

*Journal of***APPLIED CORPORATE FINANCE**

A MORGAN STANLEY PUBLICATION

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# Morgan Stanley's Approach to Assessing Credit Risks in the Microfinance Industry

by Miguel Arvelo, Ju-Lie Bell, Christian Novak, Juliette Rose and Shally Venugopal, Morgan Stanley\*

In 2007, Morgan Stanley arranged and placed its second securitization of loans to microfinance institutions (MFIs). Taking the form of a collateralized loan obligation, this issue—referred to as “BOLD 2007-1”—was the first *rated* securitization of loans to MFIs and succeeded in attracting 21 investors, almost twice the number that purchased the firm’s similar but unrated transaction (“BOLD 2006-1”) a year earlier. Convinced of investor demand for microfinance investments, Morgan Stanley has developed its own origination platform to provide a capital markets contribution to the projected \$2.5-5.0 billion<sup>1</sup> of annual capital demand from MFIs. To support that platform, the firm’s Microfinance Institutions Group developed an internal credit analysis and rating approach that allows us to assess the risk of microfinance institutions relative to any other issuers through a global (foreign and local currency) scale rating – an approach that is not currently prevalent in the microfinance industry.

Our methodology addresses the specific challenges inherent in microfinance such as country risk, data availability and minimal default history among microfinance institutions. Importantly, the methodology draws upon the work of major pioneers in microfinance rating, including Standard and Poor’s June 2007 report on assessing microfinance risks, as well as the analysis of specialized rating agencies like Planet Finance, MicroRate, M-CRIL and CRISIL. We have also incorporated research insights made available by important industry players like ACCION and the Consultative Group to Assist the Poor.<sup>2</sup> Finally, our methodology builds on credit analysis processes used to assess established emerging markets financial institutions and companies, applying the team’s extensive experience in emerging markets credit evaluation.

This article describes the framework and credit risk assessment process we use to determine internal global scale ratings for microfinance institutions, including a detailed discussion of both conventional and specialized credit evaluation metrics. Our analysis has identified seven “rating factors” that are important to consider when assessing the credit risk of these institutions: (1) loan portfolio; (2) profitability, sustainability,

and operating efficiency; (3) management and strategy; (4) systems and reporting; (5) operating procedures and internal controls; (6) asset-liability management; and (7) growth potential. And before getting into the particulars, we offer two important “disclaimers”: first, the methodology described below has been developed and evaluated only in the context of institutions that are (a) strictly dedicated to providing microfinance products and (b) whose business model mainly revolves around providing microloans used to finance the businesses of microentrepreneurs. Second, while it may be possible to make modifications to or extrapolate from this model in the future, in its current form this framework considers the industry only as it is today.

## 1. Loan Portfolio

Since loans are the primary assets of microfinance institutions, a thorough understanding of an MFI’s *loan portfolio* is essential to conducting an effective credit analysis. Within this rating factor, we examine a number of indicators, with particular focus on the following four: portfolio at risk; write-offs; portfolio size; and loan loss reserves. While these indicators are important when evaluating any financial institution, we make certain modifications which are specific to MFIs. For each of the indicators mentioned below we identify six levels of grades from strongest to weakest.

**Portfolio at Risk > 30 Days:** Unlike the case of most financial institutions where analysis focuses on non-performing loans—i.e. loans overdue by over 90 days—we take a more conservative approach when looking at the loan portfolios of MFIs. We follow the microfinance industry’s standard practice of measuring an MFI’s portfolio at risk over 30 days, commonly referred to as “PAR 30.” PAR 30 is calculated as follows:

$$\frac{(\text{Outstanding Loans with Arrears over 30 days} + \text{Rescheduled or Restructured Loans})}{\text{Total Gross Loan Portfolio}}$$

The inclusion of restructured/rescheduled loans is meant to ensure that the PAR 30 metric broadly reflects any decline in

\* See Important Disclosures at the end of the Article.

1. CGAP Focus Note 25. Foreign Investment in Microfinance: Debt and Equity from Quasi-Commercial Investors, January 2004.

2. More specifically, our credit rating methodology borrows from ACCION’s CAMEL the grades of four of the indicators—those for Portfolio at Risk, Write-Offs, ROA, and Operating Efficiency.

Figure 1 **Morgan Stanley's Credit Analysis and Rating Methodology of Microfinance Institutions**  
Major Rating Factors and Selected Indicators



portfolio quality.<sup>3</sup>

PAR 30 is widely used in the industry for several reasons: the conservative approach is necessary given the infancy of many MFIs; loans extended to borrowers typically mature in one year; and PAR 30 has historically proved to be a more reliable indicator of loan portfolio quality than, say, PAR 90 or PAR 60, as those microloan borrowers whose loans are past due 30 days typically do have some type of repayment limitation. We also encourage credit analysts to take into account the portfolio at risk at intervals shorter than 30 days (e.g., PAR 1, PAR 7, PAR 15) to examine the quality of the portfolio in greater depth and anticipate future PAR 30.

Our rating methodology considers six grades of PAR 30 levels: <3.0%, <6.0%, <9.0%, <12.0%, <15.0%, above 15%.

**Write-offs:** As with any financial institution, it is necessary for a credit analyst to review an MFI's history of write-offs while

understanding both the extent of and circumstances in which an MFI decides to write off loans. Moreover, it is interesting to look at write-offs historically with respect to recoveries; for example, if recovery rates are high, perhaps the MFI's write-off policies are conservative relative to those of their peers.

The write-off ratio is ideally calculated as follows:

$$\frac{(\sum \text{Write-Offs over the last twelve months})}{(\text{Average Gross Loan Portfolio})}$$

However, in some cases and depending on each MFI's write-off policies and accounting methods, credit analysts may benefit from using audited fiscal year write-offs rather than write-offs from the most recent 12 months because some MFIs only reconcile their write-offs during the fourth quarter.

We consider six grades of write-off levels: <2.0%, <3.5%, <5.0%, <7.0%, <10.0%, above 10.0%. Morgan Stanley's

3. To illustrate the point, take a common example of an MFI that reschedules a significant amount of its portfolio in a region that has faced a natural calamity. If rescheduled loans are not included, PAR 30 would grossly overstate loan portfolio quality in a situation that obviously has an important impact on portfolio quality. Despite the impor-

tance of including restructured loans in the PAR 30 calculations, many MFIs do not report PAR 30 including restructured loans.

rating methodology views write-offs as a very important, but less significant contributor than PAR 30 in determining portfolio quality.

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**Size of Portfolio:** The size (dollar equivalent) of an MFI's loan portfolio can provide valuable insight into the institution's stability, experience and future growth potential. At the same time, size must be viewed in the context of region, growth stage, purchasing power of borrowers, and average loan balance. Because of disparities in purchasing power parity, MFIs in developing nations of Asia and Africa may have smaller portfolios but still be more established institutions—or have a higher number of borrowers—than their Latin American or Eastern European counterparts. Thus, while we think it is important to factor in the absolute size of an MFI's portfolio in credit analysis, this must be considered against regional factors.

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Morgan Stanley's credit analysis and rating methodology makes use of six grades of portfolio size in US\$: >300 million, >250 million, >100 million, >50 million, >10 million, less than 10 million.

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**Loan Loss Reserves:** The evaluation of an MFI's loan loss reserve levels and policies allows a credit analyst to determine how well an MFI can cope with estimated loan losses and, in a broader sense, understand an MFI's level of financial responsibility. An MFI's loan loss reserves should ideally cover any anticipated losses. Since PAR 30 serves as a conservative estimate of potential loan losses, we look at loan loss reserves in the context of PAR 30, specifically:

$$(\text{Loan Loss Reserves}) / (\text{PAR 30})$$

Of course, an MFI also needs to satisfy the regulatory standards applied to provisioning as dictated by its legal status.

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Our rating methodology contemplates six grades of the loan loss reserve ratio: >85.0%, >75.0%, >65.0%, >60.0%, >55.0%, below 55.0%.

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## 2. Profitability, Sustainability, and Operational Efficiency

This rating factor, which is almost as important as the Loan Portfolio rating factor, comprises a set of variables that are used to assess the financial viability of MFIs. We set minimum expected levels of profitability and cash flow sustainability, while also taking account of an MFI's ability to leverage its operational platform and flexibility in the event of deteriorating margins. Within this rating factor, we rely mainly on the following four indicators: sustainability; return on average assets; operating efficiency; and productivity.

**Sustainability:** Our sustainability ratio, which is arguably the most important indicator within this rating factor, measures free cash flow, thereby reflecting the extent of an MFI's financial cushion against margin or top-line shocks. The basic formula is as follows:

$$\frac{(\text{Operating Income, i.e. Interest Income plus Commissions})}{(\text{Financial Expenses, Loan Loss Provisions, Write-offs, and Operating Expenses})}$$

Analysts may also consider including in operating income other recurring non-interest income and non-commission revenue sources. These other revenue sources may be derived from other microfinance businesses such as microinsurance and remittances. In some cases, the exclusion of interest income on cash balances or other investments may artificially depress the sustainability ratio.

We also suggest using other variations of this formula, including expense adjustments to reflect inflation expectations and subsidies in the case of financial debt—i.e., raising effective costs to commercial levels for MFIs with subsidized debt. Both of these changes would provide a more forward-looking view on the sustainability of the MFI.

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Our rating methodology has six grades of the sustainability ratio: >120.0%, >115.0%, >110.0%, >100%, >90%, below 90%.

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**Return on Average Assets:** In the realm of microfinance, return on average assets, or ROAA, is an important measure of an MFI's profitability. It is calculated as follows:

$$(\text{Trailing 12 months Net Income}) / (\text{Average Assets})$$

ROAA takes into account taxes and other source of revenues, including income earned on cash in the bank, thereby providing a more complete measure of profitability. Return on equity, though also commonly used, is less comparable among MFIs and may misrepresent profitability where local regulation or structural considerations dictate radically different capital structure decisions (for example, in the case of NGOs). We also encourage credit analysts to analyze ROAA while excluding extraordinary results—such as donations that are sometimes booked in the income statement as profits, or adjusting for regional inflation or foreign exchange accounting practices as necessary.

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Our methodology establishes six grades of return on average assets: >3.0%, > 2.0%, > 1.0%, 0.0%, >-2.0%, below -2%. Regional accounting differences are particularly important to consider when evaluating this metric.

**Operating Efficiency:** This indicator measures an MFI's ability to operate efficiently and leverage its infrastructure. It is often useful to compare an MFI's cost ratios with those of its competitors. Our basic measure of operating efficiency analyzes an MFI's operating expenses per dollar lent as follows:

$$\text{(Operating Expenses)} / \text{(Average Gross Loan Portfolio)}$$

This measure is likely to be affected by factors such as the MFI's lending approach (group vs. individual), borrower density (sparsely populated vs. densely populated target regions), stage and kind of growth (whether into new branches or regions), retention of personnel and clients, HR policies, and management information systems. For example, MFIs in India tend to have lower operating cost ratios that are attributable to their group lending methodology, high borrower density, and low cost of labor. On the other hand, several large MFIs in Latin America have high operating cost ratios due to low density in rural areas and their higher personnel expenses (at least when compared to Asian MFIs). Also, younger MFIs often have higher operating cost ratios since they have not yet achieved economies of scale. Analysts must also take into account one-time items such as MIS expenditures and how the MFI accounts for them, whether as an expense or an amortizable capital asset.

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We use six grades of the operating cost ratio: <20.0%, <25.0%, <30.0%, <40.0%, <50.0%, above 50.0%.

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To accurately compare the operating efficiency of MFIs with widely differing average loan balances, an analyst needs to also analyze efficiency in the context of borrower outreach. Thus, we suggest a second measure of operating efficiency which is normalized to allow for comparison across countries:

$$\frac{\text{(Operating Expenses adjusted by a PPP conversion factor)}}{\text{(Number of Borrowers)}}$$

**Productivity:** The productivity ratio is a measure of an MFI's leveraging of its human capital. It can be calculated as follows:

$$\text{(Number of Borrowers)} / \text{(Total Headcount)}$$

The inclusion of all employees ensures that we take into account all of the human resources and labor costs associated with the provision of loans. We also suggest analyzing this ratio using the number of credit officers only. Like the operating efficiency ratio, this measure will be affected by the MFI's lending methodology, borrower density, stage and kind of growth, as well as personnel and client retention. While a low productivity ratio may be a cause for concern, particularly in a mature market where margin compression is a serious threat,

a restructuring or young MFI with a low productivity ratio could simply indicate room for improvement and margin growth without significant incremental cash cost.

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Our rating methodology has six grades of the productivity ratio: >200, >190, >170, >145, >130, below 130.

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### 3. Management and Strategy

As in any organization, management and its strategy are critical to performance. In the case of MFIs, this role can be especially important since decisions made by the board and management are instrumental in determining whether an MFI becomes a thriving institution or experiences a turn for the worse, particularly in its early growth stages. Within this rating factor, we examine four indicators: quality of senior management and the board; strategy and business plan; quality of and support from shareholders and networks; and HR management. When evaluating an MFI's management and strategy we assign one of six grades from "excellent" to "severely lacking" based on our analysis of the criteria described below.

**Quality of Senior Management and Board:** Typically, the strongest MFIs boast board members and management teams with extensive experience in the financial and development sector while having a deep cultural understanding of their operating regions. Board or management experience as well as relationships with financial or government authorities can further improve an MFI's operating environment. Finally, management ideally demonstrates an ability to set balanced goals and achieve them in a timely and cost-efficient fashion without compromising portfolio quality or community reputation.

**Strategy and Business Plan:** When assessing the strategy and business plan of an MFI, the credit analyst must look for a clear and achievable strategy that is accompanied by carefully thought-out financial projections. A strong business plan makes reference to marketing, attraction and retention of customers, product, branch and geographic expansion, human resource needs, and technology enhancements. Naturally, the MFI's strategy needs to take into account the MFI's size, maturity, and legal status/structure. Stronger business plans address operational and financial efficiencies, particularly with the goal of achieving financial self sufficiency in the case of young MFIs. Finally, the projections themselves should consider portfolio growth (while maintaining necessary quality indicators), product diversification, as well as capital structure strategies.

**Quality and Support from Shareholders and Network:** Due to the young nature of the microfinance industry, many MFIs rely on shareholders and networks for financial, strategic, and technical support. Shareholders may range from individuals with limited means, to international financial institutions

with the ability to offer subsidized financing, to venture capitalists expecting a market return. Networks are frequently non-profit organizations that, while providing a range of pro bono or subsidized consultancy services, may also have an associated private equity fund. Together, shareholders and networks can provide financial support in the form of grants, equity, or loans. The reputation of those partners can also greatly aid an MFI's access to both debt and equity financing from other entities. Strategically, shareholders and networks provide valuable guidance, for instance in determining an optimal capital structure, the roll-out strategy for a new product, technical assistance or best practices.

**HR Management:** Recruitment, training, and retention are pillars of a robust HR policy. The recruitment plan should tie into the business plan of the MFI, and address needs for credit officers as well as middle and upper management. Attracting experienced senior management is very important but can be difficult due to competing employers and compensation levels, or the unattractiveness of remote location. Credit officers may be difficult to recruit because of lack of qualifications, compensation, or the nature of the job, which requires considerable time "in the field." An MFI's recruitment plan needs to anticipate these challenges.

Once recruited, employees at all levels require training; in the case of large MFIs, a separate training department may be needed. Credit officers should be well-versed in the MFI's lending methodology and in how to interact with borrowers in a productive manner, which is typically achieved by "shadowing" more experienced staff, and attending communication training. Employees recruited or promoted to serve in middle management roles should receive specific training on managerial skills. Ideally, a comprehensive training program also includes ongoing training and monitoring.

Finally, after investing in the recruitment and training of its employees, it is important for an MFI to develop the appropriate incentives to retain this intangible asset. It is particularly important for an MFI to retain its employees in the field; credit officers source, evaluate, sell, and look after the loans, serving not only as the face of the MFI, but also as the first line of defense in protecting portfolio quality. A competitive, well-designed compensation plan and clear career progression path should be defined to align the employee's interests with the MFI's.

#### 4. Systems and Reporting

The ability of an MFI to maintain robust systems and provide accurate reports affects not only the quality of the information that it provides, but also its ability to understand and monitor its own operations. MFI systems usually revolve around three business functions: (1) portfolio tracking; (2) accounting; and (3) human resources functions. An ideal system would accurately record and analyze information from each of these functions, seamlessly integrate the information,

and speedily transmit this data from branch offices to the head office to ensure that the MFI has a real-time handle on its business.

Hence, we analyze the following indicators: (1) quality of management information and accounting systems; (2) quality and speed of data feed; and (3) quality of reports and distribution/ analysis of reports.

**Quality of Management Information Systems:** In analyzing the quality of management information systems of an MFI, we look at the level of automation, integration, adaptability to a changing business environment and ease of use.

Automation not only allows an MFI to maximize efficiency and scale easily, but gives its management access to a wide variety of reports and analysis, aiding them in business planning. Automation should be analyzed on two levels: "vertical" and "horizontal." The former refers to the automation at the branch, regional and head office level, while the latter focuses on portfolio monitoring, accounting and human resources functions. In some cases, MFIs are automated at the regional and head office levels, while manual input continues at the branch level; in others, robust systems track portfolio and accounting but fail to include human resources functions.

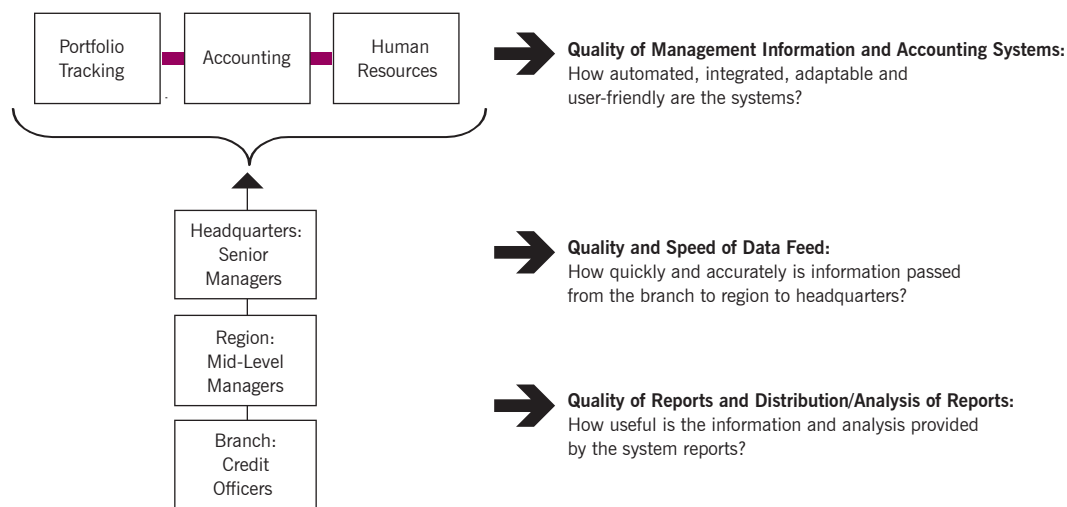
Integration, and the associated security, of these systems are also important since the tracking of one function acts as a check on the tracking of another function. Because of the prohibitively high cost of these systems, less developed MFIs may use different or manual systems for portfolio tracking and accounting, in which case only manual integration is possible.

The third key factor we examine is an information system's ability to adapt to changing business environments. This is particularly important in markets where borrowers are offered multiple financial services such as savings, insurance, or even weather-indexed products. A robust system allows an MFI to easily add new products to their systems thus ensuring business continuity.

Finally, an information system is most beneficial when all employees find it easy to use and require minimal training, particularly considering the fact that employees often range widely in level of education.

**Quality and Speed of Data Feed:** Typically, information is transmitted at three levels: first, credit officers or branch data entry staff record information daily based on the transactions of the field staff with borrowers. This information is then passed to branch or regional offices, which consolidate information and review the accuracy of information. Finally, this information is relayed to the head office, which consolidates and analyzes information received from all regions or branches. This transfer of information may occur manually—for example, via post or courier—or electronically by email. This chain of command can also be bypassed with a fully automated online system; however,

Figure 2 Analyzing the Vertical and Horizontal Components of MFI Information Systems Methodology



the importance of review at each level cannot be overstated. The quality and speed of this data feed are important since they ensure that management is able to identify operational problems (including frauds) and trends quickly and easily. Ultimately the accuracy and speed of this data feed will also determine an MFI's ability to scale rapidly without compromising business integrity.

**Quality of Reports and Distribution/Analysis of Reports:** Comprehensive reports and analyses allow MFI management to identify the strengths and weaknesses of their businesses and communicate their performance to external parties, including potential investors. This can be critically important for credit analysts since many of the reports provide statistics that cannot be found in financial statements. High quality reports provide a credit analyst with some comfort that management understands the fundamental reasons for its successes and failures and is able to improve upon the status quo. Although the quality and distribution of these reports vary by region and country, we generally look for reports that provide both consolidated and single branch-level information (to ensure that specific problems may be tracked) and analyze the components of PAR 30, performance of credit officers, lending by sector, borrower characteristics and credit history, as well as financial ratios.

## 5. Operational Procedures and Internal Controls

Well-established operational procedures and internal controls allow MFIs to achieve operational efficiency, avoid fraudulent activity, promote work-flow continuity, and create a track record of transparency with clients and investors. While we consider two separate indicators—operational procedures and internal controls—these factors should be evaluated together because stronger operational procedures can have a positive

effect on the level of internal controls, and vice versa.

**Operational Procedures:** Operational procedures set the tone and consistency for various intra- and inter- departmental interactions and processes of MFIs. Ideally, MFIs should maintain a detailed document of procedures clearly stating the functions of all departments while setting policies to monitor risk areas of the business. Any given employee should be backed up by other employees who have the knowledge and motivation to step in when necessary. Robust procedures include appropriate supervisory oversight to provide early warning signs of any adverse activity and to ensure business continuity. Our experience suggests, however, that even if such operating procedures are in place, their effectiveness cannot simply be assumed. It is important to speak with staff at all levels of the organization to ascertain that the procedures are implemented in practice. Observing employees in the field also provides insight into the strength of the processes, as do interviews with actual MFI clients.

**Internal Controls:** Given the volume and number of transactions managed by an MFI on a daily basis, as well as the reality that cash travels or is wired constantly from the hands of borrowers to loan officers/branches and ultimately to the head office, MFIs require constant monitoring of cash management and procedures for the detection of fraud. Fraudulent cases include instances of phantom borrowers being created in order for credit officers and branch managers to withdraw cash. Middle managers, including regional or branch managers and support staff at headquarters, play a key role by overseeing cash movements and assuming responsibility for the compilation of daily transactional information and cross-checking daily balances. Moreover, periodic reviews by an independent overseeing team such as an internal audit department are of critical importance. The best internal

controls cover the operations, human resources, and information system functions at all levels of the organization, including headquarters, regional and local branches.

## 6. Asset and Liability Management

Understanding an MFI's strategic approach to asset and liability management provides important clues about potential financial risks. The specific indicators we examine include leverage, exposure to foreign currency, and liquidity, each of which are mostly discretionary strategic or financial decisions made by management.

**Leverage:** An MFI's leverage ratio is a reflection of the conservatism or aggressiveness of the capital structure, largely indicating the equity cushion available in the event of write-offs and the ability to weather liquidity shortfalls. We calculate leverage as follows:

$$\text{(Total Liabilities)} / \text{(Net Worth + Subordinated Debt)}$$

As mentioned earlier, certain capital structure outcomes are dictated by the legal structure of the entity. For example, because NGOs cannot raise equity, they change from being capitalized entirely by "equity" (in the form of donations) in the very early stages to being highly levered fairly quickly once they begin to finance with debt. As a result, low leverage levels may be deceiving in some cases, while high leverage ratios should be a trigger for closer examination rather than a cause for immediate alarm. It is also interesting to compare the leverage ratio of an MFI to that of more traditional financial institutions in comparable regions.

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Morgan Stanley's rating methodology makes use of six grades of leverage ratios: <5.0x, <6.0x, <7.0x, <8.0x, <9.0x, above 9.0x.

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**Exposure to Foreign Currency:** While particularly important in cases involving volatile currencies, foreign currency exposure can be difficult to quantify. For most young MFIs with limited sources of funding, such exposure is fairly easy to spot. But, as MFIs mature and begin managing their own foreign exchange (and interest rate) exposure, a conversation with management or an in-depth study of their risk management procedures may be required to determine exposure. We evaluate foreign currency exposure as follows:

$$\text{(Financial Debt in Non-Hedged Foreign Currency)} / \text{(Total Financial Debt)}$$

Even after a conversation with management, true exposure may still be difficult to gauge in the case of MFIs operating in countries with highly "dollarized" economies such as Bolivia, Cambodia, or Georgia, where MFIs often provide some amount of US dollar-denominated microloans.

In these cases, even if the MFI matches its USD portfolio with USD liabilities, since borrowers do not necessarily generate revenue in USD, the MFI may be exposed to deteriorating portfolio quality if the local currency depreciates sharply and diverges from the USD. The same applies to MFIs located in euro-ized economies.

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Morgan Stanley's rating methodology contemplates 6 grades of exposure to foreign currency: <15%, <20%, <35%, <50%, <65%, above 65%.

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**Liquidity:** Though there are many variations of it, the most basic formula for liquidity is as follows:

$$\text{(Cash plus Short Term Investments)} / \text{(Total Gross Loan Portfolio)}$$

As a rule of thumb, we like to see a minimum level of cash or cash equivalents on hand. That said, having too high a liquidity ratio could be a sign of ineffective cash management; the MFI may not be appropriately anticipating its needs, may not be negotiating hard enough with its funding sources, or may have a "grab it while you can" philosophy. Other explanations for a high liquidity ratio could lie in the fact that the return on short term investments is higher than the net return of offering loans to clients, that the MFI has "back to back" funding arrangements (for example, as part of structures intended to hedge foreign currency borrowings, see Box 2), or simply that the institution is required to maintain cash collateral in order to reassure its lenders. Conversely if the ratio is low, the MFI may have available credit through a revolver. Each of these issues makes this ratio sometimes difficult to evaluate out of context; however, as a starting point, the higher the liquidity ratio, the better.

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Morgan Stanley's rating methodology assigns six grades of liquidity: >15%, >12%, >9%, >6%, >3%, below 3%.

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## 7. Growth Potential

Given the nascent nature of the microfinance industry, the growth potential of an MFI has a noteworthy impact on the creditworthiness of an MFI. In many countries, regulatory restrictions and political climate can have a significant effect on an MFI's business. On the other hand, favorable policies can help an MFI grow beyond expectations. The sustainability and future growth of an MFI also depend on the demand potential (i.e. how many potential borrowers exist) as well as potential borrowers' awareness and receptiveness to microfinance and related products. While examining the growth potential of an MFI, we examine the following indicators: regulatory environment and government involvement; number and density of micro entrepreneurs; and behavior of micro entrepreneurs toward micro loans.

## Legal Structures

**M**FIs may operate under various legal structures, depending on their strategy, location, or regulatory environment. The optimal structure will also, in many cases, be a function of the MFI's age. Historically, microfinance projects have typically begun with seed money from donors or locally subsidized projects. Hence the most common legal structure found in the industry is that of a non-government organization, or NGO. As MFIs grow in terms of loan portfolio, clients, and geographic coverage and begin to recognize profits on a regular basis, they become more sophisticated entities and identify the need to achieve a broader funding base. Usually, the next step is the conversion to a non-banking financial institution or company (NBFI or NBFC). As an NBFI or NBFC, MFIs are able to provide more comprehensive credit products, can often take limited deposits, and receive regulatory supervision from some type of fiduciary agent. The final stage in the evolution of a microfinance business is conversion to a full-fledged commercial bank, allowing them to freely collect deposits from the public.

The different legal structures under which MFIs operate have both advantages and disadvantages. As NGOs, MFIs operate without facing heavy taxation or much intervention from regulatory government agencies, allowing them to reach their social goals in an easier manner. For socially invested institutions or individuals, the stamp of NGO also provides the assurance that the MFI is truly engaged in serving its community, which translates into the attraction of donations, grants and subsidized loans. Offsetting these benefits are certain limitations; for example, NGOs tend to be very limited in the type of financial services they can offer to customers. In the case of NBFIs and NBFCs, many of the limitations imposed to NGOs are lifted, especially in terms of funding and in the range of products that can be offered. However, to become an NBFI or NBFC may require a minimum equity capitalization, possibly requiring a capital injection from an investor. Moreover, as an NBFI

or NBFC, the MFI now enters a field in which regulatory scrutiny is a new factor and reporting requirements are far more extensive than for NGOs, where they tend to be minimal. To operate as a commercial bank, MFIs must meet or exceed the requirements of a fully fledged regulated banking institution, again often with significant capital requirements. As a commercial bank, MFIs can raise cheap financing by becoming entities that can shelf public deposits. Offsetting these factors are even more robust tax, regulatory and reporting requirements, which now have to become part of the day-to-day operations of the MFI and require more experienced management and more robust governance.

Especially in a transition from an NGO to a financial institution, MFIs consider how they can operate as commercial entities while maintaining their commitment to provide fair, viable financing to its customers. This philosophical conflict is many times one of the most difficult to reconcile, especially in a transition from NGO to financial institution (whether partially or fully regulated). Other important questions that MFIs consider when making a change in legal structure include internal capacity, the competitive landscape, expansion plans and the new regulatory environment that will be applicable to the newly formed entity. MFIs usually partner with networks or equity investors that can see them through a successful conversion and the selection of the "right" partner with the same philosophical outlook can be a long and arduous task.

An MFI that has successfully converted into a regulated financial entity tends to do so because of a proven track record as a profitable business. But this by no means implies that one specific legal structure is better than others. In Latin America some of the most developed and well-known MFIs continue to be NGOs. The strategic choice to operate as NGO or otherwise has to do mainly with the regulatory environment.

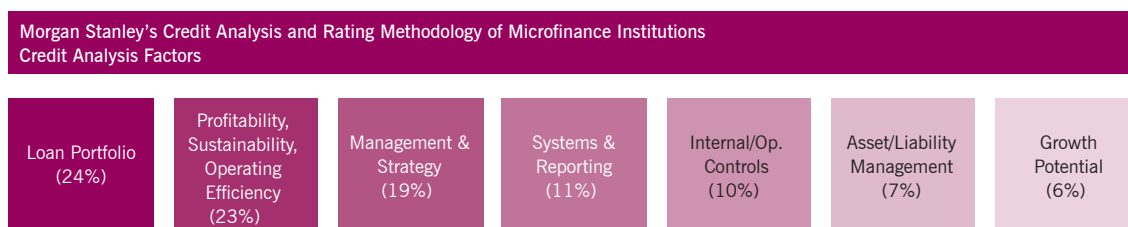
### **Regulatory Environment and Government Involvement:**

Governments have the potential to contribute favorably to the development of MFIs. In the Philippines, the government has created "apex" institutions that provide wholesale loans to MFIs, thereby formally recognizing the microfinance industry and directly encouraging microfinance growth in the country. In India, priority sector quotas ensure that MFIs are able to attract funding at subsidized rates. Conversely, governments have had a negative effect on the local microfinance industry, through complicated, ambiguous, or simply adverse regulation that makes it difficult to sustain an independently-owned

MFI in the country. Local and regional politics may also have a strong impact on MFIs. The ideal regulatory environment is one where an MFI faces little or no government interference, or competing programs, coupled with support for the sector from important country/regional leaders.

**Number and Density of Microentrepreneurs:** Two important drivers of an MFI's growth are the demand potential for their services and the density of the individuals demanding these services, each in the context of local competition. The demand for microfinance services comes from the sheer number of potential borrowers that are un-banked by the traditional

Figure 3 **Morgan Stanley's Credit Analysis and Rating Methodology of Microfinance Institutions**  
Credit Analysis Factors



financial institutions, generally in developing countries. That said, not all developing countries are necessarily prime candidates for microfinance; for example, in certain countries in or emerging from conflict, the demand for credit is likely to be limited by the instability that discourages people from starting or maintaining businesses. In other cases, a country's economy may be on the verge of becoming developed (for example, South Africa), and thus the potential role of microfinance may be limited or take a different form.

Beyond the absolute number of potential borrowers, the density of microentrepreneurs also determines an MFI's growth potential. Low density may make operating costs prohibitively high, thereby creating a barrier to growth. For instance, in Argentina, despite low retail banking penetration (and therefore the existence of unattended demand), the very low density of microentrepreneurs is a continual obstacle to MFI growth. Finally, it is important to assess the number and density of microentrepreneurs in the context of substitute industries that may offer the same services as an MFI, and to survey possible competitors to the institution. In Bolivia and Colombia, the level of competition is so high relative to the potential demand for microfinance that only those MFIs that differentiate themselves are sustainable.

**Behavior of Microentrepreneurs towards Microloans:** This indicator assesses the general attitude toward microloans in a given region. For example, to the extent that the group-based lending methodologies are implemented, we would look at the strength of social collateral in the region where an MFI operates. In a region where individual lending dominates, we would analyze the attitude of microentrepreneurs toward repayment.

The attitude of borrowers often varies significantly by region. For example, an analyst may find distinct differences in the repayment attitudes of urban versus rural borrowers. In other instances, borrowers in certain regions may be more susceptible to influence from political leaders (for example, socialist leaning leaders) who discourage borrowers from making payments. It is important for a credit analyst to look at historical trends and extent of such incidences and determine the future possibility of such situations.

### In Closing: Translating Experience into a Practical Approach

Based on our analysis of the sector, our due diligence on and credit evaluation of various MFIs throughout the world, as well as the team's experience in emerging markets credit evaluation, we have devised a proprietary weighting process that allows us to approximate an internal credit rating for any MFI based on the seven rating factors detailed in this article. While this weighting process takes a formulaic approach, we strongly discourage credit analysts from relying solely on this approach because each MFI will pose unique characteristics that must be evaluated independently. Instead, we suggest using this weighting process more as a benchmarking and evaluation aid that has the potential to trigger further investigation while providing a tool to help analysts compare different MFIs.

Our weights reflect the relative importance of each of the seven rating factors; however, there are often cases where a failing in any of the less heavily weighted characteristics should lead a credit analyst to notch down an MFI's rating, or vice versa. Also, while this model has been optimized for a wide range of MFIs, additional factors may need to be taken into account (e.g. corporate culture, exceptionally high inflation). The weights we have arrived at through experiential analysis are provided in Figure 3.

The growing investor interest in microfinance—both institutional and retail, socially responsible and purely commercial—combined with the strong demand from MFIs for capital market solutions, have set the stage for the financial industry and rating agencies to understand how to accurately assess the risk of microfinance institutions. Drawing from various industry leaders and its own experience, Morgan Stanley has created an internal credit analysis and rating methodology to assess and compare risk within the growing microfinance asset class as well as relative to other existing asset classes. With the industry growing so rapidly and projected demand for capital markets funding increasing exponentially, we hope that our analysis will be another valuable input to the understanding of microfinance institutions.

## Other Considerations: Avoiding Missteps

The usefulness of our credit rating methodology depends heavily on the collection of accurate data, and on the thorough understanding of an MFI. It is difficult to create an exhaustive reference checklist for an MFI credit analyst given the myriad of accounting, legal, financial and cultural complexities across countries and even regions; below we describe just a few of the important, but easily avoidable, missteps.

**Consolidation of Entities:** As described in Box 1, MFIs often transform into different legal structures or are bought by or sold to other entities. There are numerous ways to perform the accounting of such transformations, thus a credit analyst must understand local accounting practices to accurately analyze MFIs in such transition phases. For example, an MFI may be immediately consolidated with its acquiring company or assets may be shifted over time. Further, an analyst must be wary of analyzing the correct entities and make an informed decision regarding whether to look at an MFI on a consolidated basis or in other cases, to break them apart.

**Other Products:** Some MFIs offer products beyond the typical entrepreneurial microloan that require special consideration. For example, an MFI may offer consumer loans, gold-based loans, student loans, or housing loans. Their policies with respect to these loans—matters including which clients are eligible, what portion of their portfolio may be comprised of these loans, their credit approval process for these types of products, and the methodology for sizing the loan—should be reviewed separately from the microloan portfolio. Other MFIs offer loan insurance, as well as life, health, or even livestock insurance. MFIs may manage this risk on their own and charge a fee for the insurance, or they may partner with a third-party insurer and take a commission as an agent. Further, in some regions, it is common for an MFI to sell or enter into an arrangement to fund microloans through a third party. In this case, the loans do not sit on the balance sheet, and the MFI receives only a commission for originating and servicing the loan; thus, it may be appropriate to analyze operational efficiency while taking into account any off-balance sheet loans.

**Small and Medium Enterprises (“SME”):** The definition of a microloan can vary widely, and there can be questions as to whether an institution is offering microloans or SME loans, or both. Analysts can cut through such semantics by comparing the average loan balance outstanding (which will be substantially smaller than the size of the initial loan) with the per capita income of the country. Moreover, absolute

average outstanding loan balances will vary by region and should be compared in the context of both per capita income and purchasing power parity.

Why does it matter if the loans are SME loans? First, the characteristics of the borrowers are different; they frequently come from a different income stratum and are more likely to have more opportunities to find financing. Second, the size of SME loans may be prohibitively large for group lending. Third, the proportion of SME loans vs. microloans and their relative size difference are important; the performance of a microfinance company with 10,000 \$50 loans and 1,000 loans of \$5,000 will be largely driven by the performance of the larger SME loans, in which case a small amount of write-offs from that portfolio could be fatal. In sum, SME lending and microlending, though similar in several aspects, are different businesses and thus must be analyzed differently.

**Group vs. Individual Lending:** There are two broad categories of lending in the microfinance world: group lending and individual lending. In individual lending, the borrower is simply one individual. In group lending, usually all borrowers in a group are jointly liable for the payment of principal and interest, and the loans are often administered jointly.<sup>4</sup>

Individual lending depends much more heavily on the credit officer's analysis of the borrower's creditworthiness and, in some cases, the assessment of pledges and/or guarantors. In evaluating the cash flow of the micro entrepreneur's business, credit officers may ask for average cash intake for a day and check it against the books; they may check invoices from suppliers and count inventory where applicable; they may also look at household income and require references from family members, landlords or neighbors.

Meanwhile, group lending places more emphasis on collective social pressure and joint liability. In addition to being jointly liable for debt service payments, often, the other members of the group (along with the credit officer and branch manager) need to approve the loan application of a fellow-borrower. Even within the group lending approach, there are further distinctions relating to the size of the group, the rules regarding membership (allowing relatives or not), the method of repayment (during meetings or directly at a local branch), the offering of a savings account or the places where meetings may occur.

While neither lending method is clearly superior under all circumstances, the method used will affect the due diligence questions that must be asked by the analyst, and, eventually, the analysis of the financial statements and projections.

4. In some types of group lending, only one other or a few members are liable for each loan.

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