



Opportunity International

GIVING THE POOR A WORKING CHANCE

**Addressing Capital Adequacy for MFIs:
A Risk Management Approach**

Estelle Berger, Director of Knowledge Management

Opportunity International US

January 2010

EXECUTIVE SUMMARY

This paper reviews key issues that MFIs should consider in determining how much capital is necessary in order to weather adverse business conditions and to thrive. In particular, it looks at the relationship between risk and capital adequacy through the lens of risk management.

The microfinance industry is not immune to the problems of the wider banking system. As the global financial crisis deepened in 2008, MFIs began to see their sources of funding diminish, disappear, and/or become more costly. The global financial crisis had “trickled down” to the base of the pyramid. The lessons of this crisis present an opportunity for MFIs to review and improve their capital planning and risk management.

Risk is a necessary part of doing business. Profits are a bank’s reward for taking on risks such as issuing loans, which inherently carry some chance of default. The challenge is not to eliminate risk entirely, but rather to minimize and manage it so that profits can be optimized without exposing the MFI to unnecessary losses or, in extreme cases, to institutional failure.

The Capital Adequacy Ratio (CAR) is an important indicator of an MFI’s ability to meet its obligations and absorb losses. It measures the amount of capital relative to risk-weighted assets that an MFI should have. MFIs should have a *minimum* capital buffer of 12%, but a higher CAR is prudent owing to the more volatile and riskier environments in which MFIs operate.

CAR is by itself an insufficient guide to adequate capitalization. MFIs need a comprehensive risk management system to identify, monitor, and manage all risks that they face and set their capitalization levels accordingly. The question of capital adequacy and composition is therefore integrally connected with risk management.

Risk management is an ongoing and dynamic process. The board of directors and senior management are responsible for identifying all material risks and determining the MFI’s risk appetite. In addition, they should set prudential limits, establish risk mitigation policies and procedures, and ensure that contingency plans are in place for stress events.

Liquidity is a particularly significant risk because it can bring business to a halt. Illiquidity can lead to bank closure regardless of the bank’s profitability and Capital Adequacy. MFIs should ensure that they have a liquidity cushion of high-quality liquid assets as protection against stress events, as well as diversified, reliable funding sources for emergency needs. They should take into consideration that even “secure” sources of funding may be withdrawn under crisis conditions.

Stress testing is one of the key tools for identifying and quantifying an MFI’s exposure to liquidity risk. Stress testing should be forward looking, incorporating new developments that can affect business, such as risks from new products. The results from stress tests should lead to an action plan that addresses identified risks, including a contingency funding plan (CFP) that lays out specific actions for responding to severe liquidity disruptions.

Opportunity International is undertaking a number of efforts to strengthen the risk management of its MFIs in areas including business planning, operations, systems, and culture of its banks. A sound capital structure that supports managed growth and a strong risk management program that strengthens skills in all key risk areas should pave the way for Opportunity International banks to establish self-sufficiency and continue to serve poor entrepreneurs.

“In recent months, MFIs worldwide have seen liquidity tightening and costs of borrowing rising. Money from both domestic and international banks has become more scarce and expensive, and investors have become more risk averse. Steep rate increases are being reported...In Africa, some European bank lenders have requested MFI loan prepayments, with offers to waive prepayment fees. Some international banks are pulling out altogether.”¹

MFIs Are Not Immune

The microfinance industry is not immune to the problems of the wider banking system. As the subprime crisis emerged in 2007, the initial assessment for microfinance institutions (MFIs) was that this problem would have minimal impact on them.² While prior global events such as the conjoint rise in oil and food prices negatively affected MFIs by reducing client income and ability to repay loans, many assumed that MFIs would be insulated from the subprime crisis owing to their relative lack of integration in the global economy. However, as the crisis deepened in 2008 and liquidity froze internationally, MFIs began to see their sources of funding diminish, disappear, and/or become more costly. The global financial crisis had “trickled down” in an unwelcome way to the base of the pyramid.

MFIs reordered their evaluation of risks in light of these events. The 2009 Microfinance Banana Skins survey found that “the economic crisis has completely transformed perceptions of the microfinance risk landscape.”³ Whereas management quality, corporate governance, and inappropriate regulation were cited as the top three risks in 2008, *credit risk*, *liquidity*, and *macroeconomic trends* rose to the top in 2009. Particularly striking is the rapid move upward of these new risk leaders from their previous positions. For example, liquidity rose from #20 in 2008 to #2 in 2009 and macroeconomic trends from #23 to #3. (Related ranking changes also of note are refinancing from #28 to #5 and too little funding from #29 to #6).⁴

Heightened Risk Awareness Creates Risk Management Opportunities

This new awareness that the risks facing MFIs are similar and sometimes connected to those of mainstream banks may in fact turn out to be a boon. It gives MFIs the opportunity to review and improve their capital planning and risk management in order to improve performance and the likelihood of surviving future shocks. According to the Basel Committee on Banking Supervision, an international forum for setting guidelines and standards for banking supervisory practices, “a bank’s ability to withstand uncertain market conditions is bolstered by maintaining a strong capital position that accounts for potential changes in the bank’s strategy and volatility in market conditions over time.”⁵

Developing countries are particularly susceptible to volatile conditions such as inflation, interest and currency fluctuations, and political and civil instability. This paper will review

¹ Littlefield and Kneiding (2009).

² Microfinance Banana Skins (2009).

³ Ibid.

⁴ Ibid.

⁵ BCBS (July 2009).

some key issues that MFIs need to consider in determining how much capital is necessary in order to weather adverse conditions and to thrive. In particular, it will look at the relationship between risk and capital adequacy through the lens of risk management.

Risk Is Necessary

Risk is a necessary part of doing business. There is a positive correlation between level of risk and potential returns – *and* potential losses. Profits are a bank’s reward for taking on risks such as issuing loans, which inherently carry some chance of default. The challenge therefore is not to eliminate risk entirely, but rather to minimize and manage it so that profits can be optimized without exposing the organization to unnecessary losses or, in extreme cases, to institutional failure. Some of the risks faced by all financial institutions are listed in Table 1.

Table 1

Common Risks

- **Credit** – The risk of loss due to borrowers’ non-payment of loan obligations.
- **Liquidity** – The risk of insufficient funds to meet obligations or inability to access adequate funding.
- **Market** – The risk of loss in net asset value due to changes in factors such as interest and foreign exchange rates.
- **Operational** – The risk of loss from inadequate internal controls and information systems.
- **Reputational** – The risk that negative public opinion can cause loss of customers, funding sources, and regulatory approval.

MFIs have traditionally focused on credit and operational risk.⁶ Portfolio at risk (PAR) is one of the most common measures of an MFI’s performance, particularly of how well it manages credit risk. However, in recent years the business model for many MFIs has changed to include new products and services such as savings, remittances, and insurance. In response to these changes and recent market turmoil, the SEEP Network’s Financial Services Working Group is updating its Framework for monitoring MFI performance with new ratios on savings and capital adequacy.⁷

Capital Adequacy Ratio, Basel II, and Pillar 1

The revisions to the SEEP Framework are currently in discussion phase, but one notable addition is the Capital Adequacy Ratio (CAR). CAR is an indicator of an MFI’s ability to meet its obligations and absorb unexpected losses.⁸ It measures the amount of capital relative

⁶ Rosenberger (2009).

⁷ The SEEP Network Financial Services Working Group (2009).

⁸ Ibid.

to risk-weighted assets that an MFI should have, in accordance with Basel II recommendations.

$$\text{Capital Adequacy Ratio (CAR)} = \frac{\text{Total Capital}}{\text{Risk Weighted Assets}}$$

Basel II was issued in 2004 by the Basel Committee to establish a comprehensive risk framework for determining capital adequacy.⁹ The first part of the Basel II framework, known as “Pillar 1,” defined a multi-tier capital structure made up of:

- Tier 1, or core equity capital; and
- Tier 2, or supplementary capital such as general reserves (provisioning against *unknown* as opposed to known losses) and subordinated term debt.

Basel II also stipulated that the total capital ratio should be no lower than 8%.¹⁰

Calculating the Capital Asset Ratio (CAR)

For most MFIs, the CAR numerator should be based on Tier 1, namely equity capital, retained earnings, and donated equity (including the latter only if the donor has no recall option). This is because Tier 1 is the highest quality capital, which enables an organization to absorb losses on a going concern basis, whereas Tier 2 absorbs losses on a “gone-concern” basis.¹¹ In other words, Tier 1 capital helps an MFI to survive adverse conditions, whereas Tier 2 comes into play only after the organization is insolvent. In addition, not all regulatory bodies around the world recognize Tier 2.

With respect to the CAR denominator, Pillar 1 weights bank assets according to their assessed levels of risk, that is, the likelihood that they might suffer unexpected losses. The least risky assets such as cash and government securities receive a zero weight, while ordinary loans are weighted at 100%. (Pillar 1 also provides weights for other assets such as mortgage loans, but they are not yet relevant for most MFIs.) Accordingly, the sample MFI in Table 2 has total assets of \$6.6 MM, but risk-weighted assets of \$5.63 MM. Therefore this MFI should have at least \$450.4 K in total capital to achieve a CAR of 8%.

MFIs Need a Bigger Capital Buffer

In actuality most MFIs have a CAR (using Tier 1 only) well above the 8% minimum. This is appropriate, as analysts suggest that *minimum capital adequacy for MFIs should exceed the Basel II recommendations by at least 50%, i.e. that MFIs should maintain CAR of 12% or higher*.¹² MFIs should have a larger capital buffer for several reasons: first, delinquency rates

⁹ Basel II was intended to expand and improve on Basel I, which was issued in 1988 and focused on credit risk.

¹⁰ BCBS (June 2006). There is also a category of Tier 3 capital, but it is too esoteric for most MFIs and the Basel Committee recently recommended the elimination of that category as allowable capital for all banks (BCBS, December 2009).

¹¹ BCBS (December 2009).

¹² Meehan (2004).

for MFIs can be volatile; second, MFI operating expenses are generally higher than for commercial banks; and third, access to funds for emergency recapitalization is more limited.¹³

Opportunity International takes a similar position, recommending that “in light of the greater risk exposure to sudden macroeconomic changes faced by a microfinance bank loan portfolio..., in most cases [Opportunity International] banks should maintain capital levels greater than the minimum required capital required by law for their particular legal entity.”¹⁴

Table 2

Sample MFI Risk Weighting

Assets	Amount USD	Risk Weightings (%)	Risk-Weighted Assets
Cash	\$ 950,000	-0-	\$ -0-
Gov't Securities	20,000	-0-	-0-
Loans	5,630,000	100	5,630,000
TOTAL	\$6,600,000		\$5,630,000

Minimum Capital @ 8% = \$450,400
NOTE: Higher CAR is recommended!

More Than Ratios Needed to Determine Capital Adequacy

If a ratio such as CAR is an insufficient guide to adequate capitalization, how then does a bank judge how much capital is enough? Any number of banks shuttered by the global financial crisis had the nominally “right” ratios.¹⁵ What they did not have, though, was an adequate assessment of their risk positions and adequate plans and resources for managing those risks when they erupted. The widespread failure of banks to appropriately assess risk resulted in inadequate capitalization and liquidity, which led to inability to absorb severe shocks and, ultimately, to collapse. As a consequence, the Basel Committee is revising its regulatory framework to raise capitalization standards, strengthen risk management, and enhance liquidity coverage to ensure that banks are better equipped to survive future stress events.¹⁶

¹³ Standard and Poor’s (2007).

¹⁴ Opportunity International (2009).

¹⁵ It is also true that the original Basel II Pillar 1 guidelines allowed weaker forms of capital that, in retrospect, gave banks too much leeway and led to severe undercapitalization in some cases. The Basel Committee is tightening regulatory capital requirements in response. See BCBS, “Strengthening the resilience of the banking sector,” (December 2009).

¹⁶ See, for example, BCBS, “Strengthening the resilience of the banking sector – consultative document” (December 2009) and “Enhancements to the Basel II Framework” (July 2009).

Capital Adequacy Is a Risk Management Issue: Pillar 2 of Basel II

Recent publications of the Basel Committee have reemphasized that “Pillar 1 capital requirements represent *minimum* standards. An appropriate level of capital under Pillar 2 should exceed the minimum Pillar 1 requirements so that all risks of a bank...are adequately covered...”¹⁷ Where Pillar 1 set the two-tiered capital structure and minimum capitalization levels, Pillar 2 of the Basel II framework requires banks to have an internal capital adequacy assessment process (ICAAP) to determine their capital needs in light of their risk profile. That is, banks should have a comprehensive risk management system to identify, monitor, and manage all risks that they face and set their capitalization levels accordingly.

The question of capital adequacy and composition is therefore integrally connected with risk management. It cannot be answered by a simple formula. Instead, the MFI should use feedback from its risk management system to help set current capital levels and guide long-term capital planning.

Risk Management Should Be Ongoing, Dynamic, and Comprehensive

Importantly, risk management is not a static or once-for-all analysis: because both the MFI and the environment in which it operates are constantly changing, risk management must be understood as an intentional, ongoing, and dynamic process. Examples of events that can alter an MFI’s risk landscape include rapid growth, the introduction of new products, interest rate changes, entry into new markets, and national elections. If an MFI is involved in the agriculture sector, risks such as crop failure or delays in harvesting are important to include in its risk analysis, liquidity holdings, and capital planning.

Risk management must also be comprehensive because various types of risk can interact. For example, credit and liquidity risk can be interrelated, as large-scale defaults can lead to a shortage of liquidity. This in turn could lead to reputational risk if the MFI can not meet its obligations, which could further aggravate liquidity if sources of funding are withdrawn owing to the MFI’s real or perceived weakness, which could ultimately impact capital adequacy, and so on. It is important to recognize how risks can interact and amplify one another in order to establish an effective mitigation program.

Key Aspects of Risk Management

The risk management process begins with the board of directors and senior management, whose responsibility it is to identify all material risks and determine the organization’s risk appetite. The board and senior management are responsible for setting prudential limits and ensuring that the appropriate policies and procedures are in place to monitor and mitigate risk. They should establish reporting and early warning systems and contingency plans for stress events.

A sound risk management system should be supported by management information systems (MIS) that provide timely and pertinent information, as well as by comprehensive internal

¹⁷ BCBS (July 2009).

controls that reflect and reinforce the MFI's risk policies and procedures.¹⁸ Ultimately, management needs to establish a "risk culture" throughout the entire organization by creating awareness of relevant risks amongst employees, encouraging adherence to sound procedures and controls, and creating mechanisms for reporting concerns and taking necessary action.¹⁹

Particular Focus for Risk Management: Liquidity Risk

The Basel Committee focuses particularly on liquidity risk in its post-global crisis recommendations. Extreme illiquidity is a lower probability event than many other risks, but its impact can be severe. As the crisis demonstrated, illiquidity can lead to bank closure regardless of the bank's profitability and Capital Adequacy Ratio. This holds true for MFIs as well as for commercial banks. As one analyst notes, "An MFI can be unprofitable for one quarter and still be in business, but it could not survive being illiquid."²⁰

Going forward, the Committee recommends that a financial institution should "assiduously" manage its liquidity risk. The board of directors should set its liquidity risk tolerance and senior management should monitor cash flows from assets, liabilities, and off-balance sheet items, ensuring that any liquidity gaps or mismatches are identified and addressed. As further protection against stress events, the bank should seek diversification of its funding sources and maintain a liquidity cushion of high-quality liquid assets as protection against stress events.²¹ The committee proposes specifically that banks set a minimum liquidity coverage ratio of 30 days so that they can weather short-term liquidity disruptions.²²

Key Tool for Risk Management: Stress Testing

Stress testing is one of the key tools for identifying and quantifying a bank's exposure to liquidity risk. The Basel Committee defines stress testing as "the evaluation of the financial position of a bank under a severe but plausible scenario to assist in decision making within the bank."²³ Stress testing can be fairly simple and test changes in only one variable, or it can be more sophisticated and test changes in several variables at once. Stress testing should be conducted on a regular basis to analyze possible effects on the bank's liquidity, solvency, and profitability.

Stress Tests Should Be Forward Looking

The financial crisis exposed major flaws in how banks conducted stress testing. They had relied too much on historical data and had incorporated too little of the risks from new products and changing market conditions. As a result, they underestimated the severity and duration of the shocks and of the interactions among adverse events which amplified their system-wide impact. Specifically with regard to liquidity, the banks had no scenarios for the

¹⁸ BCBS (July 2009).

¹⁹ Ruehmer (2009).

²⁰ Brom (2009)

²¹ BCBS (July 2009)

²² BCBS (December 2009)

²³ BCBS (May 2009).

extreme market illiquidity that occurred. Funding had been plentiful and cheap for so long that their historical statistical models did not anticipate such events.²⁴

As a result, the Basel Committee recommends that stress testing provide “forward-looking” assessments of risk. While historical data can be useful, it is also essential to anticipate new developments that can affect the business (such as risks from new products or unexpected civil unrest). Engaging in this kind of analysis requires both imagination and the exercise of management judgment.

Stress Tests Should Lead To an Action Plan

It is not enough just to test and document what can happen under certain circumstances. The purpose of stress testing is to decide on a course of action once the results have been reviewed. For example, the board and management may decide that the MFI is undercapitalized and faces liquidity risk under a scenario that they deem is material. In response they can build liquidity reserves by reducing dividends (assuming current profitability) and by ensuring that the MFI holds sufficient highly liquid assets, such as cash and high quality government securities. They should seek to diversify their funding sources as much as possible and devise a contingency funding plan (CFP) that lays out specific actions for responding to severe liquidity disruptions.²⁵ They should particularly take into consideration the fact that even “secure” sources of funding may be withdrawn under crisis conditions, which is why an internal liquidity cushion is essential.

Conclusion: Opportunity International’s Risk Management Program

Opportunity International is undertaking a number of efforts to strengthen the risk management of its MFIs in areas including business planning, operations, systems, and culture of its banks. The organization is introducing the role of Risk Managers at most of its banks and will be providing risk management training. In addition, the position of a Regional Head of Risk is being added to regional management teams to embed the risk processes. These new efforts complement Opportunity’s Risk Management Team’s on-going responsibility to conduct regular evaluations of its banks using a combination of risk tools and the CAMEL methodology, making recommendations for improvements where deficiencies are revealed.

In addition, Chief Risk Officer Lynn Exton has asked bank CEOs to add stress testing and contingency planning to the business planning process. They have been asked to test for specific scenarios such as a doubling or tripling of PAR, a liquidity event, severe economic recession, and other possible shocks such as political instability, among others. CEOs were also requested to develop a response plan addressing the findings from their analysis, including looking at potential capital calls and/or alternative sources of liquidity that could be made due to these events.²⁶

²⁴ Ibid.

²⁵ BCBS (September 2008).

²⁶ Exton, email (2009).

Opportunity's Risk Management Team is also reviewing other related issues such as bank capital structure and leverage. Previously, when funding was plentiful, many in microfinance aimed for a six to seven times gearing or higher. The economic crisis showed that such a high leverage ratio is fine only if the bank has access to emergency capital and its credit policies are very strong, minimizing credit risk. Given that Opportunity banks are moving into risky new areas such as agriculture finance, prudent leverage targets have been revised downward to two to three times gearing for the time being.²⁷

As noted at the opening of this paper, debt instruments for MFIs have become scarce in the wake of the financial meltdown. Stable long-term, lower-cost forms of funding such as program-related investments (PRIs)²⁸ or other forms of subordinated debt can help MFIs to mitigate market and funding liquidity risks. Such funding could also help attract other loan capital, since senior banks might be more willing to lend if there are investors below them who will absorb potential losses.

In the long term, mature and established Opportunity banks will need to source their funding from savings deposits and domestic commercial lenders. Lenders as well as regulators will require a solid history of profitability and both depositors and lenders will require evidence of good management. A sound capital structure that supports managed growth and a strong risk management program that strengthens skills in all key risk areas should pave the way for Opportunity International's banks to establish self-sufficiency and continue to serve poor entrepreneurs.

²⁷ Exton, interview (2009).

²⁸ "Program-related investments (PRIs) are investments made by foundations to support charitable activities that involve the potential return of capital within an established time frame. PRIs include financing methods commonly associated with banks or other private investors, such as loans, loan guarantees, linked deposits, and even equity investments in charitable organizations or in commercial ventures for charitable purposes." From: <http://foundationcenter.org/getstarted/faqs/html/pri.html>, accessed 29 January 2010.

References

Basel Committee on Banking Supervision (BCBS). 2009. “Strengthening the resilience of the banking sector – consultative document.” Basel: Bank for International Settlements, December. <http://www.bis.org/publ/bcbs164.pdf>

_____. 2009. “Enhancements to the Basel II Framework.” Basel: Bank for International Settlements, July. <http://www.bis.org/publ/bcbs157.htm>

_____. 2006. “International Convergence of Capital Measurement and Capital Standards.” Basel: Bank for International Settlements, June. <http://www.bis.org/publ/bcbs128.htm>

_____. 2008. “Principles for Sound Liquidity risk Management and Supervision.” Basel: Bank for International Settlements, September. <http://www.bis.org/publ/bcbs138.htm>

_____. 2009. “Principles for Sound Stress Testing Practices and Supervision. Basel: Bank for International Settlements, May. <http://www.bis.org/publ/bcbs155.htm>

Brodie, Francie, Kevin McQueen, Christie Velasquez, and John Weiser. 2002. “Current Practices in Program-Related Investing.” Brandford, CT: Brody Weiser Burns. <http://www.brodyweiser.com/pdf/currentpracticesinpri.pdf>

Brom, Karla. 2009. “Asset and Liability Management for Deposit-Taking Microfinance Institutions.” Washington, D.C.: CGAP, June. <http://www.cgap.org/p/site/c/template.rc/1.9.34818/>

Exton, Lynn. 2009. Email correspondence, 31 August.

_____. 2009. Interview, 31 August.

GTZ. 2000. “A Risk Management Framework for Microfinance Institutions.” Eschborn, Germany: Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ). http://www.ruralfinance.org/servlet/BinaryDownloaderServlet?filename=1126266387218_A_risk_management_framework_for_MFIs.pdf

Gerschick, Julie A. 2004. “Reflections and Learnings: ShoreCap Exchange’s Risk Management Forum.” Chicago: ShoreCap Exchange.

Littlefield, Elizabeth and Christoph Kneiding. 2009. “The Global Financial Crisis and Its Impact on Microfinance.” Washington, D.C.: CGAP, February. http://www.cgap.org/gm/document-1.1.1305/FN_52%20ENG.pdf

Meehan, Jennifer. 2004. “Tapping the Financial Markets for Microfinance: Grameen Foundation USA’s Promotion of this Emerging Trend.” New York: Grameen Foundation USA. <http://www.haas.berkeley.edu/HaasGlobal/docs/gfusacapitalmarketswp1004.pdf>

Microfinance Banana Skins 2009: Confronting crisis and change. 2009. London: Centre for the Study of Financial Innovation. <http://www.csfi.org.uk/Microfinance%20Banana%20Skins%202009.pdf>

Opportunity International Network. 2009. "Investment Services Division Handbook, Version 9." (Internal document).

Oracle Financial Services. 2009. "Managing Capital Adequacy with the Internal Capital Adequacy Assessment Process (ICAAP)." Redwood Shores, CA: Oracle Corporation. http://www.oracle.com/industries/financial_services/pdfs/oracle-reveleus-icaap-wp.pdf

Rosenberg, Richard. 2009. Measuring Results of Microfinance Institutions: Minimum Indicators That Donors and Investors Should Track, a Technical Guide. Washington, D.C.: CGAP. http://www.cgap.org/gm/document-1.9.36551/Indicators_TechGuide.pdf

Ruehmer, Christian. 2009. Opportunity International Risk Management Workshop. Oak Brook, IL, 8-10 December.

SEEP Network Financial Services Working Group. 2009. "Update of Key Ratios to the SEEP Framework: Draft for Review – July 2, 2009." Washington, D.C.: The SEEP Network. <http://www.seepnetwork.org/Resources/SEEP%20Frame%20Update%20-Draft%20for%20Review%207-2-09%20v2.pdf>

Standard & Poor's. 2007. Microfinance: Taking Root in the Global Capital Markets. New York: Standard & Poor's. http://www2.standardandpoors.com/spf/pdf/media/Microfinance_TakingRootInTheGlobalCapitalMarkets_6_07.pdf