



Inside Reference Data

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Risk Data Aggregation

Special Report



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Editor's Letter



Definitions and Organization

One insight that can be derived from the responses to questions posed for this special report on risk data aggregation is that much of how well firms pull essential data together for better risk management depends on how they define it, divide or group it, and examine it.

Deloitte's Dilip Krishna, in our Q&A on page 14, says raw data input must have "high fidelity" to produce high levels of risk data quality. He notes that risk data usually comes from other parts of a firm, in the form of booked trades or loans being originated or serviced, and therefore ends up getting enriched with risk metrics. Those metrics include client, facility and collateral data, often from a historical record of five years or more.

In our Virtual Roundtable, beginning on page 8, data management executive Rick Aiere stresses the importance of a common vocabulary for understanding data coming from different units of an organization. Firms must organize themselves internally so their units collaborate to create and maintain the necessary data dictionary.

Thomson Reuters' Kate Toumazi suggests it may be possible to choose a "best in breed" dictionary, if multiple dictionaries are already in use throughout a firm. Ideally, this would make it possible to harmonize a broader array of data into a single, more scalable model, she says.

With enterprise-wide data, firms must break it down, scrutinize it and then reorganize it to address risk management, adds Aiere. A single repository, however, is not necessarily the only way to go, says Toumazi. A federated model can be just as effective at preserving an enterprise-wide view. Everyone has a role to play in defining and managing risk data.

Yours sincerely,

A handwritten signature in black ink that reads "Michael Shashoua". The signature is fluid and cursive.

Michael Shashoua

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DTCC Enhances ISO 2022 Offering

As part of its new centralized data provisioning service, DTCC Data Products, the Depository Trust & Clearing Corporation (DTCC) has improved its corporate actions ISO 2022 data product offering. The enhanced corporate actions service is available now to all subscribers.

DTCC chief data officer Ron Jordan says the company is at the beginning of a journey centralizing the provisioning of data products through a web portal, after a major rethink of this business.

“DTCC has been provisioning data for a long time in its various settlement and asset services roles across many asset classes, as well as offering various

reference data services like corporate actions,” he says. “Traditionally, these have been very bespoke, but we have learned over the last couple of years that there is more emphasis on data and its consumption in financial institutions. Firms have demanded more data for use internally.”

New uses include regulatory compliance, reducing risk and operational inefficiencies and gaining access to better market insight. The newly launched data portal, *dtccdata.com*, provides information on the first sets of data that will be provisioned and accessed via the portal later this year.

Joanna Wright

Datactics Adds Data Integration Capability

Software provider Datactics has launched a browser-based application called Data Quality Manager (DQM), for matching and integrating entity, instrument and regulatory data.

DQM automates the transfer of critical data in the business lifecycle and allows easier access to the data-processing engines of Datactics’ FlowDesigner application. DQM is compatible with multiple data formats and source infor-

mation in the areas of entity, compliance and instrument data.

Clients can choose to set data-quality thresholds, so records falling below defined levels of accuracy are presented for manual validation via the DQM Master Record Manager. They can then review and update individual records, and view and confirm the business rules that have been applied to data.

Joanna Wright

ISITC Plans Operational Risk Effort

The International Securities Association for Institutional Trade Communication (ISITC) chair Jeff Zoller has announced plans for ISITC to devote attention to operational risk issues involving data and technology later in 2015.

At previous Annual Industry Forums held every March in Boston, the organization launched working groups—a middle-office working group in 2014 and a regulatory working group in 2013. ISITC is still determining whether its operational risk efforts will take the form of a working group this year.

The US Treasury's Financial Stability Oversight Council began seeking comments in December on potential risks to US financial stability, including risk related to reliance on third-party service providers. The FSOC's naming of that risk is another reason for increased concern about operational risk among ISITC's members, according to Zoller.

As firms make decisions about their operating models, including changes in data management and technology, they are choosing whether to use third-party service providers, investment books of record or other new data management capabilities, Zoller explains. ISITC is looking at the common themes all firms are considering when making these decisions that affect their operational risk, he says.

Michael Shashoua

RBC Revises Transaction Data Processes

To contend with data coming from numerous channels within its organization, Royal Bank of Canada (RBC) has re-evaluated transaction events initiated by clients that were routed across these different channels, setting up different markers for the events and collecting the necessary data more frequently, in granular fashion, according to an executive at the Toronto-based global firm.

"The business wanted to correlate events to understand how the channels were being used," says Ahmad El-Kays, data architect at RBC.

Asset Control Launches Risk Data Management Service

Data management software provider Asset Control has launched AC Risk Data Manager, which provides data governance for risk managers on both the buy and sell sides, and handles current and historical risk data.

AC Risk Data Manager synchronizes risk data generation using common underlying master data, bringing consistency and control to risk data, as well as centralization and visualization.

Risk Data Aggregation: Vocabulary and Context

Inside Reference Data gathers leading industry professionals to discuss the practice of risk data aggregation and how it can offer a better grasp of risk management

How should data dictionaries or definitions be established as a foundation for data aggregation efforts?

Rick Aiere, former data architect, Credit Suisse: Large financial organizations have very disparate systems across business entities, front to back, that pose a huge challenge for consolidation and aggregation. A starting point for achieving data aggregation is to have a common vocabulary to understand the data across the organization. Many firms go through the effort of establishing data dictionaries that do not get used or find limited usage.

To have an enterprise-wide data dictionary is a challenge that requires

collaborative efforts. Establishing a structure to centrally create and maintain a data dictionary, with a clear mandate to gain adoption across the organization, has proven effective in laying a good foundation for data aggregation. Setting up organizational entities that make the data dictionaries accessible and participate in their adoption helps aggregation efforts.

Kate Toumazi, global head of risk data services, Thomson Reuters: In accordance with Basel, financial institutions must have an enterprise approach to how they manage risk and a robust system that utilizes consistent data across the entity. Having strong data architecture is critical

for risk data aggregation, and a key facet of any firm-wide data architecture is to have consistent data dictionaries.

However, the reality is that, for most firms, the technical challenges are compounded when differing data dictionaries are used across the organization. In an ideal scenario, firms would pick a best-in-breed dictionary and look to roll it out across their entire enterprise. This may mean tweaking existing capabilities so that a broader array of data can be harmonized into a single, more scalable model.

A recent survey of global systemically important banks (G-Sibs) further highlighted the challenge firms are facing, showing an increase in the number of banks that are unlikely to be compliant with BCBS 239 implementation by the 2016 deadline. In fact, more than half of those surveyed said they were not going to be ready. This truly underscores the complexity of the challenge, which is growing, not shrinking. A need for a solution remains critical. We can all hear the regulatory clock ticking, and firms need to work towards the best viable solution for their business, given their existing infrastructure.

Does consideration of data semantics have the potential to solve data aggregation issues?

Aiere: Data semantics help to resolve



the data aggregation issues that streamline integration efforts. Establishing a governing body and adopting industry standards are critical components of this. While consideration of data semantics has the potential to solve the issues, organizational realignment and metadata-driven approaches tend to be more effective in producing a sustainable model for solving data aggregation issues.

Who should the stakeholders be, and what should be their roles, when assigning responsibility for data domains?

Aiere: The stakeholders span the horizontals and verticals of organizations. Steering committees can have collective responsibilities for each data domain. Data ownership and stewardship has to be clearly defined, and often

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lies within the purview of the chief data officer role. This role can also effectively oversee the governance. The golden rule of “business owns the data” helps to set the base for a strong commitment from business to ensure data quality, availability and effective management. Establishing the precise roles and responsibilities also depends on the maturity of the organization.

Toumazi: To comply with Basel, firms must be proactive in how they provide governance and oversight to their risk systems, policies and procedures. They must truly own how they are measuring and mitigating risk.

In light of this, one of the biggest organizational changes we have seen across numerous firms is the appointment of a chief data officer, who reports to or operates for the board. We believe this trend will continue for the following reasons. First, by elevating the importance of the data function within their organization, firms are highlighting the strategic importance of getting it right. Second, and perhaps more importantly, it specifically assigns accountability to a senior individual.

It is clear that the stakeholders for risk data aggregation sit across numerous parts of the organization, including risk, finance, IT and data operations, and that these functions must all work

together to create the overall structure and composition of the governance and delivery organization.

The front and back office are often not joined up, and the front office is often not incentivized to input accurate data, which results in manual intervention later to correct it. By having a single, senior figure responsible for data across the organization, many firms are looking to address these problems and are far more likely to succeed despite the fragmentation.

Can enterprise-wide data be broken down, scrutinized and reorganized to address risk management? How should that process work?

Aiere: Enterprise-wide data can definitely be broken down, scrutinized and reorganized to address risk management. Often, data is duplicated within each business unit and interpreted in their context. Though challenging, the process of breaking down and reorganizing the data from a risk management perspective can work in two ways, depending on the size of the organization and the overall application landscape.

One way is to address an enterprise-level initiative with the provision of clear directives on the consistent adoption of data standards. This works for organizations with a higher level of maturity

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Virtual Roundtable



*Rick Aiere,
Credit Suisse*

in data management. Another way is to organically evolve data management through each business unit, maintaining metadata to qualify the data being shared.

A major challenge in this area becomes not only identifying the context of the data, but also identifying duplication of data across the business units. I have come across organizations that have effectively used the metadata to identify the context and clean up the data for providing near real-time exposures.

Toumazis: A bank should be able to generate accurate and reliable risk data to meet the necessary reporting requirements. To accomplish this, data should be aggregated on a largely automated basis to minimize error.

Only with an enterprise-wide view can data be aggregated to truly address risk management. Fragmentation is public enemy number one when it comes to aggregated risk management. This does not necessarily mean the only solution to be able to scrutinize the data is a single, granular data repository across the entire firm with a single risk management system feeding off it. We,

for example, see many banks looking to technology solutions to create a federated model for a single data repository, which will add a layer over and above their existing databases to try to create a single data model midway through the data lifecycle.

How far banks need to go towards this depends on how consistent their data models are, and where they are looking to aggregate their risk, either by country, region, group or some other level. Even if silos of data are not being physically broken down, one thing is certain: the way data collection, storage and maintenance is managed can no longer be done in a silo if firms are to fully address their risk management challenges.

What impact is the stress-testing regimen of CCAR and BCBS 239 having on risk data aggregation efforts?

Aiere: The regulations have definitely driven some of the risk data aggregation efforts. Regulatory drivers have set deadlines and defined mandates, and often have budgets assigned. However, a pattern has emerged through all the regulations. While more attention was being paid to capturing and preserving data in the past, traceability and governance has emerged as a key focus area due to more recent regulations. This also helps organizations to align the

risk across various operating divisions to gain a singular view.

Having mandates on capital requirements means all business units need to funnel data into some sort of aggregation platform to gain a complete view. However, over the past two to three years, organizations have started to no longer focus on a singular regulation, but have taken a broader approach to simplify architecture, improve data quality, assess their existing landscape and find creative ways to handle legacy, thereby addressing risk as a whole.

Toumazi: The Basel Committee on Banking Supervision states that “risk data aggregation” is “defining, gathering and processing risk data according to the bank’s reporting requirements to enable the bank to measure its performance against its risk tolerances/appetite.” BCBS 239 is core to this statement and its specific data standards highlight the vital role data plays when implementing true risk data aggregation.

The biggest impact we are seeing is increased investment in data aggregation. It goes without saying that, post-2008, most major institutions were looking to improve their aggregation to avoid the same lack of transparency and inability to respond on a timely basis to market and credit risks, but today’s regulations are adding extra pres-

“A bank should be able to generate accurate and reliable risk data to meet the necessary reporting requirements. To accomplish this, data should be aggregated on a largely automated basis to minimize error”

Kate Toumazi, Thomson Reuters

sure. The fact that BCBS 239 has milestones requiring firms to report on their progress also means this has been top of the agenda.

The explicit requirement to provide forward-looking assessments of risk to senior management is a different, new facet of the regulations. This includes forecasts or scenarios for key market variables and the effects on the bank, providing senior management with a much-needed view of the likely trajectory of the firm’s capital and risk profile in the future. This change adds yet another layer of complexity to what is already a substantial undertaking. It also drives further investment in data aggregation efforts to ensure that not only are historic/current risk calculations and measures consistent but that any future-looking views are consistently modelled.

Flood of Factors

IRD speaks to Dilip Krishna, director at Deloitte, about how to best prepare risk data before aggregation, and how stress test requirements affect aggregation



Dilip Krishna

Does it make sense to divide up risk data and evaluate or inspect it before aggregating it?

Risk data usually originates elsewhere in the organization, as booked trades, originated and serviced loans, etc. It is enriched in a number of ways, most pertinently by adding risk metrics to it. To ensure high levels of risk data quality, it is essential to ensure the raw input itself has high fidelity. Additionally, high quality requires the aggregation process to be free from corruption, so both of these are necessary conditions to ensure the ultimate accuracy of risk data.

How should risk data be divided and organized to those ends?

Risk data has several components. The base input is the current actual financial state of the organization as represented by trading positions and loan balances. Risk metrics also depend on other important information such as client, facility and collateral information. In addition, to develop models for risk management, it is critical to have a sufficiently long historical

record of such data (e.g., five years of loan history). Finally, external data may also be required to supplement internal historical data (e.g. operational loss history data).

Are the stress-testing requirements of CCAR and BCBS 239 driving more attention to risk data aggregation and getting more done in that regard?

Stress-testing requirements are driving significant changes in risk data aggregation infrastructures. These requirements go well beyond generating risk reports, and demand that banks perform a meaningful analysis on both inputs and outputs of stress tests. In addition, there is a timeliness requirement that is hard to meet. These requirements are usually difficult for banks to meet with existing infrastructures, prompting their focus on risk data aggregation systems. Since BCBS 239 is consistent with these requirements but states them more explicitly, both requirements are together driving more coherence in risk data aggregation infrastructures.

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