

**WHITEPAPER**

# Embedding Risk Data Aggregation and Reporting Principles Across the Organization

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**Executive Summary**

This paper considers the 14 Data Principles recently described by the Basel Committee for Banking Supervision (BCBS Regulation 239) and assesses their associated costs and benefits. In addition, it explores the benefits of embedding the Principles in two contexts: corporate credit origination and overall enterprise-wide risk management.

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## Introduction

### The Drive for More Transparent, Accurate and Holistic Risk Management

The global financial crisis has highlighted the extent to which firms' IT and data architectures have been inadequate. Prior to the crisis "many banks lacked the ability to aggregate risk exposures and identify concentrations quickly and accurately at the bank group level, across business lines and between legal entities. Some banks were unable to manage their risks properly because of weak risk data aggregation capabilities and risk reporting practices."<sup>1</sup>

Today, it is not just supervisors that are demanding greater transparency around risk management processes, but also shareholders and other stakeholders. Having been challenged to provide answers to fundamental questions over the last few years, banks are now being urged – indeed forced – to improve the scope, accuracy and governance of their data. Regulatory reforms are driving banks to improve their risk management processes, infrastructure and overarching governance. As a consequence, banks are looking to improve both access to and use of their underlying data.

An interesting question to ask is around the extent to which this focus on data is a case of the [regulatory] tail wagging the [banking] dog? Fundamentally, banks exist not for themselves but in order to create value for their shareholders. Two other key stakeholders also benefit from a strong and healthy banking sector: banking staff, without whom the banks cannot conduct their business; and customers, who need banks and without whom the banks have no business. Regulators of course are primarily concerned with ensuring the safety of customers (depositors) and, by extension, the wider economy. But the mutual interests of all three constituents should be a strong incentive for the management teams within banks to ensure they operate effectively and prudently. It shouldn't be just the regulators challenging bank management to improve but also the bankers themselves.

The ultimate objectives for all stakeholders in a bank are continuity, stability and sustainable growth, through each and every economic cycle. It is unexpected events, and an inability to identify the impact of these when they happen, or to plan for the management of the consequences of such increased risk, that undermines these objectives. Strong management of risk across the enterprise is therefore an imperative. This means having a clear idea as to the risk appetite of the organization and an equally clear understanding as to how to manage this across the organization, over time.

The market turmoil of the last few years came about because of a misalignment of the interests of these stakeholders, and an inability of bank management to spot, and manage the consequences of the misalignment. Too often, the pursuit of enhanced shareholder returns has been prioritized ahead of - or has minimized the investment in - enterprise risk management (ERM).

At its most fundamental level, sound ERM requires access to quality data. The 'data problem' has long been recognized by senior management in many banks as something that needs greater attention. But it is often the elephant in the room – a big something to be dealt with, but one that is almost always too big to tackle, or one that is postponed as tomorrow's problem. So it has fallen to the Basel Committee to summarize a number of principles around data management with a view to re-invigorating the debate and incentivizing senior bank management.

<sup>1</sup> Principles for Effective Risk Data Aggregation and Risk Reporting, Bank for International Settlements. January 2013.

## 14 Principles to Strengthen Risk Data Aggregation and Reporting

Accessing and leveraging “accurate, complete and timely data is a foundation for effective risk management.”<sup>2</sup> As part of its drive to improve risk management, The Basel Committee on Banking Supervision (BCBS) has drawn up 14 Principles to strengthen banks’ risk data aggregation capabilities and internal risk reporting practices. While focused on Global Systemically Important Banks (G-SIBs), the principles espouse best practices for all banks. To the extent that this is not evident from the BIS paper, such best practice will increasingly be expected of all market participants, as confirmed in our dialogue with regulators. The Principles apply to the data that is critical to enable a bank to manage the risks it faces. They refer to all types of data including reference and transaction data. These Principles are categorized under four key themes as outlined below.

Figure 1: Summary of BCBS Principles for Effective Risk Data Aggregation and Risk Reporting

Core Theme	Key Requirements
Overarching Governance and Infrastructure	<ul style="list-style-type: none"> <li>» Board and senior management should review and approve the bank's group risk data aggregation and reporting framework</li> <li>» The practices underpinning the framework should be fully documented and independently validated (by staff with specific IT, data and reporting expertise)</li> <li>» A bank should establish integrated data taxonomies and architecture across the banking group including information on characteristics of the data, as well as using single identifiers and definitions for data</li> </ul>
Risk Data Aggregation Capabilities	<ul style="list-style-type: none"> <li>» Banks should strive towards a single authoritative source for risk data for each type of risk.</li> <li>» A bank's risk personnel should have sufficient access to risk data to ensure they can appropriately aggregate, validate and reconcile the data to risk reports</li> <li>» Banks should have a data dictionary, so data is consistently defined across the organization</li> <li>» A high degree of automation is desirable to reduce the risk of errors</li> <li>» Supervisors expect banks to document and explain all of their risk data aggregation processes (automated and manual)</li> <li>» A bank's risk data aggregation capabilities should include all material risk exposures (including off-balance sheet)</li> <li>» Banks need to build their risk systems to produce aggregated risk data rapidly during times of stress/crisis for all critical risks</li> <li>» A bank's data aggregation capabilities should include flexible processes for quick decision-making, customization capabilities (data drill-down), capabilities to incorporate regulatory framework and organizational changes</li> </ul>
Risk Reporting Capabilities	<ul style="list-style-type: none"> <li>» Risk management reports should include exposure and position information for all significant risk areas and components of those risk areas</li> <li>» Risk management reports should also cover risk-related measures (regulatory and economic capital)</li> <li>» Reports should identify emerging risk concentrations, provide information in the context of limits and risk appetite/tolerance and propose recommendations for action where appropriate</li> <li>» Supervisors will need to be satisfied with the choices a bank makes in terms of risk coverage, analysis and interpretation, scalability and comparability across group institutions</li> <li>» Supervisors expect that risk management reports to the board and senior management provide a forward-looking assessment of risk and should not just rely on current and past data</li> <li>» The reports should contain forecasts or scenarios for key market variables and the effects on the bank so as to inform the board and senior management of the likely trajectory of the bank's capital and risk profile in the future</li> <li>» Banks should maintain defined requirements and processes to reconcile reports to risk data including an inventory of the validation rules that are applied to quantitative information</li> <li>» Banks should have in place integrated procedures for identifying, reporting and explaining data errors or weaknesses in data integrity via exceptions reports</li> <li>» Procedures should be in place to allow for rapid collection and analysis of risk data and timely dissemination of reports to all appropriate recipients</li> </ul>

<sup>2</sup> Principles for Effective Risk Data Aggregation and Risk Reporting, Bank for International Settlements. January 2013.

Core Theme	Key Requirements
Supervisory Review, Tools and Cooperation	<ul style="list-style-type: none"> <li>» Supervisors may test a bank's compliance with the Principles through occasional requests for information to be provided on selected risk issues within short deadlines</li> <li>» Supervisors can require a bank to take remedial action; increase the intensity of supervision; require an independent review by a third-party; and use capital add-ons as both a risk mitigant and incentive under Basel III, Pillar 2</li> <li>» Supervisors should cooperate with relevant supervisors in other jurisdictions regarding the supervision and review of the Principles</li> </ul>

The Principles are designed to improve the way banks manage their risks by:

- » Enhancing the reporting infrastructure and process for reporting key information to identify, monitor and manage risks
- » Improving decision-making
- » Facilitating more holistic solo entity and group level risk management
- » Increasing the speed at which information is available and hence with which decisions can be made

### All Banks Should Take Notice

The BCBS proposes that G-SIBs, designated by the Financial Stability Board (FSB) in 2011/2012, must meet these Principles in full by January 2016. Supervisory approaches are likely to include requiring self-assessments by G-SIBs against these expectations in early 2013, with the goal of closing significant gaps before 2016. G-SIBs designated in subsequent annual updates will need to meet the Principles within three years of their designation. The Basel Committee will share its findings with the FSB at least annually starting from the end of 2013.

It is strongly suggested that national supervisors also apply these Principles to banks identified as domestic systemically important banks (D-SIBs) by their national supervisors three years after their designation as D-SIBs. Plus, as mentioned above, many regulators will, by extension, be looking to the other banks under their supervision to adopt similar best practices.

Ultimately the Principles represent a high benchmark for the minimum standards expected of the wider banking community. The implementation of the Principles by banks of any size will ensure a foundation for a more robust and scalable business model. In turn, adoption should not only facilitate the day-to-day management of an organization, but also actively give rise to more sustainable long term performance and therefore better external recognition.

### At What Cost?

It is not news to anyone involved in satisfying such demands that the IT, Treasury, Finance and Risk Management functions within Banks are under considerable pressure, particularly from regulators. Costs are increasing accordingly.

On the one hand there are demands for increased capital to weather future financial storms. On the other hand, there are multiple new reporting requirements, including the need to respond to enterprise wide stress testing requests. At the same time, executive management is also imposing more demanding internal management reporting requirements.

Meeting this avalanche of data requests has led to a significant amount of stress and an unwelcome diversion of scarce skilled resource, all to resolve what is often perceived as an expensive short term problem. But the reality is now dawning on many banks that this is no longer a transient issue, or a short term cost, and these kinds of demands are going to keep on coming.

So what's the solution? For those with a longer term perspective, the answer is strategic investment in infrastructure and data management. The aim should be to provide the organization with the ability to consolidate, aggregate and validate data from across the enterprise, and the ability to streamline and industrialize risk management across the enterprise. So rather than asking "At what cost?", perhaps the more appropriate question is "What's the benefit?".

## What's the Benefit?

There are many perspectives on the benefits of strategic investment in risk data. To illustrate the potential upsides, here we look briefly at two, and explore the connections between them:

- » At the operational level, in terms of ensuring consistent and reliable data capture, we consider corporate credit origination
- » At the enterprise-wide management level we look at data aggregation, data reporting, and organizational "intelligence"

### *Corporate Credit Origination:*

A core challenge for banks is to capture data at point of credit origination. Problems abound around paper records, desktop solutions, inconsistent standards, duplication of data, missing data, conflicting data, etc.. There are strategic solutions that aim to overcome these challenges, some provided by vendors, some delivered in-house, all generally addressing 'workflow'. But for the majority of banks who do not have a holistic solution, the problem remains one of justifying the cost of an investment which causes disruption and which may take two or three years to pay for itself. It therefore takes an element of vision and strategic ambition to overcome the reticence that many banks have when it comes to making such an investment.

The decision is made easier if analysis of the problem is combined with an investigation into some of the wider benefits associated with revisiting corporate credit origination processes, i.e. workflow. These benefits include, but are not limited to;

- » Consistent standards of credit analysis
- » Speedier turnaround times (internal benefits and customer experience benefits)
- » Transparent governance
- » Audit trails
- » Centrally accessible data, not just risk data, but volumes data, performance data, migration data, point in time data and trend analysis, etc.
- » Efficiency improvements
- » Linkages to enterprise risk management and bottom up visibility (see below)

As regards efficiency improvements, time and motion studies which assess volumes of activity undertaken by relationship managers, analysts, and credit sanctioners prior to the introduction of a workflow tool, and then similar studies which assess volumes post-implementation, highlight the extent to which a good workflow tool allows originators, analysts and sanctioners to each handle higher volumes. In turn, this either enables the bank to expand without increasing its cost base, or for the bank to cut its cost base (i.e. to reduce the volumes of activity being undertaken, whilst at the same time maintaining well informed, effective deal decisions with accurate enterprise wide information).

So this is all about better data capture and information flow, in a way which delivers operational efficiencies and reduced costs, in turn enabling competitive advantage and the scope to grow in an optimal manner.

*Enterprise Risk Management:*

To return to the opening points in this paper, the ultimate challenge for all banks is to enable executive management to assess the risks being run by the organization. By extension, they then need to be able to communicate that information efficiently and effectively, not just internally but also externally. This means having the ability to take raw, granular, business level data and aggregate it at different levels through the hierarchy of the organization. In turn, this information needs to be reported up within the bank, through appropriate filters at each level, as usable business intelligence.

Each silo within the organization should have this bottom up data aggregation capability, and it should then be possible to aggregate information across all business lines and regions. Equally important, if there is a clear line of sight from bottom to top within the organization, this should give the management of each layer within the bank the scope to slice and dice the data, assessing it through different dimensions and informing decisions through drill down to levels of detail which were not previously possible. This leads to:

- » Greater confidence in the overall quality of data held across the organization
- » Lower total costs of ownership and maintenance in data control and data infrastructure
- » Greater ease and efficiency in meeting both internal and external reporting demands
- » Better communication across business lines and geographical divisions
- » Greater flexibility to respond to ad hoc or unexpected requirements

Such functionality then facilitates related activities such as business reporting, strategic planning, business planning, and budgeting, together with stress testing, scenario analysis, financial reporting and regulatory reporting.

In turn, all this enhances external reporting, the Internal Capital Adequacy Assessment Process (ICAAP) and investor reporting. Together, these enhancements should be reflected in a positive re-rating of the bank by analysts, shareholders, regulators and rating agencies, ultimately with a correspondingly positive impact on the share price.

## Conclusion

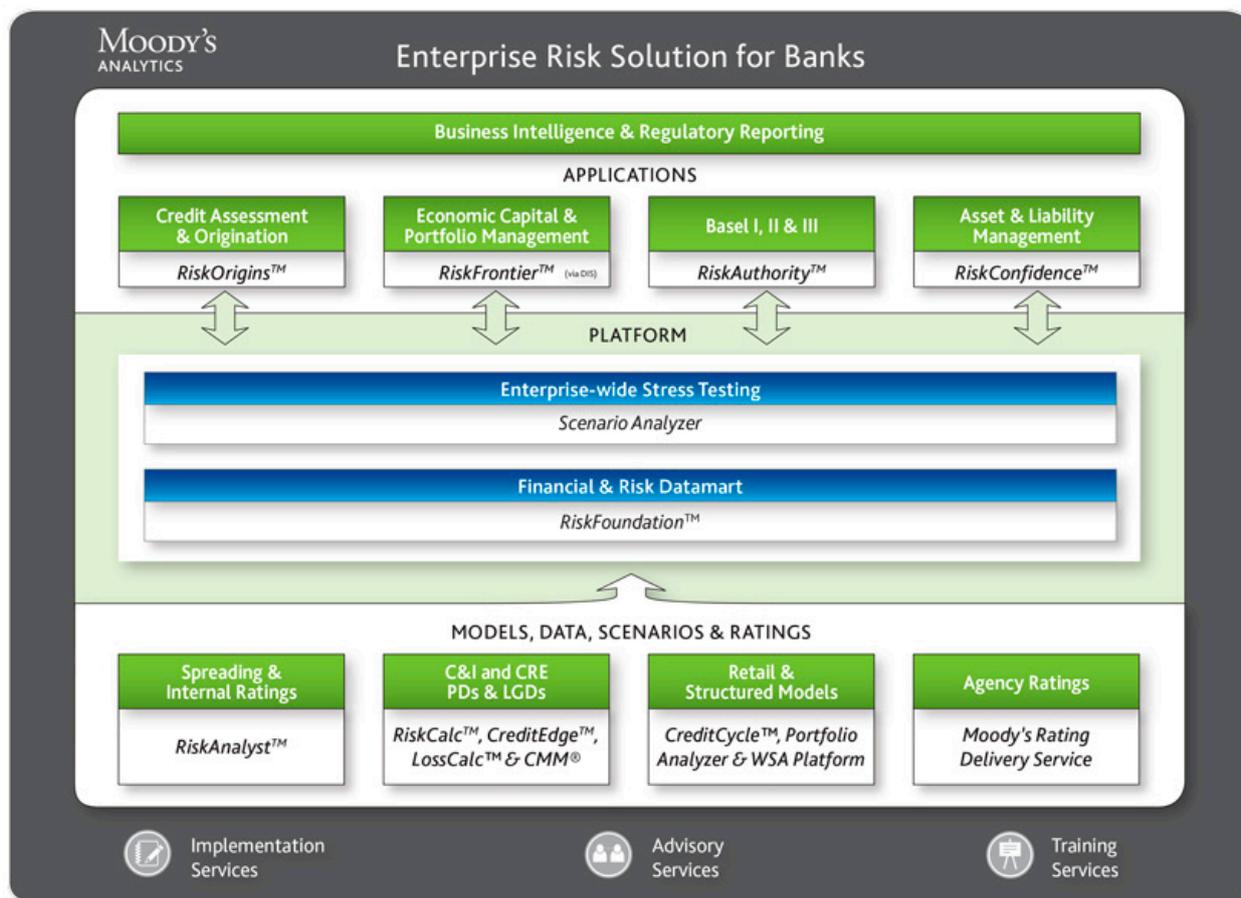
The BIS and the supervisory community aim to improve the availability and management of data within banks. Yet this worthy aim is something which banks should be addressing without the added incentive of regulatory scrutiny. To meet this objective, banks must revisit the way they capture information at point of origination, how they manage it through their workflow, and then how they use it for business intelligence purposes and for the management of the enterprise as a whole. Not only are there good business reasons for making the necessary investment, there are multiple spin-off benefits which, over a relatively short timeframe, should ensure that the investment more than pays for itself.

## About Moody's Analytics

Moody's Analytics Enterprise Risk Solutions offer comprehensive, modular and robust solutions to effectively and efficiently manage risk. Our solutions are built around a common data platform – RiskFoundation™ – which consolidates, cleanses and stores the organizations risk and finance data and helps facilitate compliance with the 14 Data Principles outlined in this paper.

Dedicated applications for loan origination and spreading management, economic and regulatory capital calculations, enterprise stress testing, ALM and liquidity risk management and business and regulatory reporting are integrated with RiskFoundation™.

Additionally, Moody's Analytics unique data covering C&I, CRE and Retail PDs & LGDs, macroeconomic scenarios and Moody's Ratings Delivery Service feeds the platform.



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