



## Article

APRIL 2019

# Regulatory Data Management

Data Quality and Integrity Concerns for Asian Banks

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Following the 2008 global financial crisis, regulators have trained their focus towards surveillance, enabled by more stringent reporting and data collection requirements.

As a result, financial institutions have been required to not only overhaul their risk management processes with a greater reliance on data, but to provide detailed reports to regulators on the risks they face and their impact on their capital and liquidity positions.

Managing large sets of regulatory data has become an important part of conducting business in the financial industry, and the increased use of technology for data analysis and collection has meant that regulators are demanding more and more granular data to enhance supervisory, risk assessment, and stress testing efforts.

Increased regulation has indeed played a big role in the increasing demand for financial and risk data. Reporting requirements under every major financial regulation—from Basel III and IFRS 9 to MIFID II, EMIR, and FATCA—are increasingly data heavy, requiring banks to manage, clean, and analyse a large amount of information to mitigate risk, conduct stress testing, and perform analytics.

Further highlighting the centrality of data management and reporting, in addition to the regulations cited above, the Basel Committee of Banking Supervision's BCBS 239 rules specifically focus on the aggregation of risk data and reporting. Released in January 2013, the standards require banks to demonstrate the practical applications of their data governance and their effective ownership and stewardship of their data.

In a BCBS 239 world, the value of banks' data models and architecture becomes significant, not just for meeting regulatory reporting requirements but also to assure numerous stakeholders—regulatory and otherwise—of the strength of the systems they have in place, along with their flexibility to scale and adapt to new regulatory and compliance requirements.

In addition to a strong institutional culture around data governance, banks must invest in a data management system that can be easily updated with new regulatory and commercial realities, while still maintaining the integrity of the underlying data model.

### Single Version of Truth

A "single version of truth" or so-called "golden" data that addresses both compliance and commercial concerns is a key demand of regulatory data. Relying on a single source

of data for compliance purposes is important for reducing errors and bottlenecks. At the same time, the quality of the data becomes necessary as it flows not just into regulatory reports, but also forms the basis for a number of other projects within an organisation.

The Moody's Analytics RiskFoundation™ solution is a widely used data management platform that helps banks to establish a single source of high-quality data—otherwise known as a single version of truth—that can be used for both risk management and regulatory reporting purposes. Deployed at over 150 financial institutions globally, the RiskFoundation platform integrates data from different source systems to create a single common record that includes both risk and finance data.

Once the source data is aggregated into a unified dataset with a unique representation of the data, it can be used not only by several Moody's Analytics engines to perform multiple operational tasks, but also to complement banks' ongoing risk management, regulatory reporting, and commercial activities. The database uses a Moody's Analytics data model to capture all financial instruments, market data, and reference rates for risk metrics calculations and reporting.

The data can also be reconciled with a group system to further enhance its quality and help with group-level projects, due to its multiple consolidation and sub-consolidation levels.

Centralising risk, financial, and economic data into a single source can help ensure complete auditability and transparency across departments. Along with standard placeholders for the most commonly used data types, the platform allows users to configure calculations using additional metrics and dimensions that match their own models and reporting requirements. Once the data is recorded, it can be reused and audited as needed.

Currently, the challenges Asian banks face in relation to increasing regulation are often compounded by problematic data sources that may lack in quality or completeness. The RiskFoundation platform creates a basis for a world-class risk management system, which supports compliance with any number of regulatory requirements, while also enabling better business performance.

By improving the handling of large volumes of data,

banks are able to view and measure enterprise risk in its entirety from within the platform, which helps to improve decision-making and ultimately, business performance and profitability.

### Data Quality

The RiskFoundation solution and its data management tools help improve data quality by performing over 4,000 checks during the data consolidation phase, during which the platform flags data points that don't match the desired quality standards. It also allows banks to create routines and functions that automatically cleanse the data.

Banks can run several checks on their data, from a basic completeness check to a deeper check, to ensure greater consistency with the data model through an analysis of data consumption and the redressal of missing data.

Top-view checks help to ensure that the data complies with regulatory requirements, as well as produce conservative estimates on the general trends of key risk parameters such as those related to specific compliance metrics. This functionality helps banks determine in real time if regulatory thresholds have been breached.

Regulatory reports can also include data enriched with regulatory analytics from within the platform through the use of Moody's Analytics calculation and reporting engines. The RiskFoundation platform supports Basel I, II, and III for banks in over 60 different jurisdictions globally, including each reporting template.

Moody's Analytics' recent integration of the Paxata data preparation platform helps to further improve the consistency and quality of banks' data models through machine learning. According to Yann Delacourt, Director at Moody's Analytics, Paxata employs a large number of statistical capabilities to help banks draw insights from their existing data.

"For example, the tool will profile your data to understand the frequency with which an instrument is used or to eliminate duplicates if counterparts' names are very close. This is an important area where our customers rely on us: to assess how closely the data fits with regulatory requirements," he said.

### Performance and Data Model

Setting up infrastructure for a regulatory data, compliance, and reporting project is time- and resource-heavy. The RiskFoundation platform can help accelerate regulatory projects by quickly identifying gaps in the data and pinpointing low-quality data sources. It can minimise investments in IT by sharing industry-standard hardware resources across the entire enterprise risk solutions suite, using a shared grid computing environment.

The platform makes use of its strong grid computing capabilities to enhance the performance of institutional risk management solutions, allowing for flexibility to scale and adapt to new regulations and business directions.

Users can answer sophisticated analytical queries across their entire portfolio and create real-time reports at aggregate and transactional levels. For the latter, the data model supports significant granularity in relation to data attributes. Cedric Montlahuc, Director at Moody's Analytics, says performing granular checks very quickly allows for the identification of the key pain points in the data enrichment process.

"We can really quickly—on day one of the project—identify where the pain is going to come from in enriching the data given the embedded management tools. These tools, in addition to the data preparation capabilities of Paxata, allow banks to create automated routines that can complement a number of activities," he added.

Data management tools and applications like the RiskAuthority™ solution, the RiskConfidence™ ALM solution, and Scenario Analyzer can integrate seamlessly into the platform, sharing the same functional data model.

For example, Montlahuc says, the requirement to have a Legal Entity Identifier (LEI), which is part of a number of global regulations including MIFID II, can be an issue for customers that transact with a lot of different entities. Through data management, and quality checks, missing LEI numbers can be easily flagged and followed up.

The platform's robust data model ensures that all data, from any number of sources and whether structured or unstructured, is of good quality on entering the centralised database. The strength of the data model has led many banks to use the data management capabilities of the platform to generate value for various other purposes.

Shailendra Jain, General Manager-Asia, Enterprise Risk Solutions at Moody's Analytics, says that a significant amount of value from the platform is also extracted for non-regulatory tasks. For example, consider an institution that calculates liquidity coverage and net stable funding ratio for reporting under Basel III, and is looking to enhance its treasury function. Jain says that using the RiskFoundation platform-based modules, the institution could analyse its liquidity position daily to help inform the decisions traders make to enter or exit positions.

"Institutions can have very high confidence in the quality of their data given the data checks to calculate their regulatory ratios, and then take one more step towards informing their trade desks with respect to the type of positions they want to take. This is a big advantage of the platform," says Jain.

The repurposing of the platform on the trading book side of the business is especially important as the Fundamental Review of the Trading Book (FRTB) and MIFID II regulations come into full effect in Asia. In addition to capital adequacy and credit risk management, a large number of institutions also benefit from the platform's functionality for compliance with Interest Rate Risk in the Banking Book (IRRBB) standards.

In order to enhance the platform's flexibility going forward, the RiskFoundation solution will use an open source operating system and will be hosted on the cloud. Technology that is more suitable for big data and distributed computing on the cloud will help ensure the platform is keeping pace with increasing demands on functionality and access, with the same stringent data quality rules.

"We are looking to provide institutions enhanced functionality with the same data quality rules, but with a technology and an environment that is far more scalable, open, and adaptable," said Jain.

## Conclusion

The ability to perform frequent and more granular data analytics has already helped a large number of institutions improve monitoring and management of risk exposures, based on their risk appetites, and to implement early corrective actions when necessary.

The RiskFoundation platform provides the infrastructure

needed to implement a world-class risk management system. It supports compliance with regulatory guidelines and is central to many Moody's Analytics enterprise risk solutions for financial institutions, including for asset and liability management, regulatory capital, regulatory reporting, and more.

The platform's integration of risk and financial data can help foster a better understanding of risk appetites and exposures by relevant stakeholders, enabling better risk management across business units and promoting a robust organisational risk culture.

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