

## External Risk Reporting and Internal Risk Management

The quality criteria for the risk management and risk reporting of banks are intensifying. The capital market crises of the last few years and innovative financial instruments, which generate more intense interrelations between the different types of risk, have changed the information needs of the market operator. Frameworks like Basel II and IFRS are introducing a paradigm shift in favor of more transparency in the key figures and processes for risk management and risk communication. The two areas, which have until now been separate from each other, and their system landscapes need to be viewed increasingly as one integrated entity.

### Integration as a strategic decision

The internal and external risk management points of view are starting to resemble each other in their methods: It will become impossible to exclude the standards for external risk reporting as a demanding additional condition from the total bank controlling process. In addition, the external and internal risk reports are based on identical, or at least similar, source data. The use of joint methods of computation is the logical consequence to it. Consistent arithmetic units need to be created for risk management and external reporting.

### IT architecture for an integrated risk management point of view

With its Integrated Finance and Risk Architecture (IFRA), the SAP Bank Analyzer provides a highly integrated joint data and method pool on which all functions for risk assessment, balancing and reporting can be based. The new SAP solution for Governance, Risk and Compliance increases the focus of the risks associated with credit, the market and liquidity to include the implementation of the individual company strategy in risk management. Central arguments for an SAP risk management and reporting solution on the basis of IFRA are, above all, sustainably improved management and reporting quality, quicker reporting processes as well as clearly lower maintenance and implementation costs.

### Specialist and technical implementation from one source

As a partner in consulting and development for SAP AG, the ifb group has been involved in the expansion of the SAP bank solution from the start and gives banks some key benefits. These include detailed expert knowledge on controlling risks related to market prices, liquidity and credit as well as other operational risks in combination with comprehensive technical knowledge of all modules of the SAP Bank Analyzer, SAP SEM for Banking and the SAP solution for Governance, Risk and Compliance. Using these as a basis, we are in a position to provide consultation and support from one source – from the organization setup, through strategy consulting, process advice and the specification of relevant methods, all the way to implementation and roll-out.



Market risk	Liquidity risk	Operational risk	Credit risk
External risk reporting			
Internal risk management			
Governance			



## Internal risk management

### Market price risk management

#### New products and markets create a need for action

Innovative and highly complex financial instruments call for an enhancement of market risk management. The banks are challenged to adapt their market risk measurement more accurately to their specific risk portfolio allowing for more effective hedge strategies. Furthermore, the Value at Risk based market risk management must be supplemented by more sophisticated stress test methods. An IT solution is required which provides consistent methods and transparent processes for evaluating, measuring, and reporting market risks for all aggregation levels of the bank portfolio.

#### End-to-end solutions for your institution

As a consulting and development partner of SAP AG, ifb group has contributed considerably to the conception and development of SAP's market risk solutions for banks. We support our customers in all strategic, specialist, and technical questions on market risk management: Our experts accompany you through the setup of high-performance, method-consistent calculations of market risk key figures when using SAP Banking Software. ifb experts develop and implement both models for evaluating complex financial instruments and adequate scenarios and procedures for stress testing in your institution. The ifb group provides with RateCheck a qualified solution for the validation and correction of market data. Further AddOn products complete our product portfolio supporting your market risk management.

### Liquidity risk management

#### Secure liquidity supply in focus

A market environment which allowed banks to access an almost unlimited liquidity over a long period has made the liquidity risk an underestimated issue. Under these conditions liquidity risk management was referred to as a subsection of market risk management. The experiences made in 2007 and 2008 have shown that this viewpoint conceals risks in the financial markets which are due to a crisis of confidence. This situation can lead to short-term liquidity supply only being possible in a limited way, or not at all. Securing the availability of sufficient liquidity as a basic requirement for business operations thus becomes the focus of bank management.

#### Risk monitoring requires an across-the-board perspective

The versatile interrelations between liquidity risk, interest risk, market risk, and credit risk need to be viewed across-the-board. The gap analysis method of SAP banking software provides a preview of the upcoming liquidity situation, where the temporal granularity can be customized individually. Foreign currency positions can be displayed in original currency or converted to evaluation currency. Furthermore, liquidity scenarios enable the simulation of the sales of shares or loans while utilization scenarios enable drawing on liquidity lines. As an experienced partner, we help you with the concept and implementation of efficient liquidity management.

#### Market risk management

- NPV calculations of cash flow and optional products
- VaR, sensitivities like Greeks, durations and convexities
- Integration of external price calculators
- Back Testing
- Stress testing
- Risk reporting
- ifb AddOns: RateCheck, TreasuryReturn, GR2RO

#### Liquidity risk management

- Gap analysis: Preview of the liquidity
- Liquidation scenarios for future years
- Revelation of liquidity crises
- Simulation of new business transactions within liquidity analysis

## Credit risk management

### Credit portfolio model: Consistent with Basel II

Data and methods for determining (own) regulatory capital backing of the credit risk (Basel II Pillar 1) can also be used for a credit portfolio model for internal management. The implementation of this kind of model as an expansion of the existing SAP Basel II solution offers the benefit of consistent numerical values in both areas. For the continued use of output quantities interesting opportunities arise from the combination with other key risk figures in determining the economic capital and in the usage of the ‚Credit Value at Risk‘ within the framework of the limitation.

With this in mind, SAP provides the ‚Credit Portfolio Management Framework‘ for the SAP Bank Analyzer: The AddOn expands the Credit Risk Analyzer, which is also a component of the SAP Basel II solution. Its service-oriented implementation permits the inclusion of external credit portfolio models, for example, Moody’s KMV RiskFrontier™. The results are returned to the SAP Bank Analyzer and are made available there for additional evaluation. The ifb group was considerably involved in the development of the Credit Portfolio Management Framework and supports your institution when it comes to answering all questions relating to the expert or technical implementation. Alternatively, our creditLab.Analytics provides a CreditRisk+ implementation integrated into the SAP Bank Analyzer.

### Limit Management: Operationalization of the risk strategy

The separate management of concentration and cluster risks is one of the main tasks of credit risk management. Furthermore, the banks are subject to the supervisory reporting duty (large exposures in EU). In addition, concentration and cluster risks need to be managed internally and a limit system needs to be set up (Basel II Pillar 2). A limit system also serves to operatively implement the risk strategy of your institution.

The ifb group acts as a development partner for SAP AG in the conceptualization and implementation of the Limit Manager using the SAP Bank Analyzer as its basis. We currently support all Limit Manager implementation projects and also have comprehensive experience in dealing with the previous solution SAP SEM for Banking CL. We accompany your institution in all tasks which are connected with the set up of an efficient limit system - from the selection of key figures to be limited, through the segmentation of the risk-carrying portfolio, all the way to the mapping of the limiting processes. We also deal with the methodical integration and high-performance connection of pre-deal checks. Furthermore, the ifb group currently implements the themes of limitation in maturity bands, work flow and online limit checks according to customer wishes within the framework of an AddOn development to the SAP Limit Manager.

### Credit portfolio models

- Implementation of the SAP Credit Portfolio Management Framework on the basis of the Credit Risk Analyzer
- Credit Risk+ implementation with creditLab.Analytics on the basis of the SAP Bank Analyzers as ifb-AddOn

### Limit Management

- Solutions to management of cluster and concentration risks
- Segmentation of risk-carrying portfolios
- Mapping of processes
- Implementation of Pre-Deal Checks

## Credit Treasury Management: New perspectives

The active management of internal and external credit portfolios on the basis of plausible market prices provides new profit-making opportunities through the purchase and sale of structured credit risks. An established market exists for products which place credit risks on the market. Banks and investors specifically demand their own instruments, for diversification of their own risks. Regulatory reporting requirements and the setup of internal models have significantly improved the basis for methods and data for the analysis of income and risks.

The ifb group supports your institution in integrating a Credit Treasury Management system into the entire bank management system. Central tasks are determining and managing of incoming risks in relation to their expected earnings as well as bundling of credit risk management on all bank levels in one central platform. The difference between credit model prices and credit market prices needs to be controlled. In addition, a differentiated result measurement and allocation of risks to all of the bank's profit centers is necessary. During the setup of your Credit Treasury Management we are able to rely on our leading expert knowledge as a consulting and development partner of SAP AG as well as on the intensive cooperation in the risk controlling, reporting, market and IT areas of our customers.

## Management of the operational risk

### Economically and regulatorily necessary

From a statistical point of view, operational risks which become effective rank among the most frequent triggers for situations which threaten existence in the banking sector. The growing complexity of the financial markets plays not at least a decisive role. Basel II stays abreast of this changes with the requirement of adequate processes for the identification, documentation and monitoring of operational risks. Furthermore, the Basel II requirements make operational risk management a relevant size for the development of the bank's competitiveness. The quality of the system affects the amount of equity capital which needs to be made available to justify operational risks.

### Attractive optimization options

The ifb group is a designated specialist for operational risk management in banks. We advise you in all questions from system management, through process management, all the way to process optimization. With ifb-OKULAR® ORM the ifb group provides an SAP NetWeaver-certified IT solution which distinguishes itself in its flexibility and supports the operational risk management with a high degree of automation of all routine processes, thus reducing the amount of effort required.

### Credit Treasury Management

- Switch from a buy-and-hold to a buy-and-sell strategy
- Differentiated result measurement
- Monitoring of the deviations between market and model prices

### Operational risk management

- Implementation as independent operational risk management
- Systematic setup of integrated risk assessment
- Integration of the operational risk management into the GRC management
- ifb-OKULAR® ORM as its own SAP Netweaver-certified enterprise Risk Management Software

## External risk reporting

### International harmonization as a challenge

Banks are subject to the supervision of their national Supervisory Authority. According to the international standards of Basel II the supervisory authorities need to be provided with regular reports on banks' business and risk situations. However the growing complexity of international markets and the consideration of this complexity in international framework such as Basel II is becoming more and more influential in reporting practice. As a result it becomes impossible for banks to avoid having to carry out frequent and complex adjustments. The Integrated Finance and Risk Architecture of the SAP Bank Analyzer provides consistent data management and enables the calculation of key figures using uniform methods and processes. The results of this are very good prerequisites which guarantee the validity and consistency of the data required by reporting. On this basis, current and future requirements of national regulatory law can be implemented with calculable expense.

### Competent partner for all reporting questions

We accompany your institution in setting up an SAP reporting solution which you can use to meet the changes to legal norms on a future-proof basis. The ifb group played a considerable role with SAP AG in the conceptualization of the Credit Risk Analyzer and was involved in particular in the development of optimized collateral distribution and History Databases. At the same time, we have considerable experience with the implementation of institution-specific systems for reporting on market, liquidity, credit and operational risks. Our specialists support you professionally and technically: From safeguarding the quality and completeness of the data in the portfolio managing systems, through specific reporting data extraction and processing, all the way to the integration of a standard piece of software for completing the reporting process.

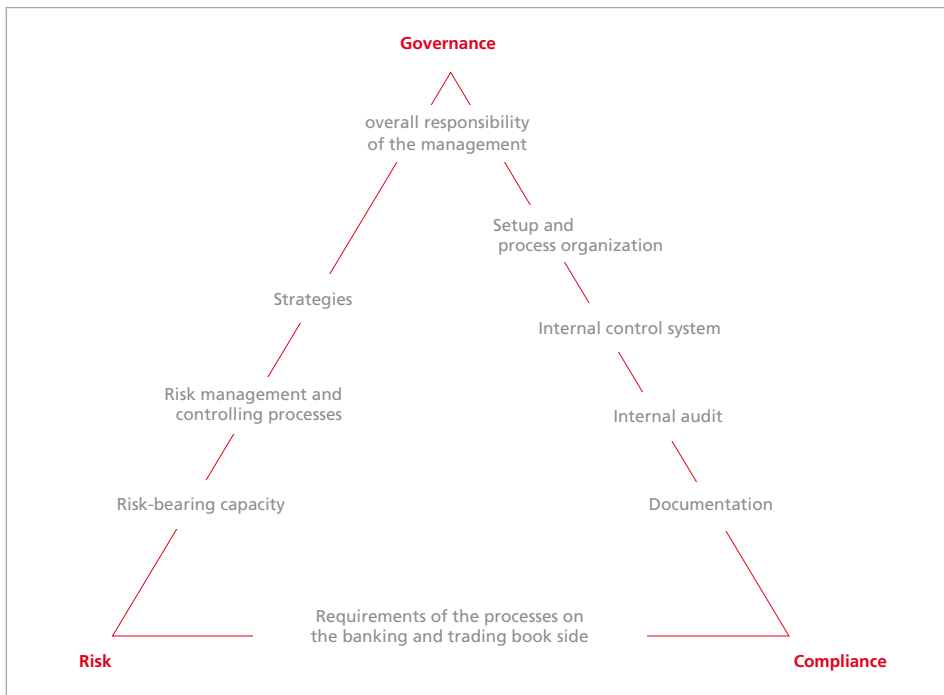
"The firms that avoided such problems demonstrated a comprehensive approach to viewing firm-wide exposures and risk, sharing quantitative and qualitative information more effectively across the firm and engaging in more effective dialogue across the management team. Senior managers in such firms also exercised critical judgment and discipline in how they valued its holdings of complex or potentially illiquid securities both before and after the onset of the market turmoil. They had more adaptive (rather than static) risk measurement processes and systems that could rapidly alter underlying assumptions to reflect current circumstances; management also relied on a wide range of risk measures to gather more information and different perspectives on the same risk exposures and employed more effective stress testing with more use of scenario analysis."

**Corrigan Report**

## Governance Risk and Compliance in the SAP environment

### Compliance with the regulators is not enough

Driven by the change in risks, the cycles become shorter, in which national and international legal norms and standards are modified for the banking sector. Not only must the structure of these rules be modelled properly in a bank management system targeted at profitable growth, also an institution-specific risk culture needs to be created. An integrated process covering all types of risks is required. The methods of Governance, Risk and Compliance provide the corresponding opportunities. This thought, among others, is manifested in Pillar 2 of the Basel II Accord and in its implementation in national regulatory requirements, which reveal a series of parallels to Governance, Risk and Compliance methodology.



*Across-the-board GRC Initiative – Meeting the requirements of Pillar 2 and support of the management and creation of a risk culture*

### Your basis for integrated risk-encompassing management

The support of the different applicable frameworks needs to be harmonized within the bank. This requires an overall strategy as well as company-wide, clearly defined rules, guidelines and methodologies which need to be supported by an IT system. In the SAP Solution for Governance, Risk and Compliance, SAP provides a comprehensive solution portfolio for these requirements. The ifb group offers your institution leading business as well as technical expertise in risk and process management as well as overall bank management. In combination with our profound SAP system knowledge and long-standing experience this makes us the ideal partner in the conceptualization and integration of your individual GRC solution with SAP.

**We're happy  
to support you!**

#### ifb governance consulting provides:

- development of an institution-specific regulation framework, determining and monitoring the superordinate company strategies for an integrative management approach
- specialist and technical expertise for integration of the SAP Solution for GRC
- comprehensive experience in risk and process management as well as total bank controlling

#### Contact

##### Volker Liermann

Partner  
Volker.Liermann@ifb-group.com  
Tel +49 221 92 18 41 146

##### ifb AG

Neumarkt-Galerie  
Neumarkt 2  
D-50667 Cologne  
Germany  
Tel +49 221 92 18 41 - 0  
Fax +49 221 92 18 41 - 300

#### ifb group

ifb was founded in 1989 in Germany and currently employs over 450 employees all over the world. As a competence center for risk management and financial management we are able to enjoy an excellent reputation. We advise credit institutions, insurance companies as well as companies in the industrial, trade and services sectors when it comes to questions of an economic nature and develop software for result-oriented management and reporting. As a partner for well-known software companies we deal with the implementation and project tasks for SAP Banking Solutions and the entire spectrum of Business Intelligence. Over 1,600 customers rely on the solutions provided by the ifb group.

[www.ifb-group.com](http://www.ifb-group.com)  
[info@ifb-group.com](mailto:info@ifb-group.com)