MICROFINANCE AND THE GLOBAL FINANCIAL CRISIS
A Call for BASEL
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David Kruijff, Microfinance Specialist and Stephan Hartenstein, Microfinance and Risk Management Specialist
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ABBREVIATIONS

ALCO  Asset-Liability Committee
AP    Andhra Pradesh
AUA   Available Unencumbered Assets
CAC   Central America and the Caribbean
CEO   Chief Executive Officer
CRM   Credit Risk Management
DB    Deutsche Bank
DFI   Development Finance Institution
EAP   East Asia and the Pacific
ECA   Eastern Europe and Central Asia
EUR   Euro
FI    Financial Institution
FX    Foreign Exchange Or Foreign Currency
GDP   Gross Domestic Product
IFC   International Finance Corporation
IR    Interest Rate
LAC   Latin America and the Caribbean
LCR   Liquidity Coverage Ratio
MENA  Middle East and North Africa
MF    Microfinance
MFI   Microfinance Institution
MIV   Microfinance Investment Vehicle
MIX   Microfinance Information Exchange
<table>
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<th>Abbreviation</th>
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<tr>
<td>NBFI</td>
<td>Non Bank Financial Institution</td>
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<tr>
<td>NGO</td>
<td>Non Governmental Organization</td>
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<td>NSFR</td>
<td>Net Stable Funding Ratio</td>
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<td>ODTI</td>
<td>Other Deposit Taking Institution</td>
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<td>PAR30</td>
<td>Portfolio in arrears over 30 days</td>
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<tr>
<td>ROA</td>
<td>Return On Assets</td>
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<tr>
<td>ROE</td>
<td>Return On Equity</td>
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<td>ROI</td>
<td>Return On Investment</td>
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<td>SA</td>
<td>South Asia</td>
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<td>SME</td>
<td>Small And Medium Enterprises</td>
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<td>SSA</td>
<td>Sub Saharan Africa</td>
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<td>SYM50</td>
<td>Microfinance Institutions’ Benchmark Compiling 10 Key Indicators From 50 Mfis</td>
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<tr>
<td>USD</td>
<td>United States Dollar</td>
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<td>VaR</td>
<td>Value At Risk</td>
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INTRODUCTION

For many years, microfinance has been the poster child of governments, policymakers and international organizations with the goal of lifting millions of people out of poverty. The notion that microfinance could pursue and achieve the intertwined goals of development and financial profitability without friction predominated. This dual opportunity, combined with a huge untapped market for financial services at the bottom of the pyramid attracted large amounts of funding from international capital markets, triggering unprecedented levels of growth. Until the global financial crisis, the sustainability of the resulting market growth had not been significantly questioned.

After several regional financial crises, from which domestic microfinance industries emerged with little more than scratches, the sector earned its reputation as ‘a reliable or trustworthy asset class.’

“Until the global financial crisis that erupted in late 2007, available data suggested at most a weak relationship between usual performance indicators in the microfinance industry and international capital market developments, and even domestic macroeconomic conditions (Krauss and Walter, 2006, 2009; Gonzalez, 2007; Ahlin, Lin and Maio, 2010).” (Di Bella, 2011, p.4)

The global financial crisis, however, was unparalleled in its size and reach. As the crisis unfolded during the end of 2007, there seemed to be consensus among microfinance practitioners, analysts and other industry experts that this crisis would be different. The microfinance industry braced itself for anticipated liquidity crunches, increase in costs of funds and foreign exchange, as well as a sharp rise in portfolio arrears.

This paper will:

• review recent publications that have drawn conclusions on the effects of the global financial crisis based on empirical data research.

• draw the conclusion that proper governance and risk management systems are essential and could have avoided many of the problems specific MFIs faced during the financial crisis.

• highlight Basel framework sections relevant to MFIs and demonstrate how these can be applied to strengthen MFIs. It will show that MFIs as financial intermediaries can increasingly use the Basel framework designed for financial institutions to best provide access to finance to help increase the availability and affordability of financial services.
THE CRISIS AND ITS AFTERMATH

Now that the microfinance industry has been through the eye of the storm, several publications have appeared debating its aftermath. This first section will draw upon articles written by Wagner (2010), Wagner & Winkler (2012), di Bella (2011), and Gonzales (2011, 2012). All articles examine the effects of the financial crisis albeit from different angles.

Box 1: The authors reviewed and their views

Wagner and Wagner/Winkler are primarily focused on demonstrating that microfinance has adopted cyclical boom/bust patterns in credit growth associated with traditional financial markets. In their analysis, they hypothesize that certain characteristics adopted by MFIs (i.e. an increase in foreign funding) have led to this similarity.

Di Bella establishes that MFI performance is correlated with both domestic economic conditions and changes in international capital markets. Transformations of MFIs to deposit-taking institutions, increased scale, diversification of funding to include international sources, etc., have all contributed to more linkages to the general economic environment, increasing the systemic risk of the industry. His findings also indicate a relationship between the sector’s increased participation in a country’s GDP and its sensitivity to macroeconomic changes.

Gonzalez suggests that many problems observed in the MFI sector had their origins even before the most recent financial crisis. Gonzalez’ main hypothesis centers around the formalization theory: the higher the level of formalization, or integration of microfinance loan portfolios with the domestic economy, the worse the decline in portfolio quality during economic recessions.

Some noteworthy observations are shared throughout:

• although the sector fared fairly well as a whole, there is a significantly stronger correlation between the microfinance sector with domestic and international capital markets contradicting earlier evidence, and

• the decline in growth and deterioration in asset quality differed per region and followed a pattern similar to that of the mainstream commercial financial markets.
Stronger correlation with financial markets

Whilst the microfinance sector, as a whole, was not as severely affected by the global financial crisis as other market segments, the long held notion that microfinance as an asset class is largely uncorrelated to the global financial markets can no longer be endorsed. The links between the microfinance sector to both national economies and international capital markets have grown stronger. The high growth rates prior to the crisis have gone hand-in-hand with an increase in the operational scale of MFIs, their dependency on commercial and cross-border funding sources, and integration of more formal clients.

Box 2: Formal vs. informal clients

Although the terms formal and informal clients are widely used when discussing the recipients of microfinance services, there is no clear-cut distinction between the two. For this purpose, the authors refer to formal clients as those with larger/registered businesses, salaried clients, or clients seeking consumer, housing, education, or small and medium enterprises (SME) loans.

Median MFI overall performance experienced ongoing growth during 2007 to 2009, albeit with substantially lower rates as compared to the pre-crisis period.

“Assets of the median MFI increased at about 22 percent per year and lending by 24 percent, while borrowings grew by 23 percent, i.e. 28 percentage points lower than the rate observed during 1998-2006. Though profitability (measured by ROE) of the median MFI appeared only slightly lower than that observed during 1998-2006, the mean ROE was about 5-percentage points lower. Asset quality deteriorated, with both PAR-30 and write offs ratios showing increases.” (Di Bella, 2001, p. 11)

Other sources such as the Microfinance Information eXchange (MIX), DB Research, and Symbiotics report similar findings, documenting how many MFIs globally experienced asset deterioration in the form of rising Portfolio at Risk greater than 30 Days (PAR30) figures and diminishing returns. The MIX median for PAR30 rose to 3% by Dec 2008, whilst the Symbiotics SYM50 median PAR30 rose to 4.5% by June 2009. (Chen, et al., 2010). DB Research reports a drop in return on assets (RoA) from 2.4% to 1.8%. (Lutzenkirchen, 2012, p.2)

Figure 1 (Wagner, 2010, p.13) shows a similar trend of capital inflows between the banking and the microfinance sectors. In the years preceding the crisis, both sectors were able to attract strong capital inflows from foreign sources contributing to a surge in credit growth in emerging and developing economies. Since the mid-80s strong capital inflows followed by steep declines have been a typical feature of the financial integration of emerging and developing economies. (Wagner 2012, p.13)
For the microfinance sector this was a relatively new phenomenon, which started in the early 2000s with the rise of Microfinance Investment Vehicles ("MIVs") and increased attention from many Development Finance Institutions (DFIs). Rapid advances in the three years preceding the crisis were followed by a significant slowdown in both sectors.
Figure 2 shows how, in 2008 and 2009, credit growth slowed substantially in emerging and developing economies in both the microfinance and the traditional banking. Compared to 2007, the drop amounted to 23 percentage points in the microfinance sector and to 29 percentage points in the traditional banking sector in 2008. The credit slump was most severe in ECA, whilst South Asia experienced a modest credit contraction (in both sectors).

Although an overall decline in asset quality has been observed, empirical data shows that on a global level the expected concerns, mostly related to the predicted liquidity crunch, materialized only partially (Gonzalez, 2011, pp.3-6)

<table>
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<th>Box 3: How the predicted liquidity crunch partially materialized</th>
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<td><strong>Reduced growth due to a liquidity crunch</strong> – In 2009, 40% of the MFIs reporting to the MIX experienced a reduction in debt, whilst more MFIs reported an increase in their funding base. A decrease in demand has also contributed to a decline in debt funding, i.e. the decrease was not only supply driven. In other cases MFIs took prudent measures and slowed down growth to build a liquidity buffer. Surprisingly, four new specialized microfinance funds were established in the height of the crisis and equity valuations for MFIs showed an increasing trend.</td>
</tr>
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<td>• Rise in short-term funding - The average debt transactions’ tenor actually rose, although the increase was marginal.</td>
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<td>• Higher expenses due to an increase in the cost of funds - In 2009, more than half the MFIs reporting to the MIX experienced a decrease in funding costs, mainly due to the global suppression of interest rates. Only 10% of MFIs experienced an increase in cost of funds exceeding 2%.</td>
</tr>
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<td>• Higher expenses due to an increase in operating expenses - Gonzales (2011) concludes that there was no significant correlation between portfolio quality and inflation in 2009.</td>
</tr>
<tr>
<td>• Increased market risks due to larger foreign exchange (FX) exposure - MIX data suggests that the actual FX exposure decreased over the 2008-2009 period.</td>
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Regional differences similar to the traditional banking sector

The fact that research shows many concerns related to a liquidity crunch only partially materialized leads to the next finding: that of regional variation. Regional microfinance markets that experienced strong capital inflows, rapid market growth, and increasing competition, were also those to experience a slump in credit growth and deterioration of credit quality as exemplified by Table 1.

Table 1: Regional decline of credit expansion

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<td>Reduced growth due to a liquidity crunch – In 2009, 40% of the MFIs reporting to the MIX experienced a reduction in debt, whilst more MFIs reported an increase in their funding base. A decrease in demand has also contributed to a decline in debt funding, i.e. the decrease was not only supply driven. In other cases MFIs took prudent measures and slowed down growth to build a liquidity buffer. Surprisingly, four new specialized microfinance funds were established in the height of the crisis and equity valuations for MFIs showed an increasing trend.</td>
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The research highlights how this especially holds true for the microfinance markets in Middle East North Africa (MENA) and Eastern Europe Central Asia (ECA) regions, and specifically for countries including Armenia, Bosnia and Herzegovina, Tajikistan, Azerbaijan, Pakistan, and Morocco. By contrast, countries such as India, Mexico, and Uganda continued to demonstrate record high growth rates throughout the crisis. It should be noted that the record high growth rates in India recorded between ’07 and ’09 were based on excessive lending, over indebtedness, irresponsible lending practices, and relatively high interest rates. The 2011 crisis (often referred to as the Andhra Pradesh or AP crisis) exposed the weaknesses of the sector.

In the traditional banking sector similar regional boom-bust patterns can be observed. Further research in 2012 also indicates a larger credit bust in countries with higher pre-crisis inflation figures, as was the case throughout the ECA region. Similarities are found in countries that in the pre-crisis period recorded higher GDP growth and current account surpluses. These findings are largely consistent with those of the traditional banking sector. This pattern was predominantly evident in microfinance markets where over-indebtedness was prevalent such as Morocco or Bosnia and Herzegovina (aggravated further by dysfunctional credit bureaus and other forms of information sharing) deterioration of credit underwriting procedures and the ensuing deterioration of portfolio quality.
There is ample corroboration of regional differences showing a strong correlation between MFI performance and conditions in domestic/international markets in ECA, MENA, and Central America & the Caribbean (CAC) regions. Regional differences related to the impact of the financial crisis are perhaps the most noteworthy. Apart from regional differences, other disparities, as legal status, type and age of institution, also play part in explaining how institutions are affected by the financial crisis.

**Box 4: Other disparities explained by type and age of institution**

- **Legal status/type of institution**: as more non-profits evolve into formal regulated financial institutions, they become more susceptible to global market shocks and economic conditions. In general, Banks and NBFIs have systemically higher risk.

- **Age/growth rate**: Risk is higher for younger institutions or institutions experiencing a rapid exponential growth.
Regardless of where the emphasis is placed, the following main features have been detrimental for specific MFIs and/or regions:

- A pre-crisis boom characterized by the oversupply of capital
- Rapid growth through expanding clientele and loan sizes,
- A deterioration in lending standards, followed by the same consequences experienced in the traditional banking sector (the bust):
- A drop in credit growth and a rise in non-performing portfolios.

After years of evidence proving the microfinance sector to be fairly resilient to financial crises one wonders what has happened to the sector’s risk mitigating traits: conservative credit technology, short-term lending with frequent installments, clients with flexible informal businesses, and a market environment where over-indebtedness is not common. An important reminder from the recent financial crisis is that MFIs are also financial institutions with much the same associated problems. For too long, they have been regarded as materially different from traditional financial retail institutions. The more the microfinance sector matures, however, the more individual MFIs and the sector as a whole are taking on characteristics of traditional financial intuitions and sector, especially related to their expansion models, product offering and portfolio financing.

Easy access to funding pushed certain markets to the tipping point. Although the role of funders is not in the scope of this paper, it should be mentioned that many did not live up to their responsibilities. Most microfinance funders have some type of social mission, which they often use to attract funding. Although their specific missions may differ, the core principle of doing good stands above all. Many MIVs and others, however, were more concerned with investing their own funds and reaching projected returns on investment (ROIs), such that the absorption capacity of MFIs was not sufficiently scrutinized. Abundant external funding triggered rapid growth, which in turn had the following consequences for certain regions and specific institutions: concentrated market competition, multiple borrowing, overstretched MFI systems and controls, deterioration of underwriting criteria, and expansion of credit offerings.

These factors were also dominant during the Bolivian microfinance crisis in 1999, and explain how the risk mitigating factors, once so characteristic of the microfinance sector, have gone astray. The factors can be grouped under two headings, both further discussed below:

- Concentrated market competition
- Over-stretched system.
Concentrated market competition

- Increased competition had an adverse effect on the incentives upon which MFIs rely. In many urban centers and in specific in the identified crisis countries like Morocco, Bosnia and Herzegovina, Nicaragua, Pakistan and later on India, clients have more options to access funding and are therefore not reliant on one MFI. The prevailing thought that the credit relationship of the client to the MFI would be a strong stimulus to repay carries less weight in an increasingly competitive environment.

- Increased competition diminished the credit discipline as many MFIs tried to make their product offering more attractive through reducing transaction times, applying credit scoring techniques, and adapting existing product features such as raising loan sizes and maturities.

- Increased competition led to the formalization of credit portfolios and clients. To attract new clients many MFIs have implemented new products as consumer loans, SME loans, education loans, mortgage loans, etc. In this way, MFIs increased their portfolio exposure to the domestic formal sector. This is especially relevant for MFIs operating in more formal economies, which suffered a relatively stronger GDP contraction.

Over stretched systems

Fast expansion led many MFIs to recruit a substantial number of new loan officers to manage portfolio expansion. Hence, a large pool of inexperienced loan officers was partially staffing the growth during the credit boom. Rapid credit growth also stretched the capacity of even the most experienced loan officers, as they were managing client numbers higher than their prior limits. The defining of limits plays a central role in proper risk management systems as will be expanded later on in this article.

- When MFIs expand faster than their capacity, internal controls weaken and methodological principles are diluted. This not only raises the likelihood of issuing sub-standard loans but also opens the doors to potential fraudulent practices by both staff and clients.

- MFIs that focus too strongly on growth and capturing market share can become financially vulnerable through currency and cash flow mismatches, weak balance sheet planning, excessive leverage, etc. This holds especially true for MFIs that enter into a steep growth curve without having established and internalized proper risk management principles related to their financial risk infrastructure.
Due to the financial and ensuing global crisis, a number of emerging market and developing countries were heavily affected by declining GDP, remittances, and trade balances. In several cases this reduced microfinance borrowers’ repayment capacity and the MFI’s refinancing options, evidence of a correlation with the crisis. However, industry wide, the components of the financial crisis which were predicted to have severe negative impact on MFIs were less acute than forecasted. The sector continued to grow at approximately 15% - 20% per annum during the crisis (DB Research, 2012) and was predicted to expand by 25% in 2012 (responsAbility, 2011).

Furthermore, the impact of the financial crisis has differed by MFI and by geographical location as it is linked to the macroeconomic environment, level of integration of the country to the global economy, level of integration of the MFI within the formal economy, and the ability of the MFI and its management to effectively address the crisis. Certain MFIs, primarily located in the microfinance crisis countries including Morocco, Nicaragua, and Bosnia and Herzegovina, were so affected that they required workout plans or shuttered their operations entirely. Although these deteriorations occurred during the financial crisis, it can be argued that the global financial crisis was not necessarily the predominant cause of the deterioration of asset quality experienced by several MFIs globally. Irresponsible expansion resulting from easy access to funding played a large role. The crisis, did, however, exacerbate an overall difficult situation in certain overheated markets and may even have functioned as a trigger that exposed fundamental underlying weaknesses that had evolved due to the manner in which the industry and MFIs matured.

To illustrate the above point, the authors list below all IFC’s workout cases and losses in its MF portfolio that occurred between 2007-2010. These examples are evidence that, although the specific MFI workouts occurred during the financial crisis, the crisis itself was not the main culprit.

<table>
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<tr>
<th>Workout</th>
<th>Main causes of problems</th>
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<td>African MFI</td>
<td>Inadequate CEO, institutional growth without necessary controls, policies and oversight. Difficult macroeconomic and political environment.</td>
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<td>Asian MFI 1</td>
<td>At the outset, the Bank experienced operational problems such as poor quality of acquired portfolio, staff turnover, capital shortfall, and corporate governance issues.</td>
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<tr>
<td>MFI</td>
<td>Causes</td>
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<td>Asian MFI 2</td>
<td>Initially, the Bank was able to grow its portfolio aggressively, but in 2008 it experienced deterioration in its portfolio quality with PAR 30 days exceeding 40% due to the difficult operating environment and inadequate credit policies and oversight. Other issues affecting operations were high staff turnover, weak management, poor governance, and inadequate market positioning.</td>
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<tr>
<td>Eurasian MFI</td>
<td>Disengaged sponsor with no experience in financial intermediation and no on the ground presence. Governance issues led to CEO departure leaving a vacuum at the management level, spurring increased staff turnover. Offers of funding from financial institutions were withdrawn leading to a liquidity crisis. Poor governance increased operational risks with fraud cases appearing and portfolio quality declining. Within a few months, the MFI faced a management crisis and no sources of new funding, all of which led the MFI to default on its lenders.</td>
</tr>
<tr>
<td>Asian MFI 3</td>
<td>A regional microfinance crisis triggered mass defaults of clients. The MFI in question experienced mass defaults in its loan portfolio, coupled with a freeze in bank funding, which affected its ability to carry out disbursements in other regions. Consequently, the portfolio in these other states was also under stress.</td>
</tr>
<tr>
<td>Latin American MFI 1</td>
<td>By September 2009, 60% of the Bank’s portfolio was in SME lending, which marked a rapid shift from predominantly microloans. There was a lack of training and appropriate credit underwriting for SME lending, and overexposure to a specific type of cattle-focused lending. Weak local sponsorship led to governance issues in which too much authority was given to the CEO. Disjointed international ownership structure led to lack of a rapid response when problems arose. A contemporary country-wide adverse movement against lending was determined to have a negative effect on this institution, but was not the primary cause of the losses and eventual closure.</td>
</tr>
<tr>
<td>Latin American MFI 2</td>
<td>Incapable management, fundamental flaws in institutional set-up, weak governance, no understanding of market conditions in particular area of the country, endemic and problematic turnover of employees (almost 100% annually); difficulty retaining top management.</td>
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In analyzing the above-mentioned MFIs that faced serious asset quality deterioration, the authors would like to stress that a number of the causes which led to the deterioration arose from a failure to implement best practices for operational management in general and credit technology in particular. However, most importantly, these failures arose from two principal drivers that have been highlighted for many years in literature that analyzes traditional financial institutions: poor corporate governance and risk management structures.

As the microfinance sector continues to grow and MFIs are becoming diversified, both in segments and sectors, the systemic risk of these maturing MFIs has indisputably increased. This holds especially true for MFIs that expand within the same geographic and operational areas (i.e. more clients in the same areas), rather than expanding outwards towards less served areas. Regardless, MFIs expanding rapidly need to introduce comprehensive corporate governance and risk management processes, focused not only on the appropriate implementation of microcredit technology, but also on the incorporation of a broader vision of all the risks faced.
With the preceding sections, it has been proven that there is indeed correlation between the microfinance sector and traditional financial markets. Root causes of major problems at MFIs are similar to those observed at traditional financial institutions (FIs). It is therefore logical to review what traditional FIs do to address similar problems. As noted above, the main sources of these problems are found in the areas of risk management and corporate governance. Thus, it is reasonable to take a closer look at the related standards for traditional FIs – a large part of which are provided in the Basel framework. In this context, it is important to emphasize that the basic idea of Basel is to prevent financial crisis situations (even though it is recognized that this expectation has not always been met in practice). The framework suggested by Basel is indeed designed to protect financial institutions, financial systems, clients (especially depositors) and employees of financial institutions. The chances therefore are very high that this framework and the market practice developed over the past decades in traditional FIs offers valuable risk management solutions that can prove very helpful for MFIs, too.

In looking for approaches to apply risk management solutions of traditional FIs, it is imperative to recognize proven business practices of MFIs, which often may be quite different from traditional banking. Also, the differences in terms of maturity among MFIs need to be taken into account. However, the strong argument for the consideration of Basel for MFIs remains: it is a fact that MFIs are some kind of Financial Institutions, and the more the microfinance industry is maturing the more it is becoming integrated into the formal financial system. The Basel framework has been built over the last 25 years, based on plenty of experience on what works well and what does not in the financial sector. It crystallizes possibilities for FIs to improve their operations in order to avoid shortcomings, which have been observed to lead to massive problems and even complete institutional failures. Of course, many of these could not happen in MFIs, especially when one thinks about the huge losses generated by rogue trading. However, the massive promotion of mortgage loans which, in conjunction with repackaging and selling, were one of the main reasons for the 2007 crisis, shows that there are problems in the traditional financial markets from which MFIs may not be immune. Thus, many interesting and useful suggestions which relate to lending activities and general operations in financial markets, make sense for MFIs too. This article will highlight those parts of the Basel framework which keep this promise, keeping aside those parts which are too complex or simply not relevant even for highly developed MFIs.
What is Basel?

“Basel” is a set of recommendations for management of risks in financial institutions issued by an assembly of governors of central banks and other regulators from 27 countries. Many more countries have adopted these recommendations in local banking laws, some only partly and some making modifications as they see fit.9

In its first version, Basel I was issued in 1988 (the so called “Basel Capital Accord”), setting standards for a credit risk framework with a minimum capital of 8% required to cover all risk weighted credit exposures. One can simplistically translate this as a mechanism to link the maximum amount of risk a bank can take (by giving loan) with its financial strength, represented by its equity capital. It ensures, by and large, a bank’s capacity to absorb unexpected losses10 of up to 8% of its retail lending portfolio by providing for an equally sized equity coverage. Of course, it is not as simple as that in reality, because different loans have different risks and are therefore weighted differently when calculating capital requirements.11 But the general principle remains the same. In 1996, market risks were added and in 2001, Basel II was issued – adding operational risk, internal rating methods and two more “pillars”, a supervisory review process and disclosure requirements. The latter does not relate directly to the risk management requirements for financial institutions and is therefore beyond scope of this article. As with all regulations, the targets are moving and so Basel III is currently being implemented in the first countries as a reaction to the recent financial crisis, introducing additional requirements on financial institutions’ equity capital and liquidity management.

As a general principle since Basel II, capital requirements (and therefore the requirements to protect against unexpected risks) are reduced with the level of sophistication applied in a bank’s risk management system. The underlying idea is simply that if a bank is very good at risk management it should also be very good at avoiding unwanted risk and therefore limiting unexpected risks. The reduction of capital requirements with the increase of risk management quality is achieved by risk factors applied to the measurement of capital requirements. For example,
if a bank uses a “Standard Approach” for Credit Risk Management (CRM), its exposures in the retail portfolio would be weighted by 75%. If, however, the bank applies an advanced “Internal Ratings Based Approach”, this weighting may change significantly, based on a number of statistical parameters of the bank’s own loan portfolio. Some of these parameters can be set by the regulator and others are calculated by the banks themselves. The application of such an advanced approach requires significant investments into the institution’s risk management capabilities. Similarly for Operational Risk, if the bank applies a “Basic Indicator Approach”, the capital requirement is equivalent to 15% of the institution’s average income over the last 3 years. If, however, an advanced approach (the so called “standard approach”) is implemented, this factor is reduced to 12% for the Retail Banking business typically done at MFIs. Again, there are certain requirements to be met to get regulatory approval for this more advanced approach.

This leads directly to a key point: what is the appropriate amount of investment into an institution’s Risk Management system – the one which represents just the right balance of effort and value-added to the institution? Clearly, some of the very complex solutions suggested by Basel will not always make sense for MFIs – but some of the Basel recommendations are very straight-forward and practical considerations. They could be considered and implemented very easily at many MFIs, depending on their individual risk profile and level of maturity. These options are highlighted in the following sections, discussing in turn each of the standard types of risk: credit risk, market risks and operational risks.

### Box 6: The Basel pillars and their relevance to MFIs

<table>
<thead>
<tr>
<th>Pillar 1</th>
<th>Minimum Capital Requirements to cover for unexpected events: Credit Risk, Market Risk</th>
<th>Mainly relates to quantification models for the evaluation of all types of risk to then put the result in relation with the institution’s equity.</th>
<th>Limited relevance to MFIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pillar 2</td>
<td>The supervisory review process: Internal Capital Adequacy Assessment Process, Supervisory review and Evaluation Process</td>
<td>Describes processes and qualitative requirements in the area of risk management at banks and the benchmark to be applied by regulators when reviewing these. Many aspects can be considered very useful for MFIs.</td>
<td>Many aspects can be considered very useful for MFIs</td>
</tr>
<tr>
<td>Pillar 3</td>
<td>Disclosure regulations</td>
<td>Defines publication requirements to allow market participants to understand a financial institution’s approach to risk management.</td>
<td>Very limited relevance to MFIs</td>
</tr>
</tbody>
</table>
Credit risk

The main source of risk for MFIs stems from their lending portfolio, so Credit Risk Management (CRM) is extremely important to MFIs. This is certainly not new to MFIs and all of them pride themselves on their “superior” credit technology, designed to reduce client defaults to a minimum. However, a review of common practice at MFIs often reveals significant room for improvement in the area of CRM, which can turn into serious problems once credit risk increases and the MFI’s capacity to deal with that is tested. It is therefore very reasonable to check what Basel has to offer for MFIs in this area. One indication that Basel is clearly relevant here is the observation of increased PAR30 rates at MFIs during or after the 2007 crisis; the other is that there may be efficiency gains possible by adopting “traditional” CRM practices, which have proven useful and effective in many FIs. Certainly this does not mean that MFIs should switch to CRM and lending processes adopted by traditional banks completely and neglect what they have been doing to date. Rather, it is suggested that certain elements of a “traditional” credit risk management approach may in fact enrich and improve corresponding processes at MFIs where and if it makes sense, as well as taking into consideration the MFI’s size and stage of development.

The Basel recommendations for Credit Risk under Pillar 1 and 2 mainly focus on the risk weights to be applied to different loans, thus defining the capital requirements for all forms of lending exposure. These are of some relevance to MFIs and their regulators for those relating to retail, mortgage, and SME loans (section 69 et seq.). Of even greater relevance, however, are the suggestions made for regulators on how to verify the soundness of an institution’s CRM system in conjunction with market practice suggested by local regulations. What is proposed here can be summarized in seven key points for a proper system of Credit Risk Management. Many of these elements are found at MFIs today – sometimes very explicitly established and sometimes in a rather implicit way – and some of them are established very professionally while others are not being seriously considered. This article suggests reviewing all of the elements listed with two objectives in mind: to make sure an MFI’s credit risk management system is established adequately and comprehensively and to set them up in such a way that they constitute a proper CRM system as opposed to a mere collection of isolated and not well coordinated activities. The seven key points for CRM are:

- Information Gathering and Client Assessment. The MFI should make sure client information is well documented and stored electronically so it can be easily used for additional analyses. The available information should be used for the credit decision process and additional information should be requested appropriately for loans with higher risks.

- Collateral / Guarantee Assessment and Verification. The key questions to ask in this respect: Are accepted forms of guarantees or collateral well defined, are they
reviewed and re-assessed appropriately for mid- and long-term loans? Is the use of collateral legally ensured and perfected? Is collateral recorded thoroughly and are collateral registries used?

• Risk Assessment, Classification & Client Rating (Scoring). In this area, close attention must be paid to specific (key risk) indicators to understand the risks of a loan, risk classes to determine the intensity of all other steps in the CRM process, proper distinction between clients, products, areas etc.

• The Decision Process should be on a multi-level structure, based on the results of the risk assessment. It should include an independent review for high-risk loans and incentive structures for lending staff involved in decision-making and should support the MFI’s long-term objectives.

• The MFI should have a process for the Management / Monitoring of Loans and the Loan Portfolio, which should include a regular analysis / review of the loan portfolio to look for concentrations and correlations. Additional stress testing may be useful to understand which factors can influence credit quality. Lastly, clear rules for provisioning need to be established.

• An Early Warning System (EWS) should be established using indicators, which can help the MFI identify critical situations ahead of time. These indicators should be reviewed regularly and be complemented with indicators identified by a regularly scheduled analysis of defaulted loans. Technically, the EWS can be closely related to the MFI’s scoring system.

• Special resources should be nominated and trained to be able to deal professionally with loans under distress, and clear processes should be established for intensified loan management, for restructuring and for wind down.

An additional category of Credit Risk, which is often neglected by MFIs, is Counterparty Risk. This is a special type of Credit Risk related to the exposures to financial counterparties rather than customers. Not many MFIs have significant exposure in this area, as mostly they are able to invest assets by lending to clients. However, when there are (temporary) surpluses of liquidity, when collateral must be kept at banks that provide local financing or when swap arrangements are executed, this risk may be relevant to certain MFIs and should then also be managed appropriately.

**Market risks**

Market Risks, sometimes also referred to as Financial Risks, are the risks affecting the value of financial instruments as an effect of movements in market prices or situations. They are further distinguished between Foreign Currency (FX) Risk, Interest Rate (IR) Risk and Liquidity Risk. Depending on the market conditions an MFI is working under and on the structure of its assets and liabilities in terms of currencies, interest rates and terms, all three categories of Market Risk may be relevant to an MFI. In fact, these risks can become very high and generate significant losses (or gains). However, the business objective of an MFI is never to generate income by actively
taking market risks. Therefore, the strategic direction must always be to reduce these risks to a bearable or unavoidable minimum. What is therefore considered adequate must be determined by the MFI’s Board, taking into consideration the individual situation of the MFI. Sometimes, Market Risks cannot be avoided: In some cases, financing is only available from international sources in USD or EUR, but loans can only be distributed in local currency. But even when there is no option to reduce risks (by hedging, for example) these risks must be quantified regularly so that provisions can be made for possible costs and losses.

Market risks are dealt with individually in the Basel documents but overall the following recommendations should be considered by MFIs for managing FX, IR and Liquidity Risk:

**Box 7: General recommendations to manage market risks**

- A strategy and a policy on the management of Market Risks should be put in writing and resolved by the Board;
- An independent unit should be charged with control and monitoring of market risk exposures regularly. Smaller MFIs would not set up a separate unit here, but typically will add this function to the Finance department;
- Market risk calculations and business limits need to be synchronized to limit the MFI’s ability to accumulate market risks. The acceptable level of each individual type of market risk for the MFI should be fixed in its Risk Management Strategy;
- A clear escalation process should be defined for any cases of limit breaches;
- Basic stress testing may be useful for advanced MFIs to complement regular monitoring of all market risks. Such tests help understand how relevant market risks can increase under certain expectable or worst case market scenarios;
- Active involvement of the Board and top management in the risk control process is a must, substantiated by meaningful reporting and related discussions in the appropriate frequency. The establishment of an Asset-Liability Committee (e. g. an ALCO on management level) should be considered;
- If material obligations are present, the suggested risk analyses should be done for each currency individually.

Besides these general points, a few more detailed suggestions for each of the market risks should be considered as and when appropriate. The following sections summarize related suggestions.
Foreign currency risk

If an MFI has different operating currencies (assets e.g. loans and liabilities e.g. financings) in other than the local currency) and these currencies are not pegged to another, then there is currency risk, the level of which depends on respective volumes in assets & liabilities and market fluctuations. This risk can translate in gains or losses for the MFI. In addition to the general market risk management points listed above, it is suggested that an MFI put in place a process to calculate exposure in each foreign currency. Depending on the amounts, future interest payments should be included. A Value-at-Risk (VaR) calculation model should be considered in the case of larger MFIs.19

Interest rate risk

This risk is generated by differences in the interest rate structure of assets and liabilities. If one side is static for a long time, while the other changes, the result may be, for instance, that loans do not generate enough interest income to cover financing costs. However, the typical conditions MFIs usually face suggest this type of risk is not very relevant as in many instances, both the borrowing and lending is on fixed terms and the interest spread between financing and lending often is huge, which gives the MFI some buffer to deal with unfavorable changes in interest rates. Also, MFI loan portfolios are typically of short duration, such that rates may be adjusted quickly if necessary (even though interest rate caps and market competition may limit the MFI's ability to increase loan interest rates).

Nevertheless, there may be combinations of interest rate structures of assets and liabilities that may lead to significant losses in case of changes in market rates and it is still uncommon on the part of MFIs to pass on their financing costs to their borrowers. MFIs with material interest rate gaps should prepare gap reports to identify and measure short- and long-term re-pricing imbalances. Calculating the Interest Earning Impact (and the Economic Value Impact at advanced MFIs) in the time bands of such gap reports is the recommended method to evaluate interest rate risk for MFIs; sophisticated modeling is not necessary in most situations.

Liquidity risk

It is obvious that an MFI just like any other FI must ensure it is able to meet all payment obligations on time.20 Indeed, some FIs and MFIs experienced liquidity problems in the 2007 crisis, when trust in FIs was lost and therefore the propensity to lend money to them often diminished. MFIs that had not just simply presumed they had adequate liquidity, but that were prepared at least partly to address liquidity issues, were much better off. In order to be better prepared for the next liquidity crunch, which may come even at short notice, the following is recommended by the Basel committee:21
• Comprehensive cash flow forecasting is a must as well as the development of robust and multifaceted contingency funding plans and the maintenance of a sufficient cushion of high quality liquid assets to meet contingent liquidity needs;

• A set of common metrics should be considered as the minimum information to be monitored regularly to assess the MFI’s liquidity risk profile (liquidity coverage ratio, net stable funding ratio (for advanced MFIs), contractual maturity mismatch, concentration of funding, available unencumbered assets and some market-related monitoring to verify liquidity of securities held and availability of credit lines etc.).

### Box 8: Common metrics to monitor liquidity risk

<table>
<thead>
<tr>
<th>Metric</th>
<th>Definition</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquidity Coverage Ratio (LCR)</td>
<td>Stock of high quality liquid assets / net cash outflows over a 30-day time period ≥ 100%</td>
<td>To ensure sufficient high quality liquid resources to survive an acute stress scenario lasting for one month (or: the amount of unencumbered, high quality liquid assets held, which can be used to offset net cash outflows under short term (30 days) liquidity constraints)</td>
</tr>
<tr>
<td>Net Stable Funding Ratio (NSFR)</td>
<td>Available Amount of Stable Funding / Required Amount of Stable Funding &gt; 1</td>
<td>The NSFR measures the amount of longer-term, stable sources of funding relative to the liquidity profiles of its assets, considering also the potential for calls on liquidity arising from off-balance sheet commitments. It is intended to promote longer-term structural funding for well-developed MFIs.</td>
</tr>
<tr>
<td>Concentration of funding</td>
<td>The share of total funding should not exceed 10 % for single banks, 5 % for single clients and 15 % for the 10 largest clients</td>
<td>This is to avoid dependency on counterparties, which may, if no longer available, cause severe liquidity shortages</td>
</tr>
<tr>
<td>Available unencumbered assets (AUA)</td>
<td>AUA ≥ 10 % of all liabilities</td>
<td>The assets the MFI has at hand to potentially be used as collateral for secured funding either in the market or at standing central bank facilities</td>
</tr>
<tr>
<td>Cushion of high liquid assets</td>
<td>(Cash and Sight Balances with Banks excluding required reserves) / Total Assets ≥ 10 %</td>
<td>Measures the ability to meet immediate payment requirements relative to total balance sheet volume.</td>
</tr>
<tr>
<td>Liquidity position as per GAP analysis</td>
<td>The total position of all buckets in the cash flow forecast and of bucket 1 and 2 (up to 1 month), respectively, must be &gt; 0</td>
<td>A position &lt; 0 indicates a lack of liquidity in the respective time bucket. This gap must be closed within an appropriate time frame.</td>
</tr>
</tbody>
</table>
As with the recommendations for Credit Risk Management, the solutions suggested for the different types of Market Risks must be implemented based on the needs and the technical preparedness of the MFI. Again, many of the elements suggested can be developed or tailored to the MFI’s specific situation with only a minimal effort. A few spreadsheet solutions, well integrated into an overall monitoring and reporting process, may be sufficient, and can indeed establish a comprehensive Market Risk Management System which truly helps the MFI to professionally address this area.

Operational risk

A pragmatic definition of operational risk is: “The risk that something can go wrong” in any area or process of an institution, unless covered already by credit risk or market risk. In practice, most MFIs still believe Operational Risks are sufficiently covered by an Internal Audit function and an Internal Control function. However, management of operational risks is a function which, when executed professionally, does more than exercising control on what is done in the business – just as risk management is a lot more than just “control”.

Box 9: Internal Control and the Risk Management process

The Risk Management process is made of 5 steps:

1. Identification,
2. Evaluation,
3. Treatment,
4. Monitoring / Control,
5. Documentation / Communication.

The “control” aspect is just one part of the risk management work. A proper internal control system is based on the risks identified and focuses on high risk areas. It typically is comprised of 3 “lines of defense”: the first line being the controls done within the business, the second line covered by Risk Control / Internal Control as a regular and independent control body, and Internal Audit as the 3rd line – which also reviews the appropriateness of the internal control system itself – and the risk management system.
As always, the management of these kinds of risk must be tailored to the specific operations of an MFI and to practices and trends in the microfinance sector. The standards suggested by Basel II provide very practical help in establishing the most adequate and practical solution for management of Operational Risks at MFIs:

- The Board of Directors and senior management, as appropriate, must be actively involved in the oversight of the operational risk management framework;

- There should be a basic operational risk management system with clear authorities and responsibilities assigned. Larger MFIs should consider establishing a separate operational risk management function;

- Sufficient resources in the major business lines as well as the control and audit areas are provided for;

- All relevant operational risk data including material losses is systematically tracked;

- There is an operational risk assessment system, closely integrated into the risk management processes of the MFI;

- Techniques for creating incentives to improve the management of operational risk are implemented throughout the firm;

- There is regular reporting of operational risk exposures, including material operational losses, to business unit management, senior management, and to the Board of Directors. Related procedures ensure appropriate action is taken.\(^23\)

The above elements of a system to manage operational risks are just as valuable for an MFI as they are valuable for traditional Financial Institutions. These elements can be implemented rather easily by taking the following steps:

1. Nomination of an Operational Risk Manager, who can also cover the sub-areas of Compliance, Fraud, Information Security and Business Continuity. Smaller MFIs could consider this position be covered by existing staff;\(^24\)

2. Adjusting or setting up a policy defining which operational risks are relevant to the MFI, how responsibilities for managing them are distributed in the institution, what processes and tools are used and what reporting standards exist;

3. Implementation of a risk event database tool, which ensures that whenever a risk event happens it will be tracked and managed professionally, and appropriate corrective and preventive measures are taken;

4. Implementation of an annual risk assessment process and tool to support the identification of potential risks for timely implementation of counter measures;

5. Establishment of a “New Risk Approval Process” to avoid new material risks arising with new business initiatives such as new products or new systems / processes.

Overall, with the employment of one (talented) person, the MFI will be much better prepared for dealing with Operational Risk, including Compliance, Fraud Risk and Information Security. This will not only reduce related losses and raise
process efficiency, but will also free time for management, which in MFIs is too often consumed by addressing things that went wrong.

It should be mentioned that the specialized activities for Operational Risk Management must be coordinated well with other elements of the MFI’s overall Internal Control System. It is important to have a clear distribution of responsibilities to avoid overlaps with Internal Control entities or the Internal Audit function. Hence, when setting up an Operational Risk Management function, this might also lead to an alleviation of the responsibilities of other, maybe already existing functions such as Compliance, Internal Audit, or Internal Control.

A comprehensive Risk Management System

In order to implement the above described elements of a risk management system, the MFI needs to also take good care of the integration into its existing corporate governance system. The Basel Committee recommends several organizational constituents:

• The Board has to assume overall responsibility for the proper implementation of an appropriate risk management system;

• An adequately staffed independent Risk Management Department is established;

• Specialized Risk Management experts are employed and trained to ensure appropriate management of all material risks of the MFI;

• Besides the risk strategy, dedicated policies to define processes, tools, systems and limits for the management of all relevant risk categories are required;

• The Risk Management System must be subject to regular validation and regular independent review by Internal Audit;

• A process must be in place to assure a minimum of capital is available at all times to cover for unexpected risks.26

A good summary of requirements is given by the recommendation to “have in place a comprehensive risk management process (including Board and senior management oversight) to identify, evaluate, monitor and control or mitigate all material risks and to assess their overall capital adequacy in relation to their risk profile. These processes should be commensurate with the size and complexity of the institution.”27

The chart in Figure 3 summarizes the main elements of a risk management system for a financial institution.
It is clear by now that there are plenty of suggestions to follow for the establishment of a professional risk management system at an MFI. The time is therefore right to take a look at the benefits to be expected:

A solid risk management system, built on the fundamentals of the Basel framework, will support the MFI significantly to:

- Identify and evaluate all relevant risks, thereby attaining a more precise view on its risk profile. This will enable the MFI to verify that the right risks are taken with the appropriate amounts, in line with the MFIs business strategy;
- Avoid undue risks and all consequences (financial, reputational, regulatory, etc.). If risks do materialize, the MFI is much better prepared to address them;
- Make better management decisions through better information about risks;
- Ensure control efforts are implemented where they are needed most, safeguarding an appropriate allocation of resources in this area;
- Apply a well-established process to learn from mistakes (Risk Event Management) to constantly improve business processes;
- Build and maintain strong risk awareness across the MFI (further develop everyone’s risk management skills), which creates an even stronger first line of defense against all sorts of risks;
• Achieve (pre-emptive) compliance with ever increasing local regulatory requirements to ensure the MFI can drive the necessary changes, and is not instead driven by the regulator.

The last point above may not be of immediate interest to unregulated MFIs, or those MFIs that believe microfinance regulation will not demand significant change in the near future. However, regulators weigh the risks posed by the microfinance industry as it grows against supervisory costs and they can apply new rules they know from other FIs and international standards. When MFIs transform into “Other Deposit-Taking Institutions” (ODTIs) or even banks, they will fall under tighter regulations and then need to also apply minimum risk management standards, which are primarily driven by Basel.

Anyway, the establishment of a risk management system is done for the MFI’s own benefit, rather than simply for Basel or to comply with local regulations. As such, each MFI needs to find its own tailored solution, depending on its business strategy, history, culture, and structure - just as traditional FIs do. Most importantly, the solution must be appropriate for the MFI. This appropriateness should be looked at from two angles: On one side, the risk management system must be proportionate with the risks the MFI faces, and on the other side, it should be in line with best market practice, i.e. the practice-proven solutions put in place at other FIs. To date, MFIs have considered this second view point at best by looking at what other MFIs in the region were doing, but they have for the most part abstained from also taking a look at what has been developed at traditional FIs in the past 25 years (unless they transformed into ODTIs or banks and the regulators forced them to close the gaps in their until then underdeveloped risk management systems).
The core idea of this article is that MFIs are not so different from traditional financial institutions in many ways. This is why the financial crisis led to problems surfacing at MFIs that were quite similar to those faced by traditional financial institutions. As with preceding crises, financial regulators and financial institutions have tried to learn from what went wrong. Much of this has been and will be codified in the Basel framework. This is why the Basel framework includes suggestions for risk management systems, which are useful not only for traditional financial institutions, but also MFIs. In fact, the importance and benefit of implementing a Basel-based risk management approach is a vital lesson learned from the last financial crisis.

The article provides evidence about the integration of MFIs in traditional financial markets and highlights the usefulness of risk management elements that should be considered by MFIs as a result of this background. Basel framework elements can help MFIs improve their existing processes for managing their risks and make them more comprehensive and robust. Doing so will also benefit MFIs in times of expansion, when a properly working risk management system will prevent MFIs from overstretching their systems and resources as described earlier (see section above: “Overstretched systems”). A solid risk management system based on the fundamentals of the Basel framework will ensure the right risks are taken to the appropriate amount and controls are effective and efficient. It will also help build risk awareness across the MFI, which prevents the occurrence of unwanted risk events.

MFIs should now take a big breath and step away from solely looking at MFI or NGO solutions for competitive intelligence on how to manage risk. Instead, they should take a close look at the very useful processes and strategies which have been developed by FI expertise over time. MFIs can indeed be financial intermediaries with best practice professional risk management and this in turn will help them strengthen their resilience to potential institutional or market shocks, knowing they are not insulated from future financial crises. Doing so creates and raises trust both in the MFI and the microfinance sector as a whole. Fundamentally, it will enable MFIs to more successfully and widely provide access to finance for those who most need it.
Basel Committee on Banking Supervision (August 2010) Microfinance activities and the Core Principles for Effective Banking Supervision, Bank for International Settlements Communications, Basel, Switzerland. www.bis.org/publ/bcbs175.htm


1. In the four years leading up to the global financial crisis the microfinance sector boasted an average annual asset growth rate of 39%, accumulating total assets of over USD60 billion by December 2008. (Chen, et al., 2010, p.1)

2. With the exception of the Great Depression in the 1930s.

3. In their 2012 econometric analysis, Wagner and Winkler use the largest sample of microfinance institutions (655) from 80 emerging market countries. They differ from Di Bella’s analysis in the years used for the model, from 2000-2009 for Wagner/Winkler and from 1998-2009 for Di Bella. It is also important to note that Di Bella used only 353 MFIs, all within the largest institutions (top 75% in asset size). These differences lead to slight variations in the results of each article.


5. For further reading see David Roodman, “Who Inflated the Microcredit Bubbles?”

6. In Bosnia Herzegovina, Nicaragua, Morocco, and Pakistan recent estimates suggest that over 40% of microfinance clients hold multiple loans in periods between 2007 and 2009. (CGAP, 2010, p.11)

7. This holds especially for the crises in Morocco, Nicaragua, Bosnia and Herzegovina, and Pakistan where PAR30 figures shot above 10% coupled with aggressive write-offs.

8. A study of corporate governance standards would be equally helpful but this article will focus on risk management.


10. Expected losses, in the area of credit risk, for example, are the credit defaults an institution can expect by experience. These are covered by provisions as per applicable accounting standards. Equity capital is used to cover risks beyond these expected losses – the unexpected (but not unrealistic) losses.

11. While retail loans are weighted with 100% and therefore require 8% equity coverage, credits to OECD sovereigns were weighted with 0%, requiring no coverage at all. There are other types of credit exposure in between. Further, comparable rules apply for defaulted loans and the type of loan and collateral is also considered. Again, please note that provisions, which are deemed to represent “expected risk”, reduce exposure, and that capital requirements are intended to cover “unexpected risks”.

12. MFI Portfolios would qualify as Retail Portfolio as per section 70 of Basel II
13. By and large, the institution has to do annual risk assessments and maintain a database for risk events.

14. Besides the “Basic Indicator Approach” and the “Standard Approach” mentioned in this text there is also an “Advanced Measurement Approach” possible, which sets the stage for a quantification of operational risk based on a value at risk-model. This approach shall be mentioned for completeness while its complexity makes it very unlikely to be applied by MFIs.

15. See sections 53 et seq. and 733 et seq. in “International convergence of capital measurement and capital standards: A revised framework”.

16. Even though the lack of formality in most MFIs’ business environment wouldn’t allow them to use the type of collateral or guarantees as suggested by Basel – and therefore this collateral may not be considered sufficiently adequate by regulators to reduce exposures and risk.

17. Basel II section 765 et seq. (Pillar II), where regulatory expectations are set, and principles 8 – 11 in “Microfinance activities and the Core Principles for Effective Banking Supervision”.

18. Basel II (in section 777 et seq.) and market practice at traditional banks give practical recommendations on how to make sure counterparty risk is managed appropriately by those MFIs, which have material exposure:
   • The institution should have a counterparty risk policy, processes and systems;
   • No deal should be done with a counterparty (CP) before or without assessing the counterparty risk and specifying which deals shall be done with the CP and within which limits. Settlement and pre-settlement risk must be understood and exposures must be measured daily and reviewed by a manager with sufficient seniority;
   • The Board and Senior Management must be actively involved in the management of CP Risk;
   • CP Risk must be coordinated well with Credit Risk and Market Risks and must combine all exposures related to one counterparty;
   • CP Risk Management must be subject to regular validation and regular independent review by Internal Audit. (This applies to all other parts of the risk management system, too. Depending on local regulations, they will also be reviewed by external auditors and / or the supervisors.)

19. The relevant recommendations of Basel for FX Risk are outlined in sections 718(xxx) and seq., especially sec. 718(Lxxiv). A VaR model as mentioned should use 99% confidence intervals, 1 year look back and 10 days holding period at least. It is easy to set up such model in an electronic spreadsheet. (The so called “short hand” calculation of FX risk (as per sec. 718 (xL) et al.), which is only looking at 8% of the larger of the sum of all net short or long positions, is not considered very useful.)
20. This section does not discuss liquidity distribution among branches. The risks in that process are to be addressed by the Operational Risk Management system.

21. The following relates mostly to Basel III, which has been developed to improve banks' capabilities to manage liquidity risk. See: "Basel III: A global regulatory framework for more resilient banks and banking systems", rev. June 2011, section 38 seq. and “Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools”, January 2013

22. The "professional" definition in Basel II is: "Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. This definition includes legal risk, but excludes strategic and reputational risk." (section 644 ibid.)

23. Basel II sections 660 - 663

24. The introduction of an Operational Risk Management function may indeed lift some of the control requirements in other departments like Operations or Internal Audit.


26. It should be noted that capital requirements for MFIs may be higher than those normally applied for banks.

27. “Microfinance activities and the Core Principles for Effective Banking Supervision” – Principle 7 on page 20.