Readying the bank for Basel II

IBM: An alliance-based global offering

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ABOUT DATAMONITOR

Datamonitor plc is a premium business information company specializing in industry analysis.

We help our clients, 5000 of the world's leading companies, to address complex strategic issues.

Through our proprietary databases and wealth of expertise, we provide clients with unbiased expert analysis and in-depth forecasts for six industry sectors: Automotive, Consumer Markets, Energy, Financial Services, Healthcare and Technology.

Datamonitor maintains its headquarters in London and has regional offices in New York, Frankfurt and Hong Kong.

TABLE OF CONTENTS

INTRODUCTION

In 1988, the Basel Committee for Banking Supervision (BCBS) defined credit risk and the minimum amount of capital that should be held against it in the Basel Capital Accord. In 1998, the BCBS incorporated market risk into the framework.

This classification was ratified by over 100 signatories within the G-10 countries and is still used today to define the minimum amount of capital a bank must hold to cover loss arising from obligor default. The accord required that banks must hold a minimum of 8% of total capital by the end of 1992.

In June 1999, the BCBS issued a proposal for a revised capital accord (Basel II) to tackle both the absence of operational risk and to encourage banks to develop internal models rather than have capital ratios imposed by regulators. Thus, Basel II strives to incentivize banks to develop more sophisticated approaches to credit and operational risk based on internal ratings and measurement systems. For those banks that are able to conform to the BCBS' parameters for compliance at the most advanced levels, an internally determined capital charge will be used rather than a charge imposed externally by regulators.

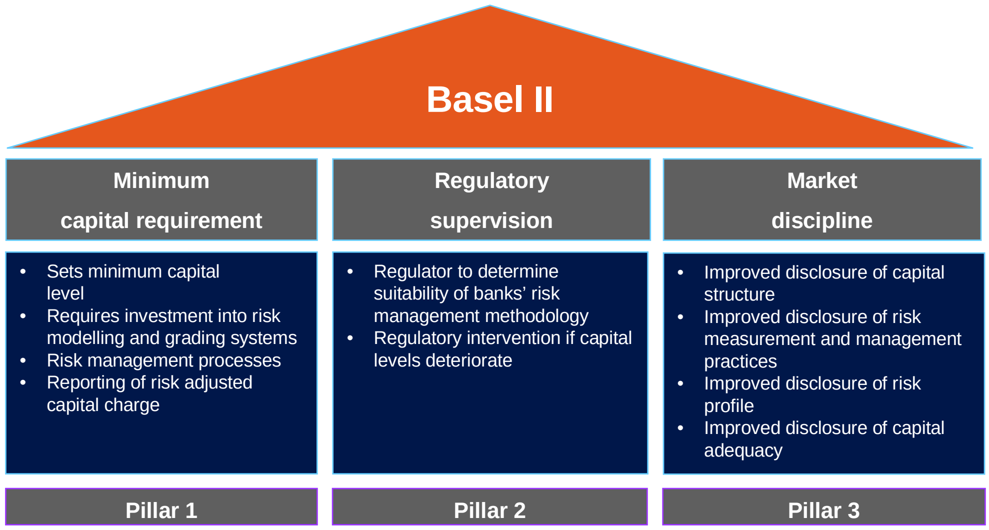
Despite the potential business benefits of Basel II including capital release, improved risk management and increased stakeholder confidence, many countries and banks are still reluctant to embrace the accord due to uncertainties regarding associated costs and benefits of compliance.

In light of the growing pressure on banks to address Basel II, this paper has been prepared by the Financial Services Technology team at Datamonitor to assess the viability of IBM's Basel II offering based on current and emerging Basel II business and IT requirements.

BUSINESS DRIVERS

The construction of the Basel II framework has created a distinct set of requirements ranging from minimum capital requirements (Pillar 1) to supervisory review (Pillar 2) and market discipline (Pillar 3). Pillar 1 has created an impetus on banks to revise credit rating engines and to improve business processes and infrastructure around the collection of both static and dynamic data for credit and operational risk.

Figure 1: The Basel II framework



Source: Datamonitor

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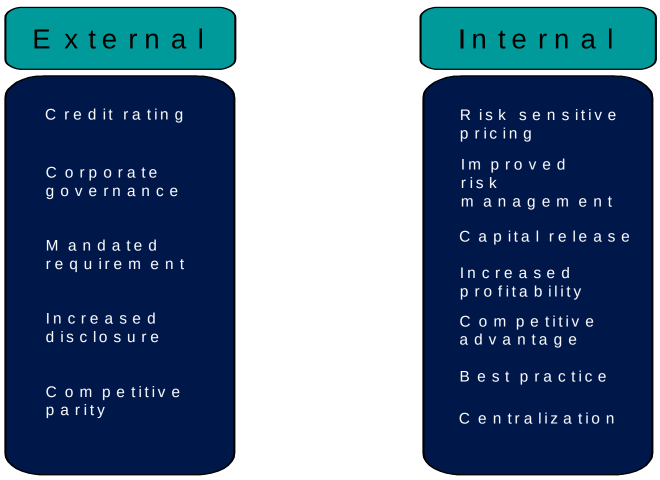
Pillars 2 and 3 present a challenge for both IT and business functions with an immediate need for banks to review aging business practices and organizational hierarchies. Furthermore, there is also a growing need to investigate the scope for system and business process sharing across multiple functional areas including audit, compliance and finance given the enterprise-wide implications of Basel II.

Following on from findings in Datamonitor's *Basel II end-user analysis*,[1] a number of factors have been identified as key drivers forcing banks to address Basel II as a business critical issue. In broad terms, these drivers are split into:

- internal drivers; drivers that yield measurable commercial benefit to the institution;
- external drivers; drivers that have been initiated from a third party compelling the institution to adapt~~;~~

Figure 2: Key Basel II drivers



Source: Datamonitor

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Banks that embrace the accord will benefit from the following advantages that will manifest on execution of the Basel II implementation:

[1] This primary research study examined the Basel II business and technology strategies of leading European financial institutions and a number of US banks through a series of semi-structured qualitative discussions with senior risk executives.

- improved risk management;
- increased stakeholder confidence;
- best practice risk management.

Given the relative inconsistency between banks risk management strategies at intra-bank and inter-bank levels, senior decision makers are using Basel II as a means to increase levels of standardization across geographically dispersed operations and business units.

Whilst attempting to introduce greater internal efficiency, banks are also keen to retain investor confidence in the wake of highly publicized risk-related corporate scandals. This is driving banks to regard Basel II as a means to encouraging best practice at a time when disproportionately high cost / income ratios are also creating an impetus to increase efficiencies and minimize business risks.

Nonetheless, institutions that manage to develop a more sensitive operational and credit risk management framework may afford themselves a degree of competitive advantage through increased business process / systems sharing, better risk attribution and closer alignment between regulatory and economic capital.

However, such advantages are not expected to manifest until the full implementation and integration of core Basel II processes and systems, which will take institutions up to the 2006 deadline at the earliest.

Nonetheless, time is running short and banks need to have moved beyond the planning stage and into implementation by the end of 2003 if they expect to meet the requirements for historic credit and operational loss data.

ISOLATING BASEL PAIN POINTS

Due to the onerous requirements for historic credit and operational risk loss data, the near-term challenge for banks will be the assimilation of disparate data from multiple sources, business lines and geographies. Despite the size and complexity of the task, there are many internationally active banks that have still not commenced a programme to collate operational loss event data and operate a business line specific approach to collecting credit data.

Based on findings from the end-user analysis, Datamonitor has identified a number of key factors driving the market for Basel II technology and business investment. These can broadly be categorized as follows:

- Data management;
- Data centralization / standardization;
- Reporting.

Data management

The need to amass, collate and store necessary volumes of historic data for both credit risk (PD, LGD, EAD) and operational risk (loss events) is the single most pressing issue facing banks in preparation for Basel II.

To comply with internal ratings based (IRB) standards, a bank must be able to use internally collected default data to calculate capital reserve requirements. Although credit loss data has historically been collected and stored to enable institutions to assign credit ratings to borrowers and to perform risk return calculations, this data is rarely collected and stored in a consistent manner at an intra- and inter-business unit level making data standardization one of the primary issues within the data management area.

Given the credit risk bias of the original capital accord, institutions are far less well developed from organizational, business process and IT perspectives to deal with operational risk losses compared to credit risk losses. Consequently, the volume, quality and integrity of operational loss data is far lower than for credit risk data.

Furthermore, recording operational loss data has often been an ad-hoc process with many institutions operating a loosely defined framework of losses categorized as 'operational', despite minimal consistency across business units and geographies. Additionally, there is often a disconnect between banks' historic interpretation of operational losses and those defined as such by the BCBS. In any event, such inconsistencies mean that the transferability of banks historic operational loss data into new templates required for compliance at the advanced measurement approach (AMA) level will be limited, thus restricting the potential usage of historic operational loss data.

Operational risk losses have rarely been recorded in a systemic manner with institutions relying upon significant levels of manual processing, and even then, with minimal standardization. Furthermore, data (particularly static data) has traditionally remained fairly siloed at a business unit level thereby making use at a centralized level relatively difficult especially as different systems are often tasked with dealing with separate data such as trading positions, loan payments and reference data.

Once the data has been pooled and collected, banks must store the data in such a way that it retains integrity and offers maximum scope for utilization within the banks' credit and operational risk modeling as well as reporting functions. This poses a key challenge in respect of banks' existing data storage capabilities. All respondent banks in the *Basel II end-user analysis* expressed reluctance towards massive re-investment in the back-office, particularly as banks have, over the past 5 years, invested heavily in this area in line with CRM and ERP initiatives.

Therefore, the key challenge at this stage is the need to be able to pool and hold disparate data sets into a centralized store in a standard format in a near real-time format to enable enterprise-wide risk assessment and analysis.

Finally, once the data is collected and stored, the bank needs to determine how to use it. Much of this will depend on individual banks' and regulators' interpretations of Pillars 2 and 3. However, it is clear that the need to maintain, update and refresh the data will become more acute as the need to report and disclose risk information on a more granular and frequent basis increases in line with the BCBS' expectations.

Data centralization / standardization

A key element of the Basel II implementation will be the standardization of processes used to collect and cleanse data to enable sharing between business units. Discussions during the *Basel II end-user analysis* revealed that this would pose a significant challenge, not only in terms of the organizational impact, but also from a systems re-engineering perspective, particularly for banks that had undergone significant merger and acquisition activity over the past 10 years.

Furthermore, the need for a centralized store presupposes a level of standardization to minimize disruption when the data is used. However, a chief concern for those institutions operating at a global level has been the consequent need to consolidate all of their exposures into one currency thus creating further complexity.

Reporting

Reporting systems will play an integral role in the development and the execution of banks' Basel II strategies. The proposals significantly increase the burden on institutions to better manage information for internal reporting and governance purposes and for dissemination to external parties such as national regulators and industry bodies to satisfy the supervisory review and market discipline requirements of Pillars 2 and 3.

Given the need to manage data and information with greater levels of centralization, banks are looking to redevelop or reuse systems that have traditionally been used and accessed in silos, into systems capable of supporting a broader enterprise-wide user base. More importantly, there is an explicit requirement that risk management systems and financial reporting systems feed from the same data sets thus creating further integration and systems re-engineering complexity.

Global consistency

A growing concern for internationally active banks is the increasing divergence between the approaches of American regulators and their European counterparts. At a recent congressional hearing, American regulators stated that the new accord would primarily apply to between 10-15 of the largest banks with a significant international presence and that the remaining banks, including national banks, regional banks and credit unions, would still be bound by the original accord which equates to standardized (credit risk) and basic indicator (operational risk) level compliance as per Basel II. However, there is still some debate as to the true catchment area for the US geography given the requirement for non-US based banks operating in the US to make provision for Basel II, thus, potentially broadening the scope of Basel II beyond the 10-15 most internationally active banks.

IBM CAPABILITY

Introduction

Based on current and emerging requirements from both business and technology perspectives, Datamonitor believes that IBM has a service and product capability that maps favorably against existing and future demands for Basel II solutions.

The IBM offering is composed of a number of distinct competencies:

- Consulting / services offering including Basel II business / IT assessment, business case development and ROI models and roadmaps;
- Implementation services, data and integration skills and project management skills, across credit and operational risk areas;
- Proprietary Critical Business Processes (CBPs), data models and Basel II compliant IT platforms;
- A range of data management software including databases (BDW) and data management tools offered organically and through select ISV alliances.

The Basel II-ready development of the Banking Data Warehouse (BDW) coupled with IBM's strong vendor relationships with enterprise and point-solution vendors will enable IBM to deliver a range of products and services suited to global and local Basel II projects on an enterprise-wide and point solution basis.

The Basel II-ready business process model, Critical Business Processes (CBPs), is used to document the most important business processes required by the Basel II Accord. The framework enables banks to model their existing or new business processes while identifying and documenting the requirements of the Basel II Accord from a process perspective.

The integration of PwC Consulting (PwCC) into the former BIS service line (re-named IBM Business Consulting Services) presents IBM with an opportunity to take to market a comprehensive product and services-based offering drawing upon recognized expertise in both systems integration and infrastructure, and latterly, recognized compliance and regulatory expertise through PwCC.

Datamonitor believes that the key attributes of IBM's positioning are its well-established retail banking and financial markets practices, a strong product and service proposition, proven global delivery and support capability, complementary ISV partnerships and the incremental benefit of the PwCC assets. More specifically, Datamonitor identifies expertise in the Basel II space with:

- A well established risk management practice with significant intellectual strength, systems integration, IT architecture and software expertise;
- Expertise in project management through the Business Consulting Services proposition incorporating strength in readiness assessment (Pathfinder) and business process re-engineering (CBP);
- Over 100 users of the BDW across multiple geographies;
- Back office infrastructure expertise and a strong product suite based around the BDW;
- Technology partnerships based around service depth, industry specificity and global and local competence.

The BDW offering has been enhanced over the past 6 months to incorporate extra Basel II data requirements to enable the storage of data for the calculation of credit, market and operational risks as well as basic level reporting requirements.

Furthermore, IBM has enhanced many of its CBP workflows and added further activities over the past year to meet many of the objectives of the accord.

The addition of the PwCC assets to form IBM BCS will enable IBM to develop a more complementary go-to-market strategy marrying the IT expertise of IBM with the strategic capability of PwCC.

Data centric core offering

Based around a broad range of alliances and significant intellectual capital in the risk management space across retail and wholesale financial services, a cornerstone in IBM's strategy is the Banking Data Warehouse (BDW). The BDW is a data warehouse based around an open architecture supporting four key functional areas including risk analysis, relationship marketing, profitability, and asset and liability management.

IBM released version 3.1 in Q4 2002 to tackle the historic data requirements raised by the Basel II proposals and another release is expected six months after the Accord is finalized. This release is designed to tackle the requirements for credit market risk at the standardized approach and operational risk at the basic and standardized approaches. The release of 3.2 will build upon the foundations of its predecessor through additional data structures and reporting functionality in line with increased demands for compliance at the IRB and AMA approaches. The incremental development of the BDW will allow IBM to refine the offering in light of changes resulting through the BCBS' analysis of the final QIS.

Key factors influencing the viability of IBM's Basel II offering in light of the BDW product include:

- BDW's standing as an established data warehouse in use in over 100 locations;
- Inclusion of 57 Business Solution Templates reflecting the most common analytical processing functions consistent with forthcoming Basel II reporting requirements;
- Support for other key Basel II functional requirements including query and reporting, data-mining and decision support;
- The ability to consolidate data from multiple sources with compatibility across MVS, AS/400, and Linux platforms;
- Support through a dedicated global network consisting of 1500 consultants and service professionals;
- A schedule of planned modifications, updates and revisions to BDW functionality in light of changes to the Basel II accord.

High visibility ISV relationships

IBM possesses relationships with a number of leading vendors including local and global relationships with enterprise-wide and best-of-breed vendors. IBM's partnership strategy has been significantly influenced by the market and domain expertise of the individual partners creating a range of alliances that demonstrate strong financial services awareness in multiple regulatory environments.

Figure 3: Key IBM Basel II ISV relationships

Company	Primary location			Geographical coverage		
	Front Office	Middle Office	Back Office	AP	Europe	Americas
Algorithmics	X	X		X	X	X
Ascential			X	X	X	X
Axiom Software	X			X	X	X
Brio	X	X		X	X	X
Centerprise	X					X
Experian	X			X	X	X
Fair Isaac	X	X	X	X	X	X
Kamakura	X	X				X
Misys				X	X	
Moodys KMV	X	X		X	X	X
PeopleSoft	X	X	X	X	X	X
Reuters	X			X	X	X
Reveleus		X		X	X	X
Risk Metrics	X	X		X	X	X
S1	X					X
SAP		X		X	X	X
SAS		X	X	X	X	X
SunGard			X	X	X	X

Source: Datamonitor DATAMONITOR

IBM's alliances with Algorithmics, SAS, SAP, PeopleSoft and Reveleus will play a key role in demonstrating IBM's commitment to a full Basel II product and service delivery proposition. Datamonitor's *Basel II end-user analysis* revealed a polarization amongst Tier 1 institutions towards best-of-breed vendors with implementation experience and multi-site project experience being cited as key vendor requirements.

Algorithmics has established itself as a leader in the provision of market leading front and middle office credit, market and operational risk technologies. Algorithmics' installed base of over 150 deployments will be well positioned to benefit from IBM's global support and delivery capability with the additional injection of intellectual property derived from PwCC.

In positioning itself with SAS, IBM has moved to capitalize on SAS' expertise in business analytics and a strong installed base in the financial services vertical. In doing this, IBM increases its potential footprint beyond the catchment area of BDW.

The relationship with PeopleSoft sees IBM leverage PeopleSoft's significant credibility in the Enterprise Resource Planning market and the company's industry agnostic core offerings that map onto the requirements of Basel II pillars including a capital allocation tool, an enterprise-wide analytical suite and a data warehouse.

The relationship with SAP is of primary importance given the role of IBM as primary business consulting partner to SAP with IBM working alongside SAP to develop the functional design for the solution and further acting as advisor to SAP and the charter clients to ensure feasibility of the solution.

The relationship with Reveleus (part of I-Flex Solutions) has seen the co-development of specific Basel II calculators and risk reporting. This relationship will enable IBM to capitalize on I-Flex Solutions' growing penetration in Tier 2 banks in Europe and North America through the success of its Flex Cube core system product.

IBM's strategy of aligning itself with industry leading vendors with significant end-user penetration and local expertise is a prudent approach in light of banks' anxieties regarding the ability of external parties to fully understand the business and technology impact of Basel II in their home market as well as on a broader geographical level.

Global delivery and support

As revealed in the end-user analysis, a key consideration for banks selecting a partner for the development and implementation of Basel II is the ability to orchestrate a group-wide effort across multiple jurisdictions and geographies. In most cases, this requires the application of a single set of standards and practices to assist in the standardization of business processes and organizational change across the enterprise.

Those institutions with geographically dispersed operations will be looking to manage and implement the project concurrently due to the enterprise-wide nature of the initiative. Consequently, a key feature in determining suitability of implementation partner is the ability to co-ordinate and deliver a global service under a standardized set of protocols.

This need is further exacerbated by increasing divergence between the implementation strategies of the European regulators and US regulators. Whereas European regulators are keen to extend the applicability of Basel II to non-internationally active banks, American regulators have stressed the limited applicability of Basel II to less than 20 of the largest internationally active banks.

Datamonitor believes that the strength and depth of IBM's vertical expertise coupled with the strong risk management practice and the scale of resource dedicated to the BDW positions it favorably in light of emerging end-user requirements.

Ongoing developments

IBM is working on the development of a number of key initiatives to enhance its Basel II offering:

- A web-based Basel II planning tool (Pathfinder) initially crafted by PwCC;
- 'Data on demand' data integration services to support Basel II alongside other analytics based CRM and money laundering projects;
- 'On demand' credit risk services with specific vendors with regional specificity on a client-by-client basis.

Through the continued development of core assets and the extension of key ISV relationships into the delivery of an ASP-based credit and operational risk offering, IBM will be well positioned to tailor its offering to meet the nuances of smaller more regionalized banks that are better served with a piecemeal solution rather than an integrated global risk platform.

CLIENT ENGAGEMENT

IBM has engaged a variety of tier 1 end-users with Basel II services and solutions spanning multiple geographies, regions and countries. IBM's ability to scale its offering in line with customer requirements has seen it take the Basel II offering into a wide range of institutions covering retail, commercial and wholesale banking. The company's global Basel II capability is underscored by its engagements with clients in Europe, Asia Pacific, and North America.

Europe

"…it will be the first time that we have ever had one solution which was rolled across all our business and across all countries and regions." Leading international bank.

IBM has already made a number of key wins in Europe, particularly in the Netherlands, and has commenced implementations with a number of leading UK banks. IBM's relationships with global vendors such as SAS, PeopleSoft and SAP are proving invaluable in the development of a robust business case for the key Basel II components including BDW and the Critical Business Processes models.

In keeping with its strategy of tailoring its Basel II solution to meet the needs of local banking markets and regulations, IBM is approaching the UK market with reusable reference architecture to better meet the needs of the UK banks that require access to intra-day data and risk monitoring.

Datamonitor regards IBM's strong penetration on the back of infrastructure, database and data warehouse relationship as fundamental advantages in favor of the company's Basel II proposition for Europe. This is further enhanced through the consolidation of relationships with Germany's Deutsche Bank and Spain's Bankinter through sizeable infrastructure and data-center outsourcing agreements, in recent months. Datamonitor expects to see IBM constitute a significant proportion of service related business in this region as a result of strong relationships in Germany, Spain and the UK with relationships such as those with SAP proving instrumental in gaining penetration into tier 1 accounts.

Asia Pacific

"BDW has saved us 3 to 4 months in our efforts and has significantly reduced our project risk." Leading global bank.

On review of a number of customer testimonials from Tier 1 deployments in this geography, Datamonitor is confident in IBM's ability to manage a Basel II implementation in this geography. Strong co-ordination between IBM's risk practice team in the region and the solution center in Dublin has enabled a leading incumbent to manage its Basel II implementation, and at the same time, establish best practice with the planned roll-out of the BDW-based solution across all geographies and business lines.

In other instances, IBM is approaching Basel II with an aim to leverage the full range of competencies of its 15+ global ISV relationships, particularly in the operational risk area. In other instances, IBM is taking to market second an externally driven engagement model with IBM fielding inquiries regarding a Basel II readiness offering targeted again towards operational risk. IBM has already engaged a leading domestic bank for this service.

Overall, IBM has made significant penetration into this geography with a number of clients also using an IBM developed Basel II data warehouse hosted in Asia Pacific to serve financial reconciliation and consolidation requirements in Europe.

North America

Despite American regulators' reluctance to fully entrench the provisions of Basel II into national banking regulations, IBM has made strong headway on the back of the BDW with a number of players including leading US retail and wholesale banks. The banks is using BDW as part of the bank's warehousing approach for relationship marketing and other business needs and provides a foundation for its enterprise data model and standards.

IBM's existing relationships on the back of its database product and the data warehouse with the largest US and Canadian incumbent players has led to strong Basel II collaborations to jointly design and architect a Basel II solution for the client beyond traditional proposal development work. Datamonitor regards this as a strong indication of the growing recognition of IBM as thought leader in the Basel II space given that a significant proportion of the new business in the US and Canada is being generated through inbound inquiries and RFP requests.

CONCLUSION

Although IBM has developed a strong offering on the back of the BDW, the Basel II go-to-market strategy is not contingent on any existing or planned deployment of the product. Instead, IBM is taking to market a complementary set of services and products leveraging historic expertise in data management, integration and architecture, with the added strategic benefit of the PwCC assets and key vendor relationships with strength in the back, middle and front offices respectively.

Furthermore, IBM has been focused on the development of its Basel II offering both independently and in conjunction with alliances for considerably longer than its nearest database and data warehouse rivals as reflected in the breadth, depth and penetration of the IBM offering.

Datamonitor believes that much of the traction IBM has managed to secure in the past 12 months is strongly attributable to the company's relationships with its chosen alliances and its ability to scale up or down the Basel II solution according the needs of the individual bank and the local banking market. This is a key requirement for vendor longevity and credibility in the Basel II market given the lack of solution homogeneity within the global Basel II opportunity as a result of widely divergent regulatory implementations and the differing business mixes of incumbent banks.

Given the pressing need for rapid deployment of the underlying IT infrastructure, coupled with the necessary IT requirements spanning the front, middle and back office, Datamonitor believes that IBM's proven domain expertise coupled with the strength of its local Basel II offering positions the company well in light of the growing Basel II opportunity.

APPENDIX

Definitions

Credit Risk

Potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms .

Operational risk

Risk of losses in on and off balance sheet positions arising from movements in market prices

Market risk

Risk of loss from inadequate or failed internal processes, people, systems or external events

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