The Risk Management Balancing Act:
Developed and Emerging Market Practices
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A review of global risk management practices and recommendations for financial institutions in emerging markets, supported with observations from a recent IFC survey.
Acknowledgement

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Executive Summary

Risk management has evolved significantly in developed markets during the last two decades. Advanced risk models began to be integrated into key processes such as credit underwriting and collections to deliver increased efficiency, scale, and quality. Similar progress has been made for market and operational risks.

Despite all these developments, the recent financial crisis has proven that increased sophistication in modeling capabilities is not sufficient on its own to manage risks. Strong governance processes are needed to ensure that risks are well understood by decision makers, and that appropriate measures are taken to limit risk taking within the bank’s risk appetite. Furthermore, banks need to develop stronger capabilities in scenario analysis and stress testing to better quantify and contain portfolio risks.

In contrast to developed markets, bankers in emerging markets, sharpened by experiences in highly volatile home markets, have traditionally relied more on strong governance processes and intuition-driven judgment than quantitative models. IFC’s recent survey on risk management and nonperforming loan management of 25 Small and Medium Enterprises (SME)-focused banks and 2 microfinance institutions in 18 countries reveals that a significant number of banks in emerging markets have policies and committees in place for tighter risk control, even though most of them do not quantify core risk metrics such as probability of default (PD) and loss given default (LGD) to assess credit risk, or use more efficient approaches in collections.

Nevertheless, the survey results highlight a number of opportunities for improvements for banks in emerging markets, namely:

- Fostering a strong risk culture
- Collecting data on default, severities, collection efficiencies
- Overhauling underwriting and collections models and processes
- Establishing sound practices for balance sheet management and comprehensive stress testing
- Establishing risk-adjusted performance metrics to better make risk-return trade-offs

1 Risk Management and NPL Quick Survey, 2010
Purpose of the Report

The purpose of the report is to present the findings from IFC’s recent survey on risk and nonperforming loan management practices in financial institutions together with supporting benchmarks and global trends in risk management.

Top tier financial institutions in their respective markets have participated in the survey, including 25 SME focused banks and 2 microfinance institutions in 18 countries (see Exhibit 1). The emphasis on credit risk in this report stems from credit risk being the largest risk taken by SME focused banks.

The report aims to help emerging market financial institutions that participated in the survey:
- Better understand the current state of their risk management capabilities in credit risk, loan portfolio monitoring and nonperforming loan management
- Be able to compare their current risk management capabilities in these areas with peers in emerging and developed markets
- Provide a basis for identifying key areas where their risk management can be enhanced going forward.

Exhibit 1: Participating Financial Institutions in Emerging Market Countries

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2 Risk Management and NPL Quick Survey, 2010
Evolution of Market Practices

Management of Key Risks
Analytical thinking and enhancements in computing technology in the last 20 years have fueled the development of more advanced risk measurement systems at financial institutions. With the ease in the manipulation of large amounts of data, calculation of complex formulas, and simulation of stress scenarios, analytical risk management frameworks increasingly began to be used in key processes such as trading, underwriting, collections, balance sheet and capital management.

Today, best practices in risk management can be described by complete integration of these advanced frameworks into key decision making processes to deliver increased efficiency and quality, while establishing prudent policies and management oversight to ensure the framework’s integrity. Best practice organizations frequently monitor the soundness of their frameworks through validation of the underlying models and audit of their processes to ensure designed approaches continue to operate as originally intended.

From credit risk to reputation risk, risk management now spans a wide array of risk types and most of these are being quantified albeit at different levels of sophistication. For example, the recent global financial crisis has shown that liquidity risk, which is one of the key risk types with material financial impact, did not receive its deserved attention even at best-practice institutions before the crisis.
Management of Credit Risk
Credit risk analytics have shown considerable advancement over the last two decades. Improvements have taken place in:

- Assessment of obligor credit worthiness through scoring and rating models, ultimately assigning probability of default (PD)
- Evaluation of collateral in a structured way to estimate loss given default (LGD)
- Analysis of correlations and concentrations, running of stress tests and ultimately, calculation of Economic Capital requirements through portfolio analytics

Best practice organizations led the way to an industry wide change in this space, guiding the introduction of Basel II, which is now evolving into Basel III. These advancements are widening the gap between the “Basic” and “Best Practice” organizations, described below in Exhibit 2.

Exhibit 2: Spectrum of Credit Risk Capabilities

<table>
<thead>
<tr>
<th>Basic</th>
<th>Standard</th>
<th>Best Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few, if any rating model/ scorecard for underwriting exists</td>
<td>Rating model/ scorecard for underwriting exists for key portfolios</td>
<td>Rating models/ scorecards for underwriting exists for all material portfolios</td>
</tr>
<tr>
<td>Loss given default models do not exist</td>
<td>Loss given default models do not exist</td>
<td>Loss given default models exist for all material portfolios</td>
</tr>
<tr>
<td>Exposure at default models do not exist</td>
<td>Exposure at default models do not exist</td>
<td>Exposure at default models exist for all material portfolios</td>
</tr>
<tr>
<td>Behavioral scorecards do not exist</td>
<td>Behavioral scorecards exist for some retail portfolios</td>
<td>Behavioral scorecards exist for all retail and SME portfolios</td>
</tr>
<tr>
<td>Collections scorecards do not exist</td>
<td>Collections scorecards do not exist</td>
<td>Collections scorecards exist</td>
</tr>
<tr>
<td>Concentration risk is quantified as share of exposure</td>
<td>Concentration risk is quantified as share of expected loss</td>
<td>Concentration risk is quantified using economic capital</td>
</tr>
<tr>
<td>Capital calculations made using Basel I or Basel II standard method</td>
<td>Capital calculations made using Basel II standard or F-IRB method</td>
<td>Capital calculations made using A-IRB and Economic Capital</td>
</tr>
<tr>
<td>A central credit risk database does not exist</td>
<td>A central credit risk database exists</td>
<td>A central credit risk database brings together all credit information for data integrity</td>
</tr>
<tr>
<td>Underwriting process is decentralized except for large loans</td>
<td>Underwriting process is centralized for retail loans</td>
<td>Underwriting process is centralized for all loans</td>
</tr>
<tr>
<td>Collections function is not centralized</td>
<td>Collections function is centralized but covers only late collections (legal)</td>
<td>Collections function is centralized and covers monitoring, early collections and late collections</td>
</tr>
<tr>
<td>Capital calculations made using Basel I or Basel II standard method</td>
<td>Models are not validated or validated infrequently</td>
<td>Models are validated annually</td>
</tr>
<tr>
<td>Models are not validated</td>
<td>Models are not embedded in processes, credit decision is not automated</td>
<td>Models are embedded in processes, most credit decisions are automated with appropriate escalation mechanisms</td>
</tr>
</tbody>
</table>

Source: Oliver Wyman
Best-practice organizations embed effective risk management into all stages of the credit value chain, starting with targeting customers and marketing to capital management. Such integration allows for prudent management of the credit process from identification of the potential customers, to pricing to cover the potential risks and to resource planning to take early action on delinquent loans. Furthermore, use of risk adjusted performance management ensures that capital is optimally deployed.

Exhibit 3: Credit Value Chain

As credit markets have started to turn, the focus has shifted towards the “back-end” of the credit value chain: capital management and collections.

Focusing on new business generation and growth in booming markets, banks tend to pay more attention to the “front-end” of the credit value chain – targeting and underwriting. As credit markets start to turn, the focus shifts towards the “back-end” of the credit value chain – capital management and collections. With the recent credit crisis and liquidity crunch, capital management, collections and value of stable funding through sticky deposits have immediately taken center stage again.

Historically, collection practices were not adequately developed, and turned out to be the widest gap during the global financial crisis. We see a huge range in capability levels amongst players both across and within countries. Consumer finance specialists in developed countries are at the most advanced end of the spectrum, making extensive use of advanced analytics and automation. More traditional banks in developed countries and most banks in emerging countries still rely heavily on manual processes.
We see a huge range in capability levels for collections amongst players both across and within countries.

Exhibit 4: Evolution of Modern Collection Units

Source: “European Retail Credit, Payback Time?”, Oliver Wyman / Intrum Justitia, 2008

“Basic” institutions tend to have low levels of organizational reporting, no specialized units or differentiated processes for collections. Majority of banks, even in developed markets fall into this group.

Institutions in “Standard” stage tend to have higher efficiency and an industrialized approach (at least for late collections) with some process differentiation and some specialist units.

On the most advanced end, “Best Practice” is the phase where differentiation of processes is driven by analytical optimization through Test & Learn and specialization includes high profile skills. Typically specialized third party providers fall in this group.
State of Practices in Developed Market Banks

Management of Key Risks
Economic capital calculations have become the norm in most developed market banks, covering most key risk types. By 2006, most leading banks already had an established Economic Capital internal program, which took a number of years and significant effort to implement.

Exhibit 5: Advancement of Economic Capital Frameworks at Developed Market Banks

Source: Oliver Wyman / Insights from the joint IFRI/CRO Forum survey on Economic Capital practice and applications, 2006

Increasingly, these calculations are being used in key decisions, such as capital budgeting, performance management, and compensation. Exhibit 6 provides an overview of uses of economic capital frameworks in key processes at developed market banks.
Exhibit 6: Uses of Economic Capital Frameworks at Developed Market Banks

Source: Oliver Wyman / Insights from the joint IFRI/CRO Forum survey on Economic Capital practice and applications, 2006

Management of Credit Risk

Underwriting models such as application and behavioral scorecards and portfolio analytics have taken the lead in supporting lending, limit management and capital management decisions. When we assess banks in developed markets across the credit value chain, covering processes such as targeting, underwriting, existing customer management, collections, and capital management (as described in Exhibit 3), we see that for most processes an average bank is at standard level in terms of capabilities (as defined in Exhibit 2). Underwriting processes and capital management stand out as areas where measurement capabilities have been extensively developed, collections, however, remain at the basic level.
As more advanced measurement capabilities such as behavioral scorecards were built, banks’ existing policies and processes started to be shaped around models and tools, which increased the efficiency levels of these institutions. This can be observed at banks across Europe with over 80 percent of the surveyed banks employing automated decisioning based on credit scoring.
Following improvements in underwriting, enforced by the turning of the cycle, many banks in developed markets established central collection units especially for retail and SME customers to improve the effectiveness of the bank in collecting nonperforming loans.

While some banks in developed markets seem to have reached best practice levels in terms of setting up centralized organization and processes for collections, many lacked the appropriate tools such as scoring to successfully manage these processes entering into the global financial crisis. We see this as an important improvement area for banks in developed markets.

A significant portion of banks have fully or partially centralized collections functions, illustrated in Exhibit 9. However, only few use scorecards specifically tailored to collections (either one scorecard or multiple scorecards for different segments), with some using scorecards that were originally developed for credit applications.

**Exhibit 9: Centralization of Collections**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>62%</td>
<td>Fully centralized</td>
</tr>
<tr>
<td>32%</td>
<td>Split between centralized and regional/branch</td>
</tr>
<tr>
<td>6%</td>
<td>Fully done regional</td>
</tr>
</tbody>
</table>

Source: “European Retail Credit, Payback Time?”, Oliver Wyman / Intrum Justitia, 2008

**Exhibit 10: Use of Scoring in Collections**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>56%</td>
<td>None</td>
</tr>
<tr>
<td>26%</td>
<td>Based on existing score</td>
</tr>
<tr>
<td>12%</td>
<td>One tailored collections score</td>
</tr>
<tr>
<td>6%</td>
<td>Multiple tailored collections score</td>
</tr>
<tr>
<td>6%</td>
<td></td>
</tr>
</tbody>
</table>

Source: “European Retail Credit, Payback Time?”, Oliver Wyman / Intrum Justitia, 2008
Despite the enhanced risk capabilities through better underwriting systems, the recent crisis has shown that banks in developed markets are still prone to systemic risks.

In general, systemic risks can be best managed at a macro prudential level, which is beyond the scope of this report; however banks may better position themselves through a better understanding of the potential impacts of local and global systemic risks on their portfolios as well as the banking sector. Such an understanding is best achieved through the comprehensive stress testing framework that

- Links risks to macro indicators such as decrease in Gross Domestic Product (GDP), increase in unemployment, decrease in home prices, increase in rates
- Provides a holistic view of risks, business and threat types
- Focuses on “contagion”, both within and across the countries
- Requires increased input from experts across a range of business disciplines. This wide input is critical for parameterization and completeness of the stress tests.

Consideration of scenario impacts across a broad range of processes and strategies allows for prudent contingency planning and discussion of these topics at board and senior management level.

**Exhibit 11: Illustration of a Stress Testing Framework**

Source: Oliver Wyman
As illustrated in Exhibit 11, the best practice stress testing framework includes three stages:

- Scenario generation: identification of relevant risks, contagions, concentrations and agreeing on scenario sets that challenge conventional wisdom
- Analytics: assessing impact of scenarios on businesses and enriching current measures and metrics (e.g. capital, earnings, etc.)
- Use: Developing mitigation techniques, contingent strategies and linking monitoring and forecasting into risk appetite

Many of the banks that had trouble during the crisis had advanced models and systems in place. Some were on the leading edge of risk management. However, there was a lack of a structured risk appetite describing what risks are considered acceptable and what risks are unacceptable and a shared understanding of risk among the Board and Management. A commonly accepted risk appetite/tolerance framework facilitates the discussions around risk-taking and guides related parties in decision making.

**Exhibit 12: Illustration of Risk Tolerance Framework**
State of Practices in Emerging Market Banks

Management of Key Risks

Banks in emerging markets operate under high levels of volatility, triggered mostly by macroeconomic uncertainties reflected in the volatility in interest rates and exchange rates.

Exhibit 13: High Volatility in Emerging Market Banks

Volatility in these markets is triggered mostly by macroeconomic policies and political instability, which lead not only to market risk in trading and structural positions, but also to credit risk.

Based on survey responses, it appears that provision levels in most banks do not cover the nonperforming loans and the remaining open position is high enough to wipe away a significant portion (>10 percent) of the banks’ equity.

Exchange rate and interest rate volatility are the two key sources of risk in emerging markets, which are typically triggered by political instability.
Emerging markets operate under high levels of risk and maintain significant open-loan exposure ratios

Exhibit 14: Open Loan Exposure Levels in Emerging Market Banks

<table>
<thead>
<tr>
<th>Method 1</th>
<th>Method 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Graph showing open loan exposure levels" /></td>
<td><img src="image" alt="Graph showing open loan exposure levels" /></td>
</tr>
</tbody>
</table>

\[
\text{Open loan exposure ratio} = \frac{\text{Value of NPLs} - \text{Loan provisions}}{\text{Total equity}}
\]

Source: “Risk Management and NPL Quick Survey”, IFC, 2010

Operating in such high risk economies, emerging market banks have developed natural mechanisms to manage risks in the absence of advanced measurement techniques. These include:

- Higher awareness of risk
- Collective decision making through committees and many layers of management
- Maintaining a large capital buffer
- Building a stronger risk culture

IFC survey reveals that most emerging market banks have policies in place to manage key risks, including, credit, asset liability management (ALM), liquidity and operational risk. These policies lay the foundations for better risk management, but are only effective with strong implementation and governance.
Exhibit 15: Use of Policies in Emerging Market Banks

Most banks in the survey pool have formal committees in place to manage risks. However, it is important to note that at only 67 percent of the surveyed banks a Board level risk committee exists, which indicates an opportunity for improvement at emerging market banks.
Given high risk levels, we found that banks in emerging markets that participated in the survey are typically highly capitalized relative to global regulatory requirements of 8 percent. While Economic Capital and comprehensive stress testing frameworks can serve for better rationalization of capital needs, these management approaches and tools are still new to most emerging market banks.

Source: “Risk Management and NPL Quick Survey”, IFC, 2010
While in some emerging markets, banks have already reached best practice levels in certain parts of the value chain, when considered as a group, we still see significant improvement areas for these banks:

- Most processes are still manual, with minimal use of automated information systems
- Comprehensive stress tests are typically not used and ad-hoc stress tests are applied to components of the balance sheet and not enough to earnings
- Historical data collection and mining are not valued and practiced enough
- Many key credit risk models are missing, such as rating tools calibrated to PD and LGD models
- Most models are not validated by independent reviewers
- Risk types other than credit, liquidity and trading risks are not well covered
- Underlying systems and technology need to be upgraded

**Management of Credit Risk**

Despite the high risk levels, the survey revealed that banks in emerging markets have generally followed the developments in credit risk management in developed markets with some lag. In more than half of the banks surveyed, core risk models such as application scoring, PD or LGD models still do not exist (see Exhibit 18). This is significantly different from developed markets where such models now form the basis for regulatory capital calculations with Basel II.

**Exhibit 18: Use of Risk Models in Emerging Market Banks**

<table>
<thead>
<tr>
<th>Do you use a credit scoring system</th>
<th>Are historical probabilities of defaults (PD) by rating and client type being collected</th>
<th>Are historical losses given default (LGD) by rating and client type being collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of banks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>75%</td>
<td>75%</td>
<td>75%</td>
</tr>
<tr>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>25%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: “Risk Management and NPL Quick Survey”, IFC, 2010

We still see opportunities for further enhancement of risk management practices for banks in emerging markets
When assessed across the credit value chain (described in Exhibit 3) along market practices (described in Exhibit 2), we see that most banks in emerging markets that participated in the survey on average are at the basic level both in measurement and management of risks.

**Exhibit 19: Advancement Level in Credit Risk Management of Banks in Emerging Markets**

![Exhibit 19 Diagram](image)

Source: Oliver Wyman

In addition to high NPL levels, implications of operating at the basic level can also be observed in loan processing times, i.e. deviation from best practices leads to more manual processes and hence lengthened processing times.

**Exhibit 20: Retail and SME Loan Processing Times**

![Exhibit 20 Diagram](image)

Source: Oliver Wyman, European Credit Survey, 2008. GAS: Germany, Austria, Switzerland. CEE: Central Eastern Europe
Similar to developed market banks, collections is an important improvement area for emerging market banks that participated in the survey. While many of the surveyed banks reported that they have a central collections unit, at a significant number of these banks the capabilities of that unit appear to be basic compared to best practices. Exhibit 21 provides an overview of collection capabilities of banks in emerging markets.

Exhibit 21: Collections Capabilities in Emerging Market Banks

Source: "Risk Management and NPL Quick Survey", IFC, 2010

In an effort to enhance current processes, banks that participated in the survey see underlying systems and technology as the most important area of focus. Another area that is considered highly important by surveyed banks is training for staff in collections.
Exhibit 22: Self Assessment of Improvement Areas

Source: “Risk Management and NPL Quick Survey”, IFC, 2010
Recommendations for Emerging Market Banks

When compared to best practices and the advanced levels of developed market banks, it is apparent that emerging market banks that participated in this survey can take important steps forward to strengthen measurement and management of risks. We see five key steps that emerging market banks need to take to ensure a stronger risk management practice is in place:

- **Foster a strong risk culture.** Instilling and fostering a strong risk culture is critical in succeeding in risk management at any organization. To achieve that, the Board should establish a comprehensive risk appetite statement that would guide the risk taking actions of management and all employees. The risk appetite then should be enforced through the bank’s performance management framework to ensure full compliance.

- **Collect data on default, severities, collection efficiencies, if not already.** Good data are critical for effective risk management. Financial institutions should make the necessary infrastructure investments to collect, store and analyze data in an accurate way.

- **Overhaul underwriting and collections models and processes.** Banks should complete their arsenal of underwriting and collections models and embed these models into decision making. Current policies, procedures, and organization should be upgraded to optimize human touch and automation in order to improve effectiveness and efficiency.

- **Establish sound practices for balance sheet management and comprehensive stress testing.** A comprehensive and dynamic stress testing framework should be developed to allow for quantifying the impact of multiple macro-economic scenarios and management actions on the bank’s financials. The framework should not only cover credit risk, but also cover liquidity risk, market risk (i.e. ALM mismatch risk, trading risk) and operational risk.

- **Establish risk adjusted performance metrics to better make risk-return trade-offs.** In order to guide management actions better and in line with the bank’s risk appetite, banks should establish risk adjusted performance metrics. Establishing these metrics in the organization requires not only a cultural switch, but also a large infrastructure of risk models.