

Systemic Risk Mitigation: Ending “Silos” of Information

Why a Central Counterparty for Data Management is Needed

by

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“...it is clear that risk concentrations may arise from interrelated exposures across the risk categories rendering a silo-based approach insufficient as potential concentrations across categories may not be captured”

Cross-sectoral review of group-wide identification and management of risk concentrations
Basel Committee on Banking Supervision
April, 2008

“Regulatory reform needs to be addressed as a single package, not piecemeal”

Secretary Timothy Geithner
Testimony before the House Financial Services Committee
July 23, 2009

Many initiatives are being proposed to get at a much overlooked but core problem for any eventual systemic risk regulator: the data that each regulator receives to help in detecting systemic risk is neither timely nor consistently defined by the submitting firms. The financial crisis has alerted regulators to the reality that more timely observation of financial transactions is crucial as they may trigger real time risk exposures that can cascade well beyond nominal transaction values, capital charges and other measures used for observing systemic risk.

A parallel concern is that there are many gaps in the data submitted to regulators overseeing those systemically important financial institutions which operate across multiple regulatory regimes. Silos of performance and risk reporting that now pervade global financial institutions are being perpetuated on an even grander scale in reports to sovereign country and regional regulators.

The financial crisis has shown that systemic risk can cascade undetected through internal business units of a single financial institution, through interrelated but separately regulated markets, and through mostly unregulated payment and settlement systems. The current debate on how to anticipate and mitigate this systemic risk has spawned many proposed public and private sector solutions. However, these solutions will fall far short of resolving the current silo based regulatory reality of “what you don’t see, you can’t oversee”.

The financial services industry must itself first take the initiative to solve the problem of inconsistently and incorrectly identified data - products and business entities, multiple definitions of financial transaction data attributes, and inconsistent valuation prices. Thereafter, much of the proposed silo based regulatory solutions – mainly to aggregate and store duplicated transaction and/or position data, will become redundant saving both the industry and its regulators enormous costs and time.

Direct access to local stores of information at each systemically important financial institution, made possible by consistent representation of financial transaction data, would be available to regulators periodically and on an ad-hoc basis. An industry sponsored private sector initiative, the Central Counterparty for Data Management, focused on consistent, assured global identifying data sets is described at the conclusion of this article.

Identifying Data to Oversee Systemic Risk

One of the most intractable and long-standing impediments to systemic risk mitigation has been the proprietary and non-standard nature of what should be standardized and unambiguously identified data. Regulators are asked to rely on data knowing full well that counterparties might be mislabeled and/or subsidiary entities aggregated differently; or that specific products traded and/or reported on singularly or in aggregated positions are differently defined or valued under different regulatory regimes and by different firms.

In its most basic form the financial industry is all about electronic data, having long ago removed the physically represented forms of financial instruments. Now we have replaced physical paper reports of financial transactions with complete electronic data representation. At the core of such complete electronic representation is a myriad of identifying data attributes - referred to at times as static data, reference data, fundamental data, identity data, attribute data, data tags, et al. This data is used throughout the industry's supply chain for: product and business entity identification; describing common terms and conditions that govern the type of financial instrument i.e. stocks, bonds, futures or options contracts, swaps, collective investments, et al; consistent valuation prices for determining an asset's value; establishing dates and rates that determine preset events such as interest payments; setting and reporting dates and rates of variable events such as mergers or acquisitions; message transmission formats for alignment of data into computer readable structured financial transactions; and, of late, data tags for randomly accessing data within a report or financial transaction by automated means.

The problem with this data is that product and business entity identifications are inconsistent and ambiguous:

IBM

Example of Single Global Issuer with Multiple Identifiers

- CUSIP 459200101
- AUSTRIA 851399
- COMMON CODE 9703799
- ISIN US4592001014
- ITALY 550304
- JAPAN 584006000
- JAPAN 6680
- NETHERLANDS 45480
- SEDOL 2005973
- SEDOL: CANADA - TORONTO 2013802
- SEDOL: FRANCE - PARIS 5217689
- SEDOL: GERMANY - FRANKFURT 5199204
- SEDOL: JAPAN - TOKYO 6003649
- SEDOL: JAPAN - TOKYO 6464956
- SEDOL: MEXICO - MEXICO CITY 2667715
- SEDOL: NETHERLANDS - AMSTERDAM 4463353
- SEDOL: NETHERLANDS - AMSTERDAM 5199323
- SEDOL: PERU - LIMA 2436517
- SEDOL: SWITZERLAND - SWISS S.E. 4514325
- SEDOL: UNITED KINGDOM - LONDON 40868
- SEDOL: USA - NEW YORK 2005973
- SICOVAM 12964
- SVM 9254608
- VALOR 941800
- WPK 851399

Source: Standard & Poors, 2008

The Former DAIMLER CHRYSLER

Example of the Same Company's Common Shares with Multiple Descriptions

<u>Firm</u>	<u>Description</u>
New York Stock Exchange as	DaimlerChrysler AG
Merrill Lynch as	DaimlerChrysler AG ORD SHS
London Stock Exchange as	DaimlerChrysler AG ORD NPV (REGD)

Source: Financial InterGroup

Identifiers are not standardized and, therefore, data aggregation across silo organizational structures is jeopardized:

BERKSHIRE HATHAWAY INC

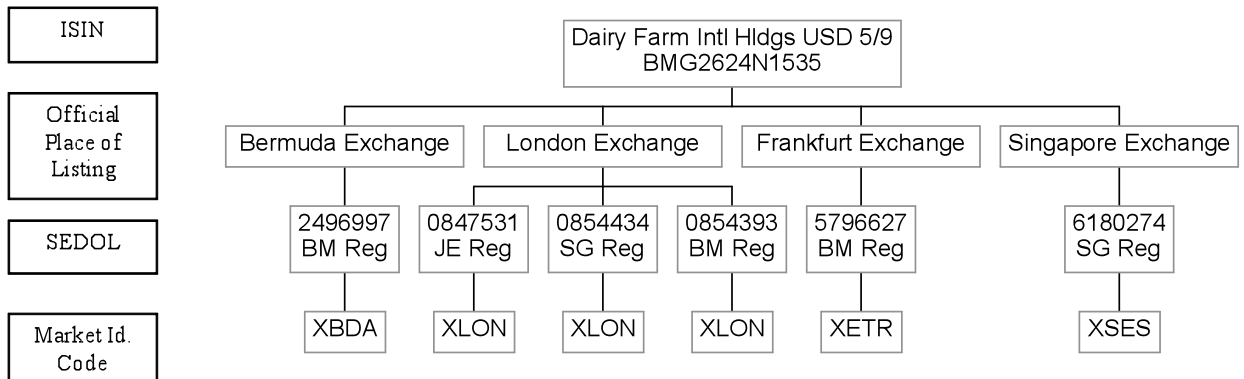
Example of Multiple Corporate Data Identities

<u>Vendor/Service</u>	<u>Identifier</u>
Avox Avid	12501262
Cusip Issuer	084670
Compustat Issuer	002176
Dun & Bradstreet	001024314
Fitch Rating	80090742
Markit Red/Clip CDS	08CAD7
SEC Edgar Filer	0001067983
S&P Rating	100264
Telekurs	20823

Source: Financial InterGroup

DAIRY FARM INTERNATIONAL HOLDINGS

Example of Multiple Listing Functional Data Identifiers



Source: EDM Council

Faulty identification leads to faulty data aggregation which in turn leads to faulty performance and risk management reporting of position and counterparty data:

What Was Your Exposure to Lehman Brothers in:

These Products?		These Business Relations?	
Unique Securities Issues Outstanding		Bond Indenture Trustee	General Partner
Lehman Brothers Bank, FS	2,717	Commodity Trading Adviser	Investment Adviser
Lehman Brothers Finance SA	467	Counterparty	Index Vendor
Lehman Brothers Treasury Co. BV	3,657	Custodian	Limited partner
Lehman Brothers Holdings Inc	2,228	Collateral Depot Agent	Market maker
Neuberger Berman Inc	7	Dealer	Prime Broker
		Depository Agent	Reference Entity
		Escrow Agent	Real Estate manager
Unique Issuing Identities	204	Fiduciary	Syndicate Manager
Subsidiary Issuers	79	Floor Broker	Underwriter
		Futures Commission Merchant	

Source: S&P/Financial InterGroup

Reporting that is suspect or wrong leads to government's inability to aggregate and act on data, whether within its jurisdiction or across multiple jurisdictions.

Non-Standard Data and Systemic Risk

Standardizing identifying data has long been desired so that industry participants can converse in a seamless, error free electronic manner with their counterparties, their supply chain participants and their regulators. This is the financial industries long sought after Straight-thru-Processing (STP) vision. If left unrealized, its absence will be a great impediment to systemic risk mitigation.

Although the benefit of open and uniform standards is well researched and advocated by many, it remains a distant vision. Regulators as well as the private sector have constructed their technology infrastructure around proprietary codes and non-standard conventions because of the expedience of short term cost considerations, quick-to-market competitive needs and the profit motivated self interests of vendors, servicing organizations and financial enterprises. These actions taken over decades have placed high hurdles before all members of the industry and their regulators in the form of costs to move to open and uniform standards.

Now as more transparency is called for, the recognition that self interest prevents the mitigation of systemic risk is taking center stage in the public debate on the causes of the financial crisis. Attention is returning to the interconnected nature of financial firms within the global payment and settlement systems and the role non-standard fundamental data plays in adding unnecessary risk and higher costs to each financial firm as well as to the financial system overall.

Responding to Past Systemic Risk Incidents

Observing and mitigating systemic risk has been attempted numerous times, mainly in reaction to a systemic risk event. The earliest intervention in the modern era was in 1974 when Germany's Herstatt Bank failed and the global funds payment and settlement systems reacted to the inherent systemic risk of failed institutions and unsettled transactions. The heads of the Group of 10 countries engaged on this issue at that time. The result was the acceleration of the SWIFT interbank payment system which, at the time of the Herstatt failure, was less than a year old; the eventual development of the Continuous Linked Settlement (CLS) foreign exchange clearing system some thirty years later; and the founding of the Bank for International Settlements (BIS) which eventually published the Basel Capital Adequacy Directive. Today, this regulation, known as Basel II, is the only global financial regulation embraced, in the main, by all sovereign and regional regulators.

In 1979, an undetected cabal lead by the Hunt brothers attempted to corner the global silver market by accumulating claims on over 200 million ounces of silver. Their scheme had been aided by opening multiple accounts at many commodity brokerage firms, now called Futures Commission Merchants (FCMs). At the time there was no requirement to report that these accounts were controlled by a single entity and, hence, the totality of the group's positions could not be observed. Today, while there are new reporting and accountability standards, the implementation process is left to be initiated by a manual process of forms submitted to the Commodities Futures Trading Commission (CFTC) each time an account approaches a position limit. Thereafter, the CFTC assigns an overall group account number to be associated with each FCM's assigned internal account. Position information is then reported using this assigned CFTC group account number.

Systemic risk mitigation took center stage again in 1987 after the near meltdown of the exchange based securities and contract markets in the US cascaded throughout the global financial system. Remedies imposed included circuit breakers for markets, synchronization of market pauses, and a global reduction in the number of days between the time trades are entered into and transactions paid for. At that time The Group of Thirty was engaged to study the related issue of systemic risk of unsettled transactions in the increasingly globalized securities market. Their study set out a mandate for change to tighter settlement time frames across most equity markets. It was just three years ago that they concluded their monitoring of this nearly two decade initiative with the admonition that one key prescription for global systemic risk mitigation -

standardizing fundamental (reference) data - had not been realized, leaving the financial system with high costs and continued vulnerability to systemic risk.

Again in 1998, systemic risk propagated itself throughout global financial institutions nearly bringing down the financial system, this time by the failure of a single hedge fund, Long Term Capital Management (LTCM). Doing business across many global markets, LTCM's failing positions in one market soon depressed other markets as slumping prices caused margin calls for many other firms that, in need of additional cash to meet margin calls, sold assets depressing prices in a cascading pattern across interdependent markets. These markets had traditionally been relatively uncorrelated but soon became highly correlated as the search for increasing amounts of cash to meet ever increasing margin calls depressed prices across all markets.

The most recent example of an attempt to gauge systemic risk across systemically important financial institutions occurred earlier this year when the US Treasury instituted its Supervisory Capital Assessment Program (SCAP). This program was intended to provide for the scenario testing of 19 systemically important US financial institutions to judge whether they had adequate capital to support worst case economic scenarios after the near collapse of the global financial system.

The SCAP data gathering phase took months to accomplish and deployed 150 supervisory personnel to normalize positions and projections across these entities. The supervisors used information on trading book positions from the firms' internal risk-management reports, which were, in turn, aggregations of transactions from a myriad of different products and counterparty exposures. Supervisory teams, organized by specific asset classes, revenues, and reserves, evaluated the substance and quality of the submitted data. The firms were asked to provide supporting documentation for their projected losses, reserves, income and expenses by major category, domestic and international portfolio characteristics, forecast methods, and critical assumptions.

Current Proposals to Identify Data for Systemic Risk Mitigation

Today, there is an oversupply of in-progress and proposed solutions to organize the systemic risk data gathering exercise across firms and among regulators. The ultimate aim is to observe financial transactions in a common automated context so that risk can be analyzed more frequently without the manual labor that such efforts now require. However, while well intentioned, these solutions are aimed quite literally at the wrong end of the problem – when trades are transformed into transactions and positions, not when financial transactions are first assembled. Additionally, the proposals are proprietary, silo based centralized solutions, revolving around specific country or regional regulatory jurisdictions. What should be desired is open and distributed solutions in keeping with both technological innovation and the compelling need to recognize systemic risk accumulating in near real-time across each of these sovereign regulatory jurisdictions.

These current efforts can be thought of as analogous to the early initiatives undertaken when the internet had not yet evolved into the World Wide Web. Then it was thought that in order to get at information efficiently, centralized “super sites” were needed to aggregate this information. These early efforts did not anticipate the evolving distributed nature of information storage on the internet and the standardization of browser and coding technologies. Nor did it anticipate the global acceptance of standard messaging protocols and centralized issuance of web addresses, thus making search engines possible along with universal, real-time access to locally stored information.

US Data Utility Initiatives

“Systems underpinning global financial markets are becoming more interconnected in increasingly complex ways.”

US Treasury Secretary Timothy Geithner
June, 2008

The Central Counterparties (CCPs) proposal for central clearing of OTC derivatives has spawned at least six in-process or proposed new entities, under different regulatory regimes and with proprietary data formats. This has led the Depository Trust and Clearing Corporation and at least one private sector vendor to suggest a role for themselves in retaining the full details of the underlying trading positions in each of these CCP entities in a central repository to support regulatory oversight and transparency in that market.

The CFTC is proposing additional position reporting requirements for its expected oversight of the OTC derivatives markets in the US. This process, presumably an extension of agricultural commodity contract market oversight, if implemented in the semi-manual manner of today’s reporting systems, would be a cumbersome and unwieldy process. It would not be up to the needs of real-time processes, high volumes and standards for identifying data for matching counterparty risk or accumulating positions in markets not overseen by the CFTC.

The National Institute of Finance, a yet to be established independent US federal agency, is proposing to establish a Federal Financial Data Center (FFDC). The FFDC will be a national repository of financial transactions and position data received from US based financial institutions and their affiliates. An ancillary data attribute utility would assign standards for business entity identification and maintain fundamental data for use by all US regulators. The SEC’s EDGAR corporate filing system is being transformed into the IDEA data base, which will require filers to assign standard tags to meaningful data so that computers and systemic risk regulators can access the data directly.

European Data Utility Initiatives

“...creating a standard for reference data on securities and issuers, with the aim of making such data available to policy-makers, regulators and the financial industry through an international public infrastructure”

Jean-Claude Trichet, President of the ECB,
February, 2009

The European Central Bank (ECB) is proposing a reference data utility to store SEC EDGAR-like data for companies in the ECB member countries, along with its own fundamental standard data identifier and attribute repository. Issuers would be mandated to deliver corporate event data and reference data to the utility with data vendors helping issuers fulfill their legal requirement to send standardized data to the repository.

The ECB's T2S project would settle the money side of securities transaction through a central facility, using transaction standards that they define for all contributing central depositories. Linkup Markets, a joint venture between eight European central securities depositories is implementing a giant electronic mapping facility to transform and then switch proprietary messages and their proprietary codes to allow for interoperability and for interfacing to T2S.

The Committee of European Securities Regulators (CESR) has many initiatives underway including development of its own central reference data repository to rationalize the transaction reporting required within the Markets in Financial Instruments Directive (MiFid). It also maintains transaction standards for communicating transactions among individual country security regulatory authorities and has recently expanded its scope to deal with OTC derivative transaction reporting. It is also developing a central repository of credit rating agencies' historical performance data.

Private Sector Data Tagging and Standards Initiatives

“Our current regulatory regime is almost solely focused above ground, at the tree level. The real threat to market stability is below ground, at the root level, where the health of financial firms is intertwined.”

Former U.S. Treasury Secretary
Henry M. Paulson Jr.
March, 2008

The Enterprise Data Management Council is building a semantics repository of financial terms that will represent the most granular of financial transaction components and fundamental data across a trade's life cycle. The ultimate aim is to precisely assign tags to such data for random access by computer means. The Software and Information Industry Association's Financial Information Services Division is developing a Wikipedia of financial terms to aid in data tagging standards. The Data Governance Council is proposing a taxonomy of granular terms for tagging

data for automated searches of risk related position and loss data. Add this to the Fix Protocol Ltd's trade tagging definitions, the International Swaps and Derivatives Association's FpML data tagging standards, DTCC's New Issue Information Data Service (NIIDS) of tagged terms and conditions, and the SEC's tagging initiative for corporate and mutual fund filings, amongst many others, and you have the possibility of rapid deployment of new ways of accessing financial data.

However, with no governing body and no regulatory mandate for these efforts, if left to their own stand-alone implementations, they will result in introducing a whole new generation of proprietary and overlapping data tags, adding to the problem of multiple and proprietary product and business entity identification codes and other data attributes.

There are many other organizations with activities underway to solve specific standards issues including the SWIFT organization, the ANNA Service Bureau, the International Securities Association for Institutional Trade Communication (ISITC), the Asset Backed Securitization Forum, The UK's Pension Regulator, the International Society of Securities Administrators (ISSA), the London Stock Exchange, the Deutsche Borse, and many more ad-hoc working groups, industry task forces, industry trade associations and industry infrastructure institutions. The inevitable consequence is that they work on their own part of the solution, often duplicating the work of others.

The International Standards Organization (ISO) is working on a myriad of financial transaction standards, including its own version of a global business entity identifier. These many initiatives are providing forums where asset managers, banks, broker/dealers, hedge funds, global custodians, exchanges, data vendors, insurance companies and others discuss issues pertinent to risk mitigation through standards setting. The work is aimed towards improving the understanding of solutions which could improve performance for their own firms, as well as devising common solutions to shared problems across intertwined financial institutions.

All of these efforts, however, are interjecting more complexity, more overlap, more government involvement and ownership, more standards that are not global standards, and more silo based, redundant accumulations of identifying data, financial transaction data and position data, when the industry only needs a nudge from its regulators to rally around a single solution - a global data standard and the mechanism to assign, maintain and distribute standard and assured identifying data sets, not unlike the solutions that evolved for the World Wide Web.

Like the Internet, the financial industry needs a nudge from its regulators to rally around a single solution - a global data standard and the mechanism to assign, maintain and distribute standard and assured identifying data sets. This is the solution that evolved into the World Wide Web and that had been anticipated by the Group of Thirty for its equivalent sphere of economic interest, the globally interconnected communications network we call the financial system.

In the end we should all be able to relate to the benefit of regulatory support for societal benefit. We need only look at the recent US Federal Communication Commission's policy change on mobile phone numbers. Prior to mandating a single, universal and portable number for an individual or business entity, each provider of network services had assigned unique numbers to their own clients. Switching costs, both in monetary terms and measured in terms of the risk of losing calls and contacts, was a high hurdle to overcome. Even though services were poor or deteriorating people were reluctant to switch because it meant losing their assigned number.

The Central Counterparty for Data Management

“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.”

Global Clearing & Settlement Committee
- Final Monitoring Report
The Group of Thirty
May, 2006

It is clear that for a systemic regulator to be effective, it must be able to “see” global positions of the global institutions that it oversees and be able to aggregate those positions in a timely manner so that the net effect of these positions upon counterparties, across markets and within payment and settlement systems can be observed. “Seeing” in today's world of electronic financial transactions is completely dependent on computers accessing information, organizing that information quickly and consistently, analyzing the correlations and volatilities observed in the data, running macro scenarios on the data, and reacting to the financial institutions in dialogue and discussion to inform each institution of potential systemic risks that they and/or their counterparties are imposing on the financial system. This is only possible if the data that the systemic regulator is “seeing”, that is the electronic representation of these financial transactions, are timely received, uniquely identified and consistently defined. Today this standardization is not in place at existing regulators that receive this data nor at the financial institutions that produce it.

The private sector initiative, the Central Counterparty for Data Management intends to adhere to the Group of Thirty's “global owner” admonition and be a global clearing house for financial transaction identifiers and associated data attributes. This seems a logical approach to tracking transactions globally that today are not identified as the same when, in fact, they are the same. A global directive could be issued that challenges the industry to establish global data standards similar to the Basel minimum capital standard overseen by the Bank for International Settlements (BIS). The Financial Stability Forum, as the newly transformed Financial Stability Board, has implied authority from its founding Group of 20 countries to impose such a mandate.

Similar to the Basel capital mandate, each sovereign or regional regulator would be directed to have financial institutions adhere to standards of data definitions in communicating among systemically important financial institutions; among their clearing, settlement and depository infrastructure facilities; and to their regulators. The CCDM would have a further mandate to be the global focal point for assimilating best of breed solutions i.e. product, counterparty and business entity identifying standards; financial transaction message protocols; data tags, et al; publishing standards; and maintaining data sets.

The CCDM is being organized as an industry owned and paid for facility, available to regulators and industry members alike. It is to be populated initially by the best-of-breed fundamental data of both early adopter industry members and data vendors. Over time, as more regulatory jurisdictions require Edgar-like reporting (the ECB initiative being one example), it would capture data from these sources directly rather than from the multiple data vendors now forced to read and make interpretations from original source documents. It would eliminate the need to implement any of the myriad of silo solutions described above. Fundamental product and business identity data commonly labeled, used first in already submitted regulatory data, and later in any required financial transaction and position data would be available for computer search and forwarding to regulators on a prescribed timeline as well as on an ad-hoc basis.

The CCDM will be self funding over time by the enormous savings the industry will realize in using a central data base of common-to-all product, supply chain, and business entity identifiers; common data attributes; common corporate event reporting; and consistent terms and conditions and other descriptive information. Individual firms will decommission legacy systems and direct newly built business applications to access the CCDM for fundamental data in assembling a transaction.

Each product or business entity in the CCDM would be assigned a universal, portable, standard number or code, accessible from a centralized data base. Here, we needn't discard all the good work of the myriad of trade associations, standards setting organizations, ad hoc committees, et al. We simply need to choose the best of breed and build upon this work toward a consensus view, under a regulatory mandate to do so, not a regulatory fiat to re-invent and own the resulting facility. To follow the earlier mobile telephone analogy, as dialing 411 provides a universal directory of telephone numbers, think of electronically dialing "CCDM" for the universal set of data components for each financial product or business entity.

The industry has rallied around the establishment of common infrastructure utilities in the past – clearing houses, payment and settlement systems, depositories and central counterparties - all in the name of systemic risk mitigation. For the same cause it now needs to embrace a long overdue common approach to establishing and implementing data standards and common reference data sets.

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