breaches have become the most significant risk to be manage by financial institutions. This willingness to invest now for a likely future in which Quantum computers dominate is a far-sighted commitment by leaders of financial institutions to spend now to realize a cost-preventive payoff far into the future.

Also, anticipating current and future needs, a new International Standard has been developed for cryptocurrencies, the Digital Token Identifier (DTI). It is designed by the same ISO committee that has defined the ISO standard for the Unique Product Identifier (UPI) for tracking all OTC derivatives globally. The UPI standard is under the governance of the Regulatory Oversight Committee, the Governance Body of the LEI. The DTI standard is implemented and administered by Etrading Software. Its DTI Foundation is the registration authority for the standard - ISO 24165-1 and ISO 24165-2. The DTI Foundation will issue digital token identifiers and maintain them in a publicly accessible central register on their website.

The DTI is a random, unique, unambiguous, fixed-length, publicly available identifier for fungible digital tokens. The DTI identifier is structured like the existing ISO standard for tracking counterparties to a trade via the Legal Entity Identifier (LEI).

OTC Derivatives Standards

A new global infrastructure utility, DBS (Derivatives Service Bureau) has been created to issue ISINs for European OTC derivatives and UPIs (Unique Product Identifiers) for Swaps and its many variations. The DBS was established by ANNA, the Association of National Numbering Agencies, which oversees the 120+ national numbering agencies that assign country specific codes for securities and ISINs for financial products. Etrading Software, the implementer of the DTI, has also been selected to implement the DBS.

The ROC has been designated as the governance body for the DSB and also for the UPI, the CDE (Common Data Elements) for OTC derivatives and the UTI (Unique Transaction Identifier). The UTI is generated by one of the two counterparties to a trade, placing the LEI together with as many as (fifty-two) 52 additional numbers (0-9) and letters (capitals A-Z) and conveying that

number to the other counterparty. Both sides, similarly tagged, are then submitted for matching in a trade warehouse. The ROC is also the Governance Body for the LEI.

Listed Derivatives Standards Initiative

A new listed derivatives standards initiative is being sponsored by the Futures Industry Association for trade and clearing. It is to be overseen by a new industry governed standards body for adopting common processes, data and technology standards throughout both internal firm and external industry infrastructure workflows. The recommendations include forming an independent Markets Standards Body (MSB) and governance function to oversee the standards development for the trade and clearing lifecycle for listed derivatives.

What about SYMBOLOGY?

There is no central governance body or global standard for symbols used by trading venues (equities, bonds, options, commodities, futures, swaps, and currencies). Rather each trading venue assigns its own proprietary symbol with bilateral agreements on code assignment conflicts among local, national, regional and/or global market participants. Symbols are used at the front end of the trade life cycle and are mapped to other identifiers for clearance and settlement purposes, most notable the ISIN code or local codes like a CUSIP or SEDOL.

To create uniqueness in symbols, the Market Identifier Code (MIC), an ISO standard, is coupled with a trading venue's own symbol. In the EU they have adopted a Uniform Symbology code to address each market's symbol needs for trading on each of its trading markets across countries.

CEO Commitment Required

In the Introduction to this research, we cited the example of the barcode succeeding as a global data standard because of CEO's commitment to it in the retail and manufacturing supply chain. This should obtain as well in the financial ecosystem if data standards are to succeed in similar fashion. A strategy to engage financial industry CEOs is urgently needed. To begin, first focus on globally systemically important banks (G-SIBs), there are 30 G-SIBs that do business with most of the worlds other financial market participants.

Initially, regulators need to mandate that G-SIBs record all their LEIs and associated relationship hierarchies in the GLEIF database. Then mandate use of the UTI and UPI, CDEs, ISINs and other globally accepted data standards. Finally, to require these standards be incorporated in financial transactions reported to regulators to prove that risk data can be aggregated within and across these 30 systemically important financial institutions (the FSB objective). All 30 are being held

accountable to adhere to the BCBS239 risk aggregation principles. They and their CEOs have been called out directly by regulators to do this and the FSB is monitoring their progress.

End Note

It strikes us that a symbol code, being at the front-end of every trade - used in market data inquiry, order input, execution and confirmation, then mapped to other identifiers for clearance and settlement, can be used as the Straight-thru-Processing data standard without resorting to mapping against other identifiers. It was only the lack of computing power at the dawn of the automation of the trade lifecycle that prevented this from happening – too much time would be spent converting alphabetic characters into digital representations that computers needed for processing transactions at that time. The computer age then was surely different!

Similarly, the medium chosen for the CUSIP directory, given the state of automation in the 1960's, was a book and the chosen creator a book publishing company. Both circumstances, the use of symbols and the paper based CUSIP resulted over the long term in expensive and inefficient processes that was incrementally right for its time, but lacked a future vision.

Perhaps the issues under consideration today can be approached with a new future vision, a future of CEO commitment, real-time straight-thru-processing and a single, global governance body for financial data standards.

For further Information

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