The ACCION CAMEL

Technical Note

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MICROENTERPRISE BEST PRACTICES
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The ACCION CAMEL

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by

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EXECUTIVE SUMMARY

The CAMEL methodology was originally adopted by North American bank regulators to evaluate the financial and managerial soundness of U.S. commercial lending institutions. The CAMEL reviews and rates five areas of financial and managerial performance: Capital Adequacy, Asset Quality, Management, Earnings, and Liquidity Management. As microfinance institutions (MFIs) increasingly reach out to formal financial markets to access capital, there is a need for a similar tool to gather and evaluate data on the performance of MFIs. Based on the conceptual framework of the original CAMEL, ACCION developed its own instrument. Although the ACCION CAMEL reviews the same five areas as the original CAMEL, the indicators and ratings used by ACCION reflect the unique challenges and conditions facing the microfinance industry. To date, ACCION has used its CAMEL primarily as an internal assessment tool, which has contributed to setting performance standards both for the ACCION Network and for the microfinance industry as a whole.

The ACCION CAMEL analyzes and rates 21 key indicators, with each indicator given an individual weighting. Eight quantitative indicators account for 47 percent of the rating, and 13 qualitative indicators make up the remaining 53 percent. The final CAMEL composite rating is a number on a scale of zero to five, with five as the measure of excellence. This numerical rating, in turn, corresponds to an alphabetical rating (AAA, AA, A; BBB, BB, B; C; D; and not rated).

CAMEL INFORMATION AND ADJUSTMENTS

The MFI is required to gather the following information for a CAMEL examination: (1) financial statements; (2) budgets and cash flow projections; (3) portfolio aging schedules ; (4) funding sources; (5) information about the board of directors; (6) operations/staffing; and (7) macroeconomic information.

Financial statements form the basis of the CAMEL's quantitative analysis. MFIs are required to present audited financial statements from the last three years and interim statements for the most recent 12-month period. The other required materials provide programmatic information and show the evolution of the institution. These documents demonstrate to CAMEL analysts the level and structure of loan operations and the quality of the MFI's infrastructure and staffing.

Once the financial statements have been compiled, adjustments need to be made. These adjustments serve two purposes: first, they place the MFI's current financial performance in the context of a financial intermediary; second, they enable comparisons among the different institutions in the industry. The CAMEL performs six adjustments, for the scope of

microfinance activity, loan loss provision, loan write-offs, explicit and implicit subsidies, effects of inflation, and accrued interest income.[1]

CAMEL SCORING

Based on the results of the adjusted financial statements and interviews with the MFI's management and staff, a rating of one to five is assigned to each of the CAMEL's 21 indicators and weighted accordingly. A definition of each area and the criteria ranges for determining each rating are as follows.[2]

- **Capital Adequacy**. The objective of the capital adequacy analysis is to measure the financial solvency of an MFI by determining whether the risks it has incurred are adequately offset with capital and reserves to absorb potential losses. One indicator is ***leverage***, which illustrates the relationship between the risk-weighted assets of the MFI and its equity. Another indicator, ***ability to raise equity***, is a qualitative assessment of an MFI's ability to respond to a need to replenish or increase equity at any given time. A third indicator, ***adequacy of reserves***, is a quantitative measure of the MFI's loan loss reserve and the degree to which the institution can absorb potential loan losses.

- **Asset Quality**. The analysis of asset quality is divided into three components: portfolio quality, portfolio classification system, and fixed assets. Portfolio quality includes two quantitative indicators: ***portfolio at risk***, which measures the portfolio past due over 30 days; and ***write-offs/write-off policy***, which measures the MFI's adjusted write-offs based on CAMEL criteria. Portfolio classification system entails reviewing the portfolio's aging schedules and assessing the institution's policies associated with assessing portfolio risk. Under fixed assets, one indicator is the ***productivity of long-term assets***, which evaluates the MFI's policies for investing in fixed assets. The other indicator concerns the institution's ***infrastructure***, which is evaluated to determine whether it meets the needs of both staff and clients.

- **Management**. Five qualitative indicators make up this area of analysis: governance; human resources; processes, controls, and audit; information technology system; and strategic planning and budgeting. ***Governance*** focuses on how well the institution's board of directors functions, including the diversity of its technical expertise, its independence from management, and its ability to make decisions flexibly and effectively. The second indicator, ***human resources***, evaluates whether the department of human resources provides clear guidance and support to operations staff, including recruitment and training of new personnel, incentive systems for personnel, and performance evaluation system. The third indicator, ***processes, controls, and audit***, focuses on the degree to which the MFI has formalized key processes and the effectiveness with which it controls risk throughout the organization, as measured by its

[1] Annex B of the Technical Note comprises examples of CAMEL adjustment worksheets and step-by-step instructions.

[2] Annex C of the Technical Note provides CAMEL ratings for 28 MFIs from different parts of the world for comparative analysis.

control environment and the quality of its internal and external audit. The fourth indicator, ***information technology system***, assesses whether computerized information systems are operating effectively and efficiently, and are generating reports for management purposes in a timely and accurate manner. This analysis reviews the information technology environment and the extent and quality of the specific information technology controls. The fifth indicator, ***strategic planning and budgeting***, looks at whether the institution undertakes a comprehensive and participatory process for generating short- and long-term financial projections and whether the plan is updated as needed and used in the decision-making process.

- **Earnings**. The ACCION CAMEL chooses three quantitative and one qualitative indicator to measure the profitability of MFIs: adjusted return on equity, operational efficiency, adjusted return on assets, and interest rate policy. ***Adjusted return on equity (ROE)*** measures the ability of the institution to maintain and increase its net worth through earnings from operations. ***Operational efficiency*** measures the efficiency of the institution and monitors its progress toward achieving a cost structure that is closer to the level achieved by formal financial institutions. ***Adjusted return on assets (ROA)*** measures how well the MFI's assets are utilized, or the institution's ability to generate earnings with a given asset base. CAMEL analysts also study the MFI's ***interest rate policy*** to assess the degree to which management analyzes and adjusts the institution's interest rates on microenterprise loans (and deposits if applicable), based on the cost of funds, profitability targets, and macroeconomic environment.

- **Liquidity Management**. The fifth area of the ACCION CAMEL evaluates the MFI's ability to accommodate decreases in funding sources and increases in assets and to pay expenses at a reasonable cost. Indicators in this area are liability structure, availability of funds to meet credit demand, cash flow projections, and productivity of other current assets. Under ***liability structure***, CAMEL analysts review the composition of the institution's liabilities, including their tenor, interest rate, payment terms, and sensitivity to changes in the macroeconomic environment. The types of guarantees required on credit facilities, sources of credit available to the MFI, and the extent of resource diversification are analyzed as well. This indicator also focuses on the MFI's relationship with banks in terms of leverage achieved based on guarantees, the level of credibility the institution has with regard to the banking sector, and the ease with which the institution can obtain funds when required. ***Availability of funds to meet credit demands*** measures the degree to which the institution has delivered credit in a timely and agile manner. ***Cash flow projections*** evaluate the degree to which the institution is successful in projecting its cash flow requirements. The analysis looks at current and past cash flow projections prepared by the MFI to determine whether they have been prepared with sufficient detail and analytical rigor and whether past projections have accurately predicted cash inflows and outflows. ***Productivity of other current assets*** focuses on the management of current assets other than the loan portfolio, primarily cash and short-term investments. The MFI is rated on the extent to which it maximizes the use of its cash, bank accounts, and short-term investments by investing in a timely fashion and at the highest returns, commensurate with its liquidity needs.

CHAPTER ONE
INTRODUCTION

HISTORY OF THE ACCION CAMEL

CAMEL is an acronym for five measurements of a financial institution: Capital adequacy, Asset quality, Management, Earnings, and Liquidity management. CAMEL was created initially to enable North American bank regulators to measure the financial and managerial soundness of U.S. commercial lending institutions using key ratios, indicators, and institutional policies and procedures.[1]

Beginning in the 1980s, ACCION[2] and its network of affiliate institutions in Latin America recognized an increasing need to access capital from formal financial markets to achieve massive client outreach. A significant first step in meeting this need was the establishment in 1984 of the Latin American Bridge Fund, a guarantee fund for ACCION affiliates to secure lines of credit from local commercial lending institutions. As affiliates began to make use of the Bridge Fund and deal directly with bankers, it became clear that they required recognized financial performance measurements to demonstrate the health of their institutions. Moreover, the directors of the ACCION affiliates needed this financial performance information to manage their institutions successfully. ACCION International also required this information to provide quality control for its network and to better focus its technical assistance efforts.

In response to this demand for financial performance information, ACCION held a series of financial management workshops to train microfinance managers. ACCION and its affiliates, however, continued to lack a tool for efficiently and effectively gathering the appropriate financial ratios. In 1992, ACCION International designed a financial assessment instrument for use by microfinance institutions that took the original North American CAMEL as its conceptual framework.[3] ACCION's CAMEL reviews the same five areas of financial and managerial performance as the original CAMEL, but the indicators used by ACCION

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[1] In 1978 the Federal Financial Institutions Examination Council, which includes senior management officials from several U.S. regulatory agencies—the Office of the Comptroller of the Currency, the Federal Reserve, the Federal Deposit Insurance Corporation, the Office of Thrift Supervision, and the National Credit Union Association—decided to design a standardized rating system. These agencies adopted the CAMEL in 1979. In 1996, the CAMEL was revised to include an "S" for Sensitivity to market risk.
This chapter, on the ACCION CAMEL, draws from ACCION International's discussion paper no. 7, *Performance and Standards in Microfinance: ACCION's Experience with the CAMEL Instrument (1998),* written by Sonia B. Saltzman, Rachel Rock, and Darcy Salinger.

[2] ACCION International is a nonprofit institution based in Somerville, Massachusetts, founded in l961, and dedicated exclusively to microfinance. Its network of affiliates includes both NGOs and regulated financial institutions, totaling 14 and 4, respectively as of December 31, 1997. The total number of clients and total loan portfolio of the ACCION affiliates stood at 341,000 and $226 million, respectively, as of December 31, 1997.

[3] ACCION International commissioned Robert P. Christen, a financial consultant with many years of experience in the microfinance field and a former ACCION staff member, to design the financial evaluation instrument.

respond to the specific challenges facing the microfinance industry. Additionally, the ACCION ranges for rating each area and its indicators reflect the characteristics of this industry.

The ACCION CAMEL was presented to the ACCION network at its annual Director's Conference in 1993. At that time, working groups consisting of affiliate directors and ACCION staff discussed issues related to the content, application, and dissemination of the CAMEL. This process gave ACCION affiliates a formal opportunity to approve the use of the CAMEL and to participate in its development. The Conference established a foundation of mutual collaboration, which has proven essential to deploying the CAMEL analysis.

CHALLENGES TO DEVELOPING, APPLYING, AND DISSEMINATING THE CAMEL

The first challenge in the development of the ACCION CAMEL instrument was to define the key variables to assess the performance of a microfinance institutions and to decide how to measure these variables. For example, in assessing the quality of a microfinance loan portfolio, the key variables identified were the delinquency and write-off rates, and the portfolio classification system. How to measure these variables represented another challenge. For example, the concept of contaminated portfolio,[4] rather than payments past due, was selected as a measure of portfolio quality, with a period of 30 days past due considered as the relevant cut-off point for measuring the contaminated portfolio. In selecting the key indicators, it was also important to identify independent variables.

Defining the standards to measure the financial performance of microfinance institutions was the second significant challenge in the development of the ACCION CAMEL instrument. No database of information existed that defined an expected and realistic level of financial performance for microfinance institutions. Christen and ACCION based the initial standard ranges on available information. Then, a series of three pilot applications of the CAMEL were completed, after which revisions were made to the instrument. In the last four years, ACCION has continued to make significant progress in refining these standards, but the effort is ongoing.

The first major challenge to applying the CAMEL was the availability and accessibility of information. Because of the CAMEL's rigorous information requirements which initially included five year's worth of financial and programmatic information, relatively sophisticated management information systems (MIS) become essential.[5] In many cases, such MIS were nonexistent. In some cases where the microfinance institution (MFI) may have had the MIS capacity, its staff was unaccustomed to extracting the information needed for the CAMEL examination. ACCION affiliates have made significant progress in overcoming this challenge, but efforts are underway to further streamline the information gathering process.

[4] Contaminated portfolio represents the principal value of loans that have payments over 30 days past due.
[5] The ACCION CAMEL currently includes three years of audited financials plus the most recent interim statement.

The microfinance institution's sensitivity to being rated posed a second challenge to the instrument's application. Although ACCION affiliates supported the idea of the CAMEL as a guide to improve performance and, eventually, as a "stamp of approval" for accessing formal financial markets, few were actually prepared to disclose the results of a CAMEL assessment to outside parties. In acknowledgment of this perspective and as an essential ingredient in establishing a requisite base of trust, the ACCION CAMEL results were designed to be kept confidential. In the future, however, a key challenge is how to allow for the public dissemination of the results of the CAMEL. As long as the results are kept confidential, the value of the ACCION CAMEL will remain limited to its internal use by MFIs and ACCION International. By providing an objective assessment of an MFI and reducing its risk profile in the eyes of outsiders, the CAMEL should become an increasingly powerful tool for broadening an MFI's access to capital, both domestic and international.

ACCION'S CAMEL AND ESTABLISHING MICROFINANCE STANDARDS

ACCION International's main priority is to create an internal assessment tool that allows its affiliate institutions to reach the highest standards of performance. The establishment of high standards for the microfinance industry is critical. Like ACCION affiliates, microfinance institutions around the world are looking to the financial markets as a source of capital to meet the microenterprise sector's enormous demand for financial services. Any MFI interested in gaining access to capital must be able to provide accurate, consistent, and verifiable financial performance data, both to microfinance managers focused on achieving maximum results and to potential depositors, lenders, and investors interested in the microcredit industry.

The CAMEL standards used to rate ACCION affiliate institutions are no less rigorous than those applied to traditional financial institutions. These high standards apply to asset quality, profitability, and other key indicators, and in some areas, such as provisioning requirements and leverage limits, the ACCION CAMEL standards are even more rigorous. However, the ACCION standards differ from those of the original CAMEL by acknowledging the essential differences inherent to microfinance. For example, MFIs have a significantly higher level of operating costs in relation to outstanding loan portfolio, which is associated with making very small loans.[6]

ACCION's development and use of the CAMEL is one of several efforts contributing to the establishment of a set of worldwide microfinance performance standards. In the past two years, other initiatives to gather and analyze financial performance data from MFIs have arisen including the development of a rating agency by the Private Sector Initiatives Corporation (PSIC);[7] the Economics Institute's *MicroBanking Bulletin* Project, headed by Robert P. Christen and funded by the World Bank's Consultative Group to Assist the Poorest

[6] These differences are outlined in several sources including Berenbach and Churchill (1997) and Rock and Otero (1997).

[7] The PSIC effort is funded by the U.S. Agency for International Development (USAID), the Swiss Agency for Development and Cooperation, the Inter-American Development Bank (IDB).

(CGAP); the BASE[8] Kenya *Micro Finance Institution Monitoring and Analysis System*, funded by the British Department for International Development (DfID), formerly the Overseas Development Administration (ODA); and the PEARLS[9] rating system, as used by the World Council of Credit Unions (WOCCU). Parallel to these applied efforts has been the creation of several guides to gathering financial performance data, including the GEMINI project's 1995 publications on "Financial Management Ratios," by Margaret Bartel, Michael McCord, and Robin Bell; Robert P. Christen's *Banking Services for the Poor: Managing for Financial Success*; the Small Enterprise Education and Promotion (SEEP) Network's 1995 *Financial Ratio Analysis of Micro-Finance Institutions*; the Inter-American Development Bank's 1994 *Technical Guide for the Analysis of Microenterprise Finance Institutions*; and Women's World Banking's *Principles and Practices of Financial Management*. Ultimately, as worldwide data is amassed, a set of accepted standards and peer groups will emerge. Several of the institutions and individuals, including ACCION, mentioned above are currently coordinating efforts to develop common adjustments to financial statements and common ways of measuring key indicators to further develop standards for the microfinance industry.

[8] BASE is **B**ritish **A**id to **S**upport **E**nterprises.

[9] PEARLS is **P**rotection, **E**ffective Financial Structure, **A**sset Quality, **R**ates of Return and Costs, **L**iquidity, **S**igns of Growth.

CHAPTER TWO
CAMEL: OVERVIEW, PURPOSE, AND SCOPE

WHAT CAMEL DOES NOT MEASURE

The ACCION CAMEL plays a critical role in the development and management of healthy and sustainable microfinance institutions (MFIs). It is not, however, an all-purpose tool. What does the CAMEL instrument measure? And equally important, what doesn't it measure? According to Rhyne and Otero (1994), the two pillars of success for microfinance are scale and sustainability. Scale refers to the degree to which an MFI reaches its target market, in other words, the extent of client coverage. Sustainability refers to the extent to which, in reaching its target market, an institution covers the costs of providing financial services after adjustments to its profit and loss statement. The ACCION CAMEL assessment instrument measures the level of sustainability of an MFI. However, it does not rate the institution in terms of client coverage per se, but rather, for example, it measures the financial implications of client coverage for the institution in terms of efficiency and profitability. Also, the CAMEL doesn't rate the institution in terms of social or economic impact at the client level.[10]

In reviewing the list of factors excluded from the CAMEL rating, it is important to keep in mind the instrument's key objective: to lead institutions toward accessing financial markets. Thus, only those aspects which "the market" assesses as important are included in the CAMEL rating. Moreover, the market has a clear hierarchy of performance, reflected in the CAMEL rating system, which is indifferent to the stage of development of the microfinance institution or the limitations of the financial markets.

Target market. Although the original CAMEL was adapted for use in examining microfinance institutions, there are still differences between the target market of commercial lending institutions and that of MFIs. CAMEL does not account for the following variances.

> *Size of target market (scale).* As noted above, the CAMEL only measures those variables that are key to accessing financial markets. In this context, the client coverage achieved by the institution, while of extreme importance to institutions like ACCION International and many others, is relevant for the CAMEL rating only in terms of its financial impact, that is, market share or economies of scale achieved. For example, if an MFI projects to maintain market share while only minimally increasing the number of clients, it would not be penalized under the CAMEL rating system. From a social impact perspective, however, the stagnant client coverage would not be desirable.

[10] In other words, an MFI may receive a very high CAMEL rating given its overall financial performance, despite the fact that its client coverage might be small and projected to grow only minimally. Some in the microfinance industry have suggested that an "S" be added to the CAMEL diagnostic to measure social impact. For the immediate future, ACCION has no plans to make this change with its CAMEL instrument.

Appropriate outreach in terms of loan size. Average loan size is a recognized measure of an MFI's effectiveness in reaching the microenterprise sector (as distinct from the small business sector). While a range exists within this average loan size measurement, the ACCION CAMEL does not account for where an MFI may fall within the range nor does it penalize an institution whose average loan size is above this range.

Geographic location of clients and density of microfinance market. Although microentrepreneurs operate in both urban and rural settings, the majority of ACCION affiliates exclusively service urban microentrepreneurs. The standard ranges used by the ACCION CAMEL to rate an MFI's efficiency are based on urban microlending where clients are usually *densely* clustered in marketplaces or neighborhoods. The CAMEL does not make any adjustments for population density in a given market.

Lending methodology. The CAMEL examination is neutral to the type of lending methodology used by the microfinance institution. The same yardstick is applied regardless of whether the institution lends to individuals, solidarity groups, both individual and solidarity groups, or whether it applies the village banking methodology.

Evolution. Three levels of evolution are relevant to the development of microfinance. The first is the microfinance institution's internal evolution; second is the evolution of the local microfinance market; and third is the evolution of the national economy and the local financial sector.

Microfinance institution. The field of microenterprise development has spawned a range of institutions. Some have been in operation for 20 years and others have just opened in the past year. One result of this difference in duration of operation may be the volume of clients the institution has been able to reach. An institution that is in its start-up phase is likely to have a lower level of operating efficiency, and will be given a lower rating in the earnings area, than one that has had the time to reach economies of scale. Likewise, in the management area, where the CAMEL assesses the level of formality of an MFI's policies and procedures, a start-up may receive a lower rating than an established MFI. The CAMEL rating makes no exceptions for the start-up phase.

Microfinance market. The extent to which competition exists in servicing the microenterprise sector varies widely across national boundaries. The lack of direct competition, for example, allows an institution wider latitude in setting its interest rates, potentially resulting in a high rating for profitability. It may also result in a high rating in the capital adequacy area as the MFI is able to accumulate retained earnings. The CAMEL makes no adjustments for the existence or absence of competition.

Macroeconomy and development of local financial sector. The CAMEL does not adjust for variances in the macroeconomy in which an MFI operates. In areas where a recession may be undermining repayment rates or the ability of an institution to increase its volume of clients, the CAMEL is indifferent. Additionally, adjustments are not made for country-specific legal and regulatory characteristics. Among the most relevant characteristics is interest rate ceilings. In a country where none exist, an MFI can mask inefficiency by

charging the necessary rate to make a profit. Alternatively, MFIs that operate where interest rate ceilings do exist may not be able to adequately cover the higher costs of servicing the microenterprise sector.

Type of microfinance institution. Most relevant in this case is whether or not an MFI is regulated. Certain costs are associated with regulation such as increased security, a more complex management information system (MIS), and staff training. These costs will affect an institution's operating efficiency and profitability indicators. The CAMEL analyzes nongovernmental organizations (NGOs) and regulated financial institutions with the same standards.

As financial information is obtained from microenterprise programs around the world, peer groups—for instance, groups that include institutions operating in less densely populated areas than most of the ACCION International network—will emerge, allowing examiners to use a different set of ranges for rating institutions on various key indicators.

WHAT CAMEL DOES MEASURE

The CAMEL does examine the five areas traditionally considered to be most important in the operation of a financial intermediary.

Capital adequacy. The capital position of the institution and its capacity to support both the growth of the loan portfolio and a potential deterioration in assets are assessed. The CAMEL analysis looks at the institution's ability to raise additional equity in the case of losses, and its ability and policies to establish reserves against the risks inherent in its operations.

Asset quality. The overall quality of the loan portfolio and other assets including infrastructure (for example, office location and environment) is examined. This requires analyzing the level of portfolio at risk and write-offs as well as the existence and application of credit policies and procedures and the appropriateness of the portfolio classification system, collection procedures, and write-off policies.

Management. Governance, the general management of the institution, human resource policy, management information systems (MIS), internal control and auditing, and strategic planning and budgeting are examined as distinct areas that reflect the overall quality of management.

Earnings. The key components of revenues and expenses are analyzed, including the level of operational efficiency and the institution's interest rate policy, as are the overall results as measured by return on equity (ROE) and return on assets (ROA).

Liquidity management. This component of the analysis looks at the institution's ability to project funding needs in general and credit demand in particular. The liability structure of the institution and the productivity of its current assets are also important aspects of the overall assessment of an institution's liquidity management.

COMPONENTS OF THE CAMEL INSTRUMENT

This section is a general discussion of the components of the CAMEL instrument. Each component is discussed in further detail in Chapter Four, including the definitions for each of the financial indicators.

The CAMEL instrument analyzes and rates 21 *key* indicators employing two components: the **CAMEL Manual** and the **CAMEL Spreadsheets** (Figure 1). These indicators are grouped under the five major areas of analysis (CAMEL). The indicators are either *quantitative* or *qualitative* and each are given a weighting (Table 1). Eight quantitative indicators (ratios) contribute to 47 percent of the final rating; 13 qualitative indicators contribute to 53 percent of the final rating.

The CAMEL Manual provides three elements for the examination of an MFI:

- The relevance of each indicator within the context of microfinance,
- The ranges or descriptive information that allow the examiner to give the institution a rating on a scale of zero to five (with five as the measure of excellence), and
- The weightings for each indicator.

The Manual also guides the examiner in completing the CAMEL Spreadsheets, which contain two types of information:

- The institution's balance sheet and income statement, which have been inputted into the spreadsheets and adjusted to make the financial information comparable across institutions; and
- Programmatic statistics related to the microfinance institution.

The adjusted balance sheets and income statements of the CAMEL Spreadsheets are used to generate the key quantitative indicators (Table 2). This adjusted data is also used, along with the programmatic statistics, to generate what are considered supporting indicators. These quantitative supporting indicators are not used in the rating system, but they allow the analyst to better understand the factors impacting a given indicator, whether quantitative or qualitative.

The information to measure the qualitative indicators is gathered through staff interviews and analyses of the institution's policies and procedures. Qualitative indicators analyze those aspects of the institution which are nonquantifiable yet directly impact the financial situation and performance of the institution. The qualitative indicators are highly specific and are applied consistently to each institution. Qualitative indicators are used in conjunction with quantitative indicators in each of the five main areas examined under CAMEL with the exception of the assessment of management, which is exclusively qualitative.

Figure 1: CAMEL Analysis Process

CAMEL Manual and CAMEL Spreadsheets

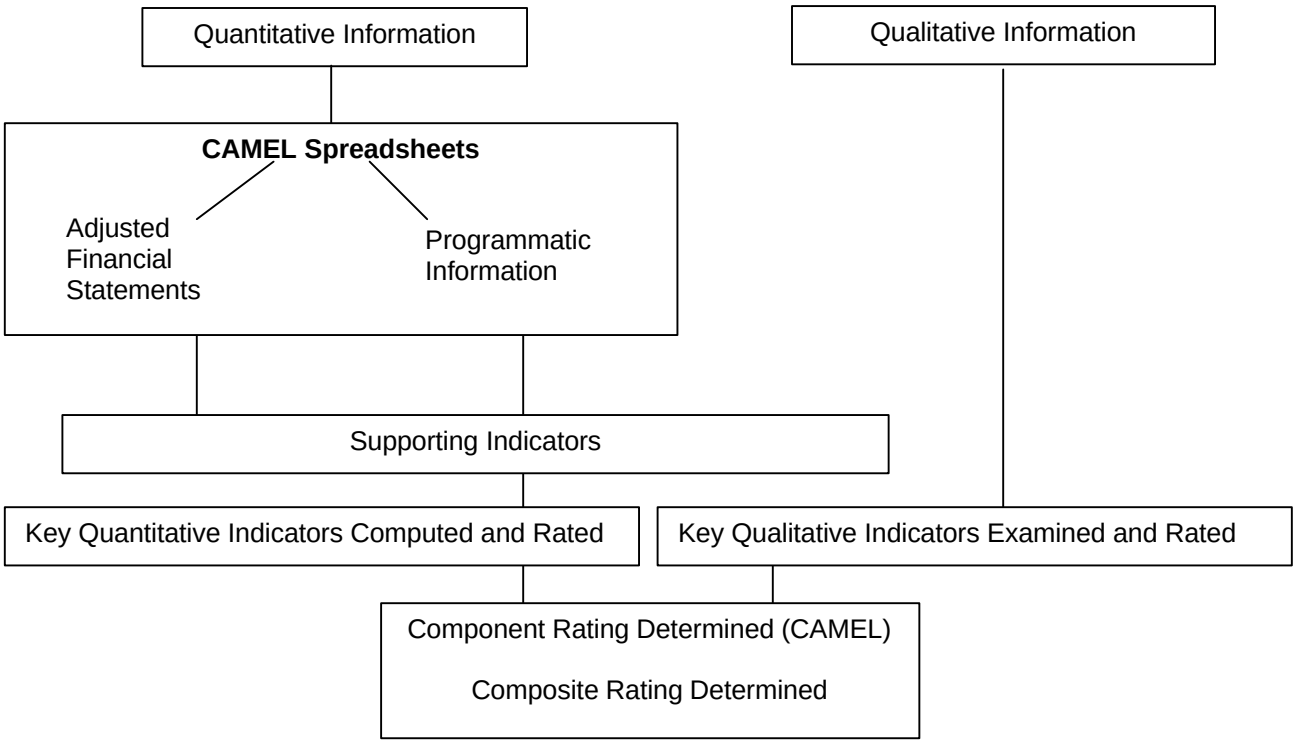

Table 1: CAMEL Indicators with Weightings

QUANTITATIVE INDICATORS		QUALITATIVE INDICATORS	
CAPITAL ADEQUACY (15%)	Weighting (%)		Weighting (%)
Leverage	5	Ability to Raise Equity	5
Adequacy of Reserves	5		
ASSET QUALITY (21%)			
Portfolio at Risk	8	Portfolio Classification System	3
Write-offs/Write-off Policy	7	Productivity of Long-term Assets	1.5
		Infrastructure	1.5
MANAGEMENT (23%)			
		Governance/Management	6
		Human Resources	4
		Processes, Controls, and Audit	4
		Information Technology System	5
		Strategic Planning and Budgeting	4
EARNINGS (24%)			
Return on Equity	5	Interest Rate Policy	4
Operational Efficiency	8		
Return on Assets	7		
LIQUIDITY MANAGEMENT (17%)			
Productivity of Other Current Assets	2	Liability Structure	8
		Availability of Funds to Meet Credit Demand	4
		Cash Flow Projections	3
TOTAL (100)	**47%**		**53%**

Table 2: Ratios Used to Determine Camel Quantitative Indicators

AREA/INDICATOR	RATIO
CAPITAL ADEQUACY	
Leverage	ADJ. RISK ASSETS / ADJ. EQUITY
Adequacy of Reserves	ACTUAL LOAN LOSS RESERVE (after write-offs) / ADJ. LOAN LOSS RESERVE (after write-offs)
ASSET QUALITY	
Portfolio at Risk	ADJ. PORTFOLIO PAST DUE>30 DAYS+LOANS IN LEGAL RECOVERY+RESCHEDULED PORTFOLIO 0-30 DAYS / ADJ. GROSS LOAN PORTFOLIO
Write-offs	ADJ. NET WRITE-OFFS / ADJ. RELEVANT LOAN PORTFOLIO
EARNINGS	
Return on Equity	ADJ. NET INCOME / ADJ. AVG. EQUITY
Operational Efficiency	ADJ. OPERATIONAL EXPENSES / ADJ. AVERAGE GROSS LOAN PORTFOLIO
Return on Assets	ADJ. NET INCOME / ADJ. AVERAGE ASSETS
LIQUIDITY	
Productivity of Other Current Assets	INTEREST INCOME RECEIVED ON CASH AND CASH EQUIVALENTS OVER PAST 12 MO. / (AVG. MTHLY CASH + CASH EQUIV. BALANCES- LIQ. CUSHION)* (AVG. 3-MO. CD RATE)+(LIQ. CUSHION*AVG. SAVING RATE)

CAMEL RATING

Once the information is gathered—and, in the case of the quantitative indicators, adjusted—and analyzed, each indicator is given a rating. For the quantitative indicators, the numerical result of a given ratio determines the rating, as detailed in the Manual. For the qualitative indicators, once a given policy or procedure is analyzed, the Manual provides guidance on how to rate the MFI for this indicator. Once an indicator has been rated, it is multiplied by a predetermined percentage (weighting). Adding up all of these weighted ratings determines the *component* rating in each of the five areas (CAMEL). These component ratings are totaled to compute a final *composite* rating that corresponds to an alphabetical rating.

This final CAMEL composite rating is a number on a scale of zero to five, with five as the measure of excellence. This corresponds to an alphabetical rating (AAA, AA, A; BBB, BB, B; C; D; and NC, or not rated). It is important to point out that the rating system covers a broad spectrum of institutions and does not necessarily represent a continuum of movement from the NGO sector to the formally regulated sector. Rather, it represents a continuum of the quality and level of sophistication of financial management of the institution independent of its corporate structure. In other words, a "B" rated institution may be regulated and an NGO may receive an "A" rating and be capable of performing in the regulated formal financial sector. The alphabetical rating system provides the framework and parameters for assessing MFIs.

"A" category classification generally indicates an MFI with strong financial performance in all of the areas analyzed. Such performance has been maintained over time and is a result of carefully developed policies and planning.

Composite Alphabetical Rating	Description of Institution	Composite Numerical Rating
AAA	An MFI that exhibits superior performance in every area examined. It is resistant to the peaks and valleys of the business cycle and the impact of unforeseen circumstances.	4.6-5.0
AA	An institution that, in general terms, is considered excellent, but scored lower in some variables.	4.3-4.59
A	A good institution with some minor weaknesses that lower the score.	4.0-4.29

"B" category classification may be applied to institutions undergoing a difficult period that negatively impacts their normally strong financial condition.

Composite Alphabetical Rating	Description of Institution	Composite Numerical Rating
BBB	An MFI that needs to make certain adjustments in the management of its resources without which a risk is posed to its long-term financial performance.	3.67-3.99
BB	An institution that is weak in financial administration and operational efficiency, areas which are correctable within the normal development of business.	3.33-3.66
B	An institution experiencing basic problems in the management of its financial resources and in its growth and efficiency.	3.0-3.32

"C" category classification generally indicates an MFI experiencing fundamental problems administering its credit program, with basic weaknesses in various key indicators. Such an MFI requires basic technical assistance to overcome immediate problems and to survive without financial help. Nonetheless, the institution has a high probability of success with focused support in those areas of weakness identified by the CAMEL. The MFI's weaknesses do not promote losses that threaten the viability of the institution as long as it receives external subsidies. Aggregate points received for a "C" rating are between 2.0 and 2.9.

"D" category classification indicates an MFI that should not be operating a credit program. It is highly likely that the institution is suffering severe losses and requires a fundamental change in management to recover even with the availability of fresh funds. Aggregate points received are between zero and 1.9.

"NC" (not rated) category classification is given where it becomes impossible to assess the institution because of a lack of basic operational information or because the MFI has not embraced the minimal characteristics of an acceptable credit program.

HOW THE ACCION CAMEL DIFFERS FROM THE ORIGINAL CAMEL

Since l978, the U.S. Federal Reserve Banks, the Office of the Comptroller of the Currency, the Office of Thrift Supervision, the Credit Union Administration, and the Federal Deposit Insurance Corporation have used the original CAMEL to rate the *financial safety and solvency* of the institutions under their supervision. The examination and rating of these institutions is based on financial information and interviews with management.

No comparable matrix (specific indicators carrying specific weights, as outlined in Table 1) to the ACCION CAMEL exists for the original CAMEL. While the concepts under examination are clearly stated in the Examiner's Manual of the original CAMEL for each of

the five areas (capital adequacy, asset quality, management, earnings, and liquidity management), there is no matrix that outlines (1) the formulas or specific qualitative criteria to be used for each of the five areas under examination, (2) ranges for each of the ratios or qualitative criteria chosen, and (3) the respective weights in the composite ratio of the quantitative or qualitative criteria under examination. Uniformity in the application of this matrix is achieved by established review committees and through use of peer group comparisons.

Although initiatives like the MicroBanking Bulletin Project are now underway to establish peer groups in the microfinance field, few institutions currently participate in such initiatives. This limits the extent of readily available and comparable information among MFIs. The lack of sufficient peer group data coupled with the need to ensure objectivity in the application of the ACCION CAMEL significantly reduces the flexibility of the examiner of the ACCION CAMEL as compared to the examiner of the original CAMEL. The introduction of a matrix specifying ranges and criteria for each variable of the ACCION CAMEL aims to help the examiner overcome these problems. Another factor that led to the creation of a matrix was the need to clarify the expectations of MFIs participating in the evaluation process about how they would be rated.

Although the ACCION CAMEL and the original CAMEL both seek to rate the financial solvency, safety, and soundness of an institution by analyzing the same five areas, the specific ranges for certain financial indicators are not the same. In areas like operational efficiency (administrative costs in relation to loan portfolio) and leverage, for example, the ranges are significantly different between the two CAMELS because they respond to two different types of businesses, that is traditional banking versus microfinance. (These differences are covered further in Chapter Four.)

The ranges for each of the indicators included in the ACCION CAMEL were developed by taking into consideration the performance of formal financial institutions, theoretical conclusions about a given indicator, and the performance of the ACCION network and of microfinance institutions outside the network for which data was available. For example, in setting the range for return on equity, ACCION looked at the comparable rate in the financial system because, unless this rate is achieved, one cannot expect to attract investors. However, the leverage ranges come about as a result of a theoretical analysis of what the level of indebtedness should be for this type of institution, as compared to the formal financial system, given the unique characteristics of microlending. Once these two ranges were defined, the return on assets calculation becomes a given and is tested by comparing it to the return on assets range achieved by ACCION and non-ACCION affiliates. In contrast, in the original CAMEL, the ratios that the examiner chooses to evaluate are compared to financial ratios of that institution's peer group that are updated on a regular basis. The peer group is determined based on the institution's asset size, the number of domestic branches, and whether it operates in a metropolitan area.

In the original CAMEL, the rating is a function of three factors: (1) the institution's standing relative to its peer group, (2) the trends observed for the institution in question, (3) and "best practices" for the industry. The examiner applying the original CAMEL uses his or her

discretion in weighing these three aspects for any given rating. If, for example, the entire peer group is suffering from poor asset quality because of a recessionary environment, those who have fared best, and are therefore within the highest percentile for their peer group, would still not be given a high asset quality ranking. In this example, the peer group data serves to inform the examiner of the impact of the recession vis-a-vis asset quality.

U.S. examiners give a composite CAMEL rating between one and five, with one being the highest rating and five the lowest. However, no specified weighting is given to each of the five areas under examination to arrive at the composite rating. The ACCION CAMEL has been ranking institutions in the reverse manner, with five being the highest rating. The interpretations of the five rating categories given by U.S. examiners coincide with that of the ACCION CAMEL; for example, the U.S. Examiner's CAMEL Manual describes the highest rating as indicating an institution that is sound in every respect and that is resistant to external economic and financial disturbances.

It is interesting to note that, although the ACCION CAMEL is almost equally divided between quantitative and qualitative components, approximately 70 percent of the indicators that make up the composite rating for the original CAMEL are quantitative. The ACCION CAMEL's greater emphasis on qualitative indicators stems from the instrument's purpose. The ACCION CAMEL was designed to serve as a guide—a road map to microfinance institutions seeking to become formal financial intermediaries. Thus, many of the qualitative components of the CAMEL rating outline the types of practices (audit practices, portfolio classification, strategic planning) that need to be in place if the institution is to become a successful financial intermediary.

CHAPTER THREE
APPLICATION OF THE ACCION CAMEL

NECESSARY CONDITIONS FOR AN EFFECTIVE CAMEL

ACCION's experience demonstrates that certain conditions must exist to complete a successful CAMEL analysis of a microfinance institution.

Transparency and Availability of Information

The depth and quality of the CAMEL analysis depends most fundamentally on the availability of financial performance information. The extent to which this condition is met is shaped by two factors: (1) an MFI's *ability* to provide the information, and (2) the MFI's *willingness* to provide the information.

The *ability* to provide information flows primarily from an institution's management information systems (MIS). The MIS should provide accurate and timely information and be sufficiently flexible so that a variety of meaningful reports can be generated.

Because, in some areas, the CAMEL might require reports that the financial institution has never before generated, its MIS might not be able to automatically respond to the information requests. In some cases, new MIS programs are installed while the CAMEL team is still on-site and, as a result, the information is eventually provided. In other cases, a more thorough upgrading of the MIS is required.

The *willingness* of an institution to provide information stems from different issues. One issue is confidence on the part of management that the effort to gather the information is worth the result of the CAMEL analysis. How will a CAMEL analysis benefit an MFI either internally or externally? As noted previously, ACCION's affiliates' basic acceptance of the value of the CAMEL was in place from the beginning. Nonetheless, during a few of the initial CAMEL examinations, the required information was not easily obtained as a result of a lack of familiarity with the in-depth nature of the analysis and with its practical value as a management tool. In most cases, once this obstacle was overcome by experience, the information gathering process was greatly strengthened.

Another issue is timing. Once an institution demonstrates the ability and willingness to provide the required information for the CAMEL analysis, the issue becomes when the CAMEL team can receive it. Ideally, an MFI would provide the team with financial performance data *in advance* of the on-site analysis. This has only occurred in a very few cases, mainly because of a lack of time on the part of busy microfinance managers and, as critical, the lack of a mechanism (and associated training) to easily gather the information off-site.

Trust

A second condition is related to trust and confidence on the part of MFI management that the information provided will remain confidential unless the institution decides otherwise. Because the examination may appear threatening to senior management, it is informed of the results prior to the initial oral presentation given to the institution's Board of Directors. Additionally, senior management is given the opportunity to respond in writing to the final written report. These comments are attached to the final report submitted to the Board.

Availability of Staff for Interviews

A third condition is the availability of staff for interviews by the CAMEL team. Such willingness is initiated and directed by the Executive Director of the institution and requires that the examination be carefully scheduled by the Executive Director to take into account the significant investment of time required by the entire staff.

The CAMEL examination requires a verification and cross-checking of information that involves visits to the microfinance institution's branches, visits with clients, and interviews with local staff at various levels of the institution. This due diligence process requires a significant investment in time on the part of the local staff to coordinate field visits, obtain credit files, and be interviewed themselves.

Appropriate Mix of Team Member Skills

The skills required of the CAMEL team span a range of disciplines including financial analysis, microcredit methodology, internal control and internal audit, organizational development and human resources, and management information systems. Each member of the team must also have expertise in the broader context of microfinance.

LEVEL OF EFFORT

The level of effort required to complete a CAMEL examination depends upon several variables including the level of complexity of the institution, whether a CAMEL examination has previously been completed, and the extent to which the requisite financial performance information is readily available and provided on a timely basis.

The suggested number of analysts and composition of the team reflects the experience of ACCION International over the past four years. That experience revealed that a first-time CAMEL requires a team of three to four people, including a team leader and two or three analysts. This team generally needs 10 working days on-site at the affiliate institution to gather, adjust, and analyze financial statements and management information. In the case where a CAMEL has been previously completed, the team could be reduced to three people working for eight days on-site. If significant changes were made in the institution's

management or methodology since the last CAMEL, however, this reduction in the number of analysts might not apply.

During its time at the institution, the team completes the following tasks:

- Gathers and adjusts data;
- Interviews staff and clients;
- Reviews policies and procedures; and
- Analyzes the information and determines the rating.

In the case of a first-time CAMEL, the entire team has traditionally arrived simultaneously and collectively completed the tasks. More recently, however, ACCION has implemented a new approach in its application of CAMEL: One member of the team has arrived at the institution one week in advance of the others to complete the first task. Not only does this allow for the number of team members to be reduced to three, but it also allows the team to initiate its activities at an advanced point. With the adjustments to the data already completed, the remaining tasks can be completed in significantly less time and, thus, at a lower cost.[11]

TEAM COMPOSITION

ACCION and its affiliates initially believed that the CAMEL team should include individuals outside of ACCION. Because of the closeness of the technical assistance relationship between ACCION and its affiliates, it was felt that the ACCION employees involved in CAMEL would not be sufficiently objective to dissect the inner workings of the institution. Therefore, the first-year CAMEL analyses included professionals from a premier international accounting/management consulting firm. The participation of these outside professionals was unsuccessful, however, because they lacked several important characteristics including an in-depth knowledge of microfinance and a professional commitment to the task, which was deemed a low priority in the broader portfolio of activities of the accounting/consulting firm. Another problem was the lack of permanence of these professionals in the CAMEL effort because they were rotated through different client projects rather than staying with the ACCION project.

Based on this unsuccessful experience, in 1994, ACCION decided to build up its internal CAMEL examination capacity so that the entire team would be ACCION staff. CAMELs are now conducted by a team of ACCION staff members only. There is a core CAMEL team, which consists of a team leader and two other experienced professionals whose primary

[11] Using the old application in which the entire team arrives together, the cost to ACCION of a first-time CAMEL has been approximately $20,000. With the new approach, ACCION has been able to reduce the cost to about $15,000. The cost for subsequent CAMELs is about $15,000 under the old approach and about $11,000 using the new approach. Included in the cost is all CAMEL staff time (including fringe and overhead), travel, hotel, and meals for each team member. Staff time includes the time to prepare prior to the site visit, the time on-site, and the time required to generate the final report.

responsibility is to the CAMEL. Additional operational staff members join this core CAMEL team when needed.

The level of experience of the examination team is an important contributor to the conclusions of the CAMEL. Although the CAMEL Manual clearly defines areas of analysis, procedures, required information, and rating criteria (ensuring standardized application), team members draw on their own experience in assessing microfinance institutions as they integrate the qualitative and quantitative indicators. The ability to take the information and impressions gathered during a CAMEL examination, organize and analyze this information, and adequately contextualize the results requires experience with a range of MFIs.

DIVISION OF LABOR AND PROCESS

There are two dimensions to determining the division of labor to complete the first three tasks of the CAMEL: the CAMEL team effort and the institutional effort. (The fourth task, which involves the process of determining the rating, is completed by the team only.)

The institution receives a list of required information that falls into several areas including economic, financial, portfolio quality, accounting, human resource management, strategic planning and budgeting, and procedures and manuals. Ideally, the institution would gather and send the quantitative information to the CAMEL team in advance, and would gather the information required to assess qualitative indicators (such as the personnel manual) before the team's arrival on-site.

The next best option is for the institution to have this information ready for the CAMEL team's arrival. It is because this second option is not always possible that ACCION made the decision to send a team member in advance to support the quantitative information-gathering process. Only when this information is available can the CAMEL team focus on the verification and analysis of the quantitative data and on the measurement of the qualitative indicators through interviews and observations.

The division of labor within the CAMEL team generally follows a set pattern.

Team Member #1: Gather, input, and adjust the quantitative information in the CAMEL Spreadsheets. Complete the analysis of one of the five main areas.

Team Member #2: Complete one area of analysis plus additional aspects of a second area of analysis.

Team Member #3: Same as Member #2.

Team Member #4: Same as Member #2.

When determining who should be given which area, several factors are considered. One factor is the need to balance the need for versatility and specialization of skills. On one hand,

it is important that specific individuals with the appropriate training become the most knowledgeable of specific areas of the CAMEL. On the other hand, the team will be more flexible if several individuals can complete any given task. Another factor is the acknowledgment that certain CAMEL tasks are more interesting than others, and that, to combat the tendency toward boredom, team members need to be rotated.

In terms of the level of effort on the part of the institution, key members of the senior management team are expected to make a presentation to the CAMEL team on the first day of the examination. This presentation should include the historical development of the institution, its strategic plan and organizational structure; current interest rates and inflation statistics, relevant national regulations, and characteristics of the market; and an overview of the financial statements and the current state of the portfolio.

The presentation by senior management normally lasts for half a day and serves several purposes. First, it sets the stage for the CAMEL examination by introducing the team to the institution. Second, it allows formal introductions to be made between the team members and the staff with whom they will be working. Third, it allows the CAMEL team to explain the process and procedures of the CAMEL examination. The CAMEL team's work involves interacting with employees from all levels of the institution, from senior management to administrative staff. During this presentation, interview prospects are identified and appointments are made. Finally, this presentation gives the team an opportunity to work with the MIS staff on the process of completing the CAMEL information requests.

The involvement of the staff of the institution centers on gathering any necessary information, such as procedures manuals and client files. In addition, staff are relied on to coordinate visits to branch offices to interview managers and loan officers and interviews with clients and bank officers in charge of the lending relationship with the institution. Ideally, team members conduct these interviews and visits without the accompaniment of the institution's senior staff because it allows for a more frank and honest discussion and a more accurate determination about whether field application is consistent with stated practice.

Finally, periodic debriefings occur among the CAMEL team to integrate information about the examination. At the end of the analysis and while still in country, the team develops the ratings based on individual and collective information.

THE REPORT

On the final day of the CAMEL examination, the team makes two separate on-site presentations; the first presentation is made to the institution's senior management team and the second to the Board of Directors. These critical presentations ensure that CAMEL findings reach the highest levels of the institution. The presentation to senior management enables the staff of the institution to comment on the CAMEL results and, perhaps, identify where the team may have made faulty assumptions or interpretations. The presentation to the Board is less detailed than that to the staff, but highlights all the key issues and conclusions

reached by the CAMEL team. A challenge faced by the CAMEL team lies in obtaining a significant level of attendance at these presentations by members of the Board.

In the weeks following the on-site assessment, the team prepares a comprehensive but concise written report and sends a draft to the Executive Director of the institution. The draft includes the following:

- An executive summary.

- Detailed narrative analyses of each of the 21 quantitative and qualitative indicators (usually up to one page on each indicator). Reference is made to the supporting indicators, where relevant. Because the ACCION CAMEL instrument is an integral component of the technical assistance ACCION International provides, the report not only identifies issues or problems that the MFI might have, but also recommends improvements in these weak areas.

- The CAMEL-adjusted financial statements, which incorporate the previous three years of data plus the most recent interim statement. Financial figures are expressed in local currency terms, both nominal and constant, as well as in U.S. dollars.

- A listing of the resulting key and supporting indicators.

- Various appendixes including a classification of loan portfolio and breakdown by aging, programmatic statistics, and entries made for each adjustment with corresponding background information.

Upon receipt of the report, the senior management of the local institution has two weeks to respond in writing to the CAMEL team. If this response is received within the two-week period, the comments are annexed to the final version of the report sent to the Board. If the CAMEL team deems it appropriate, these comments may also be incorporated into the narrative analysis of the final CAMEL report. The final CAMEL report is a confidential document. The remainder of the institution's staff is not given access to the CAMEL report, unless the Executive Director decides to do so, nor are the results disseminated to third parties unless ACCION and the institution mutually agree to do so.

CHALLENGES TO APPLICATION

A significant challenge to the application of the CAMEL to microfinance is how to bring about the public dissemination of its results. Seen another way, the challenge is how to encourage demand for the CAMEL results and, thus, motivate disclosure.

The confidential nature of the CAMEL examinations applied by ACCION mirror the practice of the original CAMEL. Neither U.S. regulatory agencies nor the subject institutions are permitted to disseminate the results. It is the public rating agencies, such as Moody's and Standard and Poor's, that serve as the mechanism for sharing requisite financial performance

information with lenders and investors. These rating agencies exist because of the demand for information by the capital markets. Although they are given less access than regulators, rating agencies are able to successfully fulfill the demand for information because of a clear incentive for disclosure on the part of the subject institution; a public rating implies transparency and thus financial legitimacy to a well-established market of potential investors. In the case of microfinance, no such well-established market exists. Yet without publicly available and verifiable financial performance information, the evolution of this market will be significantly inhibited.

As long as the results are kept confidential, the value of the CAMEL examination to microfinance will remain limited. However, the single most important factor in achieving widespread dissemination of CAMEL results is the demand by the sources of funding for microfinance, including donor agencies, lenders, and investors, for verifiable performance information. Because the demand by the capital markets for in-depth analysis of MFIs is still very limited, it has been suggested that it could be the role of donor agencies to create a demand for the CAMEL rating for funding purposes.

A second challenge is to determine what entity will complete CAMEL examinations in the long-term. Can, and should, it be the so-called apex institutions, which provide technical assistance to MFIs, such as ACCION, FINCA, Calmeadow, and Women's World Banking? Or will an independent body evolve to become a specialized rating agency, which can ensure that the results will meet the demands of these technical assistance providers in addition to those of the sources of funding? However, if this specialized agency is to be successful in obtaining the credibility of financial markets, it must be set up to guarantee objectivity of application and the highest professional standards in terms of the depth of analysis and degree of experience of those involved in generating the rating.

CHAPTER FOUR
CAMEL INFORMATION AND ADJUSTMENTS

This chapter will (1) outline the information required of the MFI in order to conduct the CAMEL examination, (2) describe the various adjustments that the examiner makes to the financial statements—-the *reasons* for them and the *mechanics* of each, and (3) discuss the relevance of the 21 indicators for each of the five areas (CAMEL) analyzed and provide a definition of each as well as the ranges or criteria for rating (zero to five) the microfinance institution (MFI) in each area for all indicators.

INFORMATION REQUIRED FROM INSTITUTION

FINANCIAL STATEMENTS:

- Audited financial statements for the past three years, including Management Letters; and
- Unaudited financial statements, including balance sheet, income statement, and cash flows, from most recent period and same period for prior two years.

BUDGETS/PROJECTIONS:

- Annual budgets for the past three years, approved by the Board of Directors;
- Cash flow projections; and
- The most recent strategic plan, including financial projections.

PORTFOLIO QUALITY:

- Aging schedules of the loan portfolio for most recent period and year-end for the past three fiscal years; and
- Loan portfolio risk classification.

FUNDING:

- Detailed outline of donations received (monetary and in-kind) with amounts, conditions, and uses; and
- Documentation on credit facilities and loan agreements.

BOARD INFORMATION:

- Minutes from Board meetings from past three years; and
- Background on Board members including curricula vitae (CVs) and other documents outlining current employment and experience.

OPERATIONS/STAFFING:

- Key policies and procedures manuals in areas such as credit, personnel, collections, and provisioning;
- Information on employee benefits programs, including loan officer incentive program;
- Yearly analysis of new hires and employees who have left the institution for the past three years; and
- Programmatic data.

MACROECONOMIC INFORMATION:

- Local bank and finance company rates on loans and deposits for the past three years;
- Local consumer price index for the past three years;
- Exchange rate between dollar and local currency for the past three years;
- Local GNP per capita for the current year; and
- Local minimum monthly wage for the past three years.

Financial Statements and the Adjusted CAMEL Format

The financial statements form the basis for the CAMEL's quantitative analysis. The specific format for the statements is used first to standardize the institution's financial data into CAMEL accounts and then to incorporate the adjustments. For comparative purposes, the adjusted financial statements are presented in three versions—constant local currency, nominal local currency, and U.S. dollars.

Expressing financial statements in constant currency allows the analyst to compare performance over the periods studied without the distorting factor of annual inflation. Converting to constant currency involves taking the most recent period analyzed as the base period and restating prior periods in base-period terms using the inflation rate for those prior periods. Converting the statements to U.S. dollars facilitates comparison among institutions in different countries.

Three-years worth of audited financial statements are used for the CAMEL analysis. In addition, the institution's most recent available interim financial statements are analyzed, with the income statement reconstructed based on a 12-month period.[12] Microfinance in Latin America has proven to be a seasonal business, with the greatest lending activity occurring in the fourth quarter of the calendar year. Therefore, annualizing interim statements (projecting year-end based on year-to-date activity) would underestimate the probable real year-end results. By using a 12-month period for interim statements, the seasonal factor is smoothed out.

The total number of periods studied will vary from three to five depending on the timing of the evaluation. For example, if the most recent period available for an evaluation is September 30, 1997, then that period will be compared to September 30, 1996. In addition, the audited statements for December 31, 1996, December 31, 1995, and December 31, 1994, will be included and analyzed.

[12] For the interim statements, the income statement needs to be shown on a 12-month basis. The statement is derived by adding the interim period income statement for the current year to the prior year-end income statement and then subtracting the income statement for the same period from the prior year. For example, ((09/31/97 income statement + 12/31/96 income statement) - 09/31/96 income statement). This creates an income statement for the period September 30, 1996 to September 30, 1997. The same process must be carried out to derive a comparative statement for September 30, 1995 to September 30, 1996. In this example, the financial statements required are for the periods December 31, 1994, December 31, 1995, December 31, 1996, September 30, 1996, September 30, 1996, and September 30, 1997.

Although indicators are calculated for all periods analyzed, the key quantitative indicators used for the final rating are taken from the most recent period analyzed. Annex A presents sample CAMEL-formatted financial statements (balance sheet and income statement) for the period September 30, 1996, to September 30, 1997, and provides definitions of all accounts used.

Programmatic Information

The programmatic information for the CAMEL examination is gathered for all of the periods analyzed and is used to show the evolution of the institution as well as to calculate a number of supporting indicators that are used in the analysis. The information is obtained principally from the finance and administration, loan operations, and human resources areas.

CREDIT ACTIVITY:

- Number of Active Borrowers—Number of clients currently receiving credit from the institution.
- Number of Active Solidarity Groups—Number of solidarity groups currently receiving credit from the institution.
- Total Borrowers—Total number of borrowers that have received credit since the institution's inception.
- Total Solidarity Groups—Total number of solidarity groups that have received credit since the institution's inception.
- Total Amount of Credit Disbursed During the Period—Total amount of loans made in the period.
- Total Amount of First-Time Loans Disbursed During the Period—Total amount of loans to first-time borrowers made in the period.
- Number of Credit Operations—Total number of loans disbursed during the period.
- Average Loan Portfolio—The average of the monthly gross portfolio balances.

INFRASTRUCTURE/STAFFING:

- Number of Branches—Offices that are very decentralized, and operate with a certain amount of administrative autonomy.
- Number of Agencies—Offices that typically are manned by only one loan officer and a receptionist, and depend heavily on a branch office.
- Number of Persons Hired—Number of people hired as regular employees for the microfinance activity during the period.

- Number of Employees Leaving the MFI—Number of employees of the microfinance activity who leave the institution during the period.

- Number of Current Employees—Total current number of employees of the microfinance activity.

- Number of Loan Advisors—Total current number of loan officers.

- Number of Field Personnel—Collection agents, marketing agents, and branch managers (if branch managers report to Operations rather than Administration).

CAMEL ADJUSTMENTS

Once the financial statements for all the periods to be analyzed have been compiled and reclassified using the CAMEL format, the next step in the CAMEL process is to perform the necessary adjustments. The adjustments to the financial statements are made beginning with the first year analyzed (Year 1) and ending with the most recent period (Year 3).

The purpose of the CAMEL adjustments is twofold. First, they place the MFI's current financial performance in the context of a financial intermediary, permitting the analyst to determine how viable the institution would be as a commercial financial institution. Second, the adjustments place all MFIs on a level playing field for the purpose of making comparisons among different institutions. The overall effect of the adjustments is to isolate the performance of the microfinance activity, to accurately measure the quality of the loan portfolio, and to account for the imputed cost of various subsidies.

The CAMEL carries out a total of six adjustments: [13]

- Adjusting for the *scope of microfinance activity*
- Adjusting the *loan loss provision*
- Adjusting *loan write-offs*
- Adjusting for *explicit and implicit subsidies*
- Adjusting for *the effects of inflation*
- Adjusting for *accrued interest income*

[13] Annex B provides a worksheet with an example for all adjustments, except Adjusting for the Scope of Microfinance Activity, and instructions on completing the adjustment and entering it into the financial statements.

Adjusting for the Scope of Microfinance Activity

Philosophy Behind the Adjustment

Many MFIs are involved in activities other than microfinance; this includes NGOs involved in various development activities and commercial institutions offering financial services to diverse sectors. Therefore, the CAMEL segregates the microfinance activity for analysis to measure its performance and viability separate from the overall institutional performance.

Adjustment Summary

In conjunction with the process of reclassifying the financial statements using the CAMEL format, the analyst determines whether the institution is involved in activities unrelated to microfinance. Nonlending services that are offered as part of the loan product, such as loan fees charged that include the cost of training courses offered to borrowers, are considered to be related to the microfinance activity. Once the various unrelated activities are identified, the analyst must determine what revenue, expenses, assets, liabilities, and equity are related to each of the activities to prepare financial statements that are specific to the microfinance activity. In some instances, this will be clearly accounted for by the institution. In others, the analyst will need to determine how to allocate the necessary overhead expenses to the microfinance activity as well as how to account for particular fixed assets, liabilities, and equity. This adjustment cannot be accomplished by simple prorating. It requires a thorough analysis of the costs and infrastructure required to run the microfinance activity alone. The analyst will need to identify the various relevant factors that cause costs to be incurred. For example, the human resource expense, which is the largest cost component for an MFI, is driven by the number of employees dedicated to a given activity.

Adjusting the Loan Loss Provision

Philosophy Behind the Adjustment

The loan loss provision is one of the key expenses of any financial institution. Its purpose is to reserve against potential losses arising from nonpayment of loans. The provision reduces net income and is accumulated in the loan loss reserve on the balance sheet as a contra-asset that offsets the value of the loan portfolio. For NGOs, the loan loss provision provides no tax benefit, and, therefore, is viewed only as a reduction to net income. Because of this view, and because of the fear among some NGOs that provisioning might signal problems with the portfolio to donors, the level of the loan loss reserve is often underestimated by MFIs. The CAMEL adjustment ensures that the loan loss reserve bears an appropriate relationship to the quality of the loan portfolio.

Based on the volatile nature of microloan portfolios, the ACCION CAMEL has identified the need for MFIs to provision more rapidly than traditional financial institutions and has developed provisioning rates (Table 3). However, if the institution's adjusted loan loss rate (see Adjusting Loan Write-offs) for the most recent period studied is abnormally high, above 8 percent, the analyst may want to provision at an even greater rate than what is shown in Table 3.

Table 3: ACCION CAMEL Provisioning Rates

Rescheduled Aging Status	Provision percent	
	Regular Portfolio	Portfolio
CURRENT LOANS	0	
RESCHEDULED LOANS (CURRENT)	0	10
LOANS PAST DUE 1-30 DAYS	10	50
LOANS PAST DUE 31-90 DAYS	30	75
LOANS PAST DUE 91-180 DAYS	60	100
LOANS PAST DUE > 180 DAYS	100	100
LOANS IN LEGAL RECOVERY < 180 DAYS	100	100

*Note: Regular portfolio is defined here as portfolio that has not been rescheduled.

Adjustment Summary

The ACCION CAMEL assesses the quality of the microfinance institution's loan portfolio for each of the periods analyzed and, based on the predetermined percentages of the CAMEL provisioning table, calculates the appropriate level of the loan loss reserve for each of the years. This reserve amount is compared to the actual reserve accounted for on the institution's balance sheet. In the event of a deficiency, the deficient amount is expensed on the income statement and added to the loan loss reserve account on the balance sheet. This adjustment is spread out over the periods studied. Therefore, the cumulative adjustment from the prior periods studied is also added to the loan loss reserve on the balance sheet and debited from the institution's prior period retained earnings.

Rescheduling loans—that is, reducing the payment amounts and postponing the final due date to facilitate repayment of the loan—is uncommon among MFIs. The key to these institutions' lending methodology is the proper structuring of loans to meet the client's ability to repay. Other than in extreme situations external to the microenterprises, like a cholera epidemic or a widespread recession, the necessity to undertake significant rescheduling of loans indicates poor loan structuring on the part of the MFI. MFIs that reschedule often revert these past due loans to "current" status, in effect masking their true portfolio at risk. Having become delinquent in the past, rescheduled loans are at greater risk of becoming delinquent in the future. Therefore, when rescheduled portfolio is identified, a more stringent provisioning policy is applied.

The provisioning rates used for the CAMEL are based on ACCION's experience with the volatility of microloan portfolios. Most commercial banks would forgo provisioning loans that are 130 days past due because they deal with longer term loans, and, therefore, would consider the risk of nonpayment to be very low during such early stages of delinquency.

MFIs, by contrast, manage portfolios with rapid turnover (in the case of ACCION's network, loan tenors average four months) and weekly or biweekly repayment schedules. As a result, an MFI must be very cautious about the early stages of late payment and set its provisioning rates accordingly. Given the four-month average tenor, the CAMEL suggests that loans should be written off after they are 180 days past due. Therefore, the provisioning of each aging category must gradually increase to coincide with the need to be 100 percent provisioned by the time a loan is 180 days past due in order for the loan loss reserve to be at a level sufficient to absorb the write-off. Although recommended provisioning levels for the microfinance industry vary somewhat,[14] ACCION believes that the provisioning levels in Table 3 are sufficiently stringent and, given our experience, adequately capture the typical progression of delinquent loans in a microfinance portfolio.

Adjusting Loan Write-Offs

Philosophy Behind the Adjustment

Once a loan is determined to be uncollectable, from an accounting standpoint, it should be written off. That is, it is removed from both the gross loan portfolio and the loan loss reserve accounts on the balance sheet. The net effect on the balance sheet is zero and, given that the loan loss reserve is adjusted to the appropriate level, it will be sufficient to absorb the write-off, and there should be no additional effect on the income statement.

Because most MFIs are unregulated, write-offs are not mandated, and as a result, many MFIs perform write-offs on an infrequent basis. Therefore, loans may remain in the portfolio even when they have become seriously past due. MFIs may be reluctant to perform write-offs because they may not be provisioning adequately. In such cases, writing off a bad loan would mean taking an added expense on the income statement. In addition, many MFIs equate the accounting act of removing a bad loan from their books with giving up on collection efforts. In reality, even when loans are written off the balance sheet, the institution should continue to pursue collection efforts to the best of its ability. By not writing off uncollectable loans within an appropriate time frame, an institution is inflating its loan portfolio and, depending on the volume of bad loans, skewing its performance ratios.

Adjustment Summary

The ACCION CAMEL has established that, given the average four-month tenor of microfinance loans in the ACCION network and the weekly or biweekly repayment schedules, once a loan becomes 180 days past due or is in legal collection, the chances of collecting such a loan are low. Therefore, it should be written off. For microfinance institutions where the write-off policy is less stringent, the ACCION CAMEL adjusts the

[14] The Inter-American Development Bank, for example, recommends 10 percent provisioning for loans 1-30 days past due, 25 percent for 31-60 days, 50 percent for 61-90 days, and 100 percent over 90 days.

financial statements by writing off all loans over 180 days past due as well as those in legal recovery.

Adjusting for Explicit and Implicit Subsidies

Philosophy Behind the Adjustment

To obtain a true picture of the MFI's potential for commercial viability, the institution's financial statements must be adjusted for subsidies. The most obvious subsidies are direct donations, which are typically accounted for by MFIs as revenue. If the institution were a commercial entity, the equivalent of those donations would be equity investments. Therefore, the CAMEL adjustment removes cash donations from the income statement and reclassifies them as capital on the balance sheet.

A second subsidy that needs to be adjusted is subsidized debt. Many nonprofit MFIs have access to below-market financing for their portfolios. However, the savings they obtain from these low-interest loans are not necessarily passed on to borrowers. In fact, this type of subsidy actually may mask real inefficiencies in the institution and skew profitability. The purpose of adjusting for subsidized debt is to demonstrate the cost of those funds at commercial rates and the institution's ability to cover those costs. An MFI interested in becoming a financial intermediary usually will not have access to subsidized funding and must, therefore, establish that it is capable of covering the cost of commercial funds.

Subsidized debt refers to those MFI liabilities that carry an interest rate that is 75 percent or lower than the "alternative commercial funding source" for the MFI. The alternative commercial funding source is (a) the three-month CD rate if the MFI is capturing deposits, or (b) the average short-term loan rate in the financial system if the MFI cannot capture deposits. Once it is determined that a liability needs to be adjusted, the interest rate used for the adjustment depends on the cost of alternative commercial funding available to the institution. If the MFI borrows at commercial rates of interest, the weighted average of the MFI's liabilities at commercial rates of interest should be calculated and the resulting interest rate used to adjust the institution's subsidized debt. If, on the other hand, the institution has no liabilities at commercial rates of interest, the interest rate to be used for adjusting subsidized liabilities is the average interest on short-term loans of the financial system where the MFI operates. Where interest rates are regulated resulting in negative real rates of interest paid on the MFI's liabilities (interest rates below the local inflation), the subsidized debt should be adjusted using the local inflation rate.

Finally, some MFIs operate with rent-free or significantly subsidized facilities. Others may receive assistance from external consultants or have key managers paid for by outside parties. The operating subsidy adjustment is used to estimate the additional cost the institution would incur if it did not receive these subsidies. However, in these cases, it is important that the examiner determine whether the institution *would* have entered into an agreement for a given facility or consultancy were it not for the subsidy or in-kind donation received. The answer to

this should be reflected in the extent, if any, of the adjustment made to the financial statements.

Adjusting for the Effects of Inflation

Philosophy Behind the Adjustment

Many MFIs operate in inflationary economies where the value of goods and services is constantly increasing while the real value of money is decreasing. For a financial institution whose major assets are monetary, maintaining the value of those assets against the effects of inflation poses a challenge. Inflation has two major effects on the institution. The real value of fixed assets will keep pace with inflation, and, to the extent that equity is tied up in monetary assets, the real value of equity will be eroded.

In noninflationary economies, fixed assets are accounted for at original cost. In inflationary economies, however, accounting standards may allow for fixed assets and equity to be adjusted to keep up with inflation. Accounting for inflation differs from country to country. In some countries, no inflation adjustment is used and in others the adjustment may only be partial. The CAMEL fully adjusts for inflation.

Adjustment Summary

The analyst studies the institution's accounting policies regarding inflation and determines whether a full or marginal adjustment will be required. The year-on-year inflation rate is then multiplied by the average net fixed assets. The result constitutes a gain for the institution and is credited as revenue on the income statement and is also debited on the balance sheet account under revaluation of assets, which has the effect of increasing the value of net fixed assets. The inflation rate is then multiplied by the average value of the institution's equity, which constitutes a loss and is debited on the income statement. The amount is also credited on the equity account under adjustments to equity. If the value of net fixed assets exceeds the value of equity, these adjustments generate a net gain, but if equity exceeds the value of net fixed assets, the institution will have a net loss.

Adjusting for Accrued Interest Income

Philosophy Behind the Adjustment

Regulated financial institutions may accrue interest on loans provided they are current or past due up to a specified period of time. But once a loan becomes past due beyond the specified period, the institutions are required to stop accruing interest as the likelihood of actually collecting that interest is decreased. Because of the frequent payments made on microloans,

accruing interest is uncommon among MFIs and, if done, the amount of accrued interest income is generally small. This adjustment involves eliminating interest income accruals on portfolio past due over 30 days from the income statement and balance sheet because not doing so overstates the MFI's income given the small probability of collecting that interest.

Adjustment Summary

The institution's accounting policies are studied to determine whether interest revenue is accounted for on an accrual basis. If the institution does not accrue interest, no adjustment is necessary. Likewise, if the institution accrues interest but only on its current and past due portfolio up to 30 days, no adjustment is made. However, if the institution accrues interest on its past due portfolio over 30 days, the amount needs to be quantified and eliminated from the income statement as well as from the accrued interest account on the balance sheet. The cumulative adjustment from prior periods is debited on the balance sheet from prior period retained earnings and credited to accrued interest.

CHAPTER FIVE
CAMEL SCORING

This chapter discusses the relevance and weighting of the 21 quantitative and qualitative indicators for each of the five areas (CAMEL) analyzed.[15] It then provides a definition of each area and the ranges or criteria for rating (zero to five) the microfinance institution in each area for all indicators.

CAPITAL ADEQUACY

Key Indicator Summary	Weighting (%)
Leverage (Quantitative)	**5.0**
Ability to Raise Equity (Qualitative)	**5.0**
Adequacy of Reserves (Quantitative)	**5.0**
Total	**15.0**

The objective of the capital adequacy analysis lies in measuring the *financial solvency* of an institution, which consists of determining whether the risks incurred by the institution are adequately offset with capital and reserves to absorb potential losses. Credit risk, for example, has a direct impact on a bank's capital position. Profits are diminished through provision expenses to cover actual or potential losses through the allowance for loan losses. Lower profits mean lower equity capital.

One of the key indicators for a financial intermediary is the relationship between the institution's capital base and its assets or liabilities. Most countries require a minimum capital amount to establish a financial institution and then regulate the extent to which that institution can borrow in relation to the capital it has; that is, the extent to which the institution can leverage itself. The Basle Agreement, a report prepared by the Committee on Banking Supervision,[16] adopted the ratio of eight percent equity to risk assets as the international standard. The capital adequacy ratio takes into account the composition of a bank's assets and its capital, assigning, on the asset side, one of five different weights to the various asset categories depending on the risk profile of each.

Only the financial implications of an institution's capital structure are dealt with in this CAMEL area. The Management area of CAMEL evaluates the governance implications of an institution's capital structure. The fact that many microfinance institutions are structured as

[15] Table 2 in Chapter One shows the breakdown of all 21 indicators, with weightings, for the five CAMEL areas. Table 3 in Chapter One shows the ratios used to determine the quantitative indicators.

[16] An agreement of the G-10 Governors in December 1974 to set up a committee to improve collaboration between bank supervisors created the Basle Committee on Banking Supervision, the Secretariat for which is provided by the Bank for International Settlements (BIS). The Basle Agreement report was issued in 1983, and in 1992 the Committee strengthened its provisions by agreeing on minimum standards for the supervision of international banking groups and their cross-border establishments. [Source: BIS web page, <www.bis.org>.]

nonprofit institutions, however, is reflected in the ranges that CAMEL has established for the leverage indicator.

Leverage (Quantitative)

This indicator is the relationship between the institution's risk weighted assets and its equity. Most traditional commercial banks operate within a parameter of risk assets/equity of about 12.5 times. This is the maximum figure recommended by the Committee on Banking Supervision, which has been adopted by Superintendencies in many countries. As shown in Annex C, for the 11 Latin American countries in Table C-3, the indicator measuring assets to equity ranged from an average of 5.41 times in Ecuador to a maximum of 17 times for banks in Nicaragua, with the remaining nine countries averaging 12 times in terms of assets/equity.

Several reasons exist, however, to support the argument that maximum leverage for microfinance institutions should be lower than the recommended level for commercial banks. First, although delinquency rates for a microfinance institution can be better than for traditional banks, the volatility of this rate is much greater in the microfinance sector. A second reason is that operating expenses as a percent of assets are much higher for an MFI than for a traditional bank. Thus, when management loses control of expenses, which can happen when faced with a rapidly changing macroeconomic environment, the resulting increase in this ratio would generate significant losses to equity. Third, the ability of microfinance institutions to obtain additional funding from shareholders or donors, in the case of NGOs, is much more restricted than for a traditional financial institution. Even most private sector microfinance institutions do not yet have the broad-based participation of the private sector that allows for a quick response in recapitalizing an institution in times of crisis.

Moreover, a microfinance institution has a more simplified asset composition than a traditional bank, which results in a reduced number of categories for risk-weighting purposes. The weighting given to each category is a function of the degree of risk of that particular asset; thus, a 100 percent weight means twice as much risk as a 50 percent weight. The weighting used in the CAMEL is as follows:

Asset	Risk Weighting (percent)
Cash on hand and deposited in banks	0
Investments:	
Government paper (mat.< one yr.)	0
Nongovernment bonds (mat.< one yr.)	10
Bonds with maturities over one yr./Shares	100
Permanent investments in other inst.	100
Loan portfolio	100
Loan loss reserve	100
Other receivables	100
Net fixed assets	50
Assets received in lieu of loan payments	100
Other assets	100

The numerator of the leverage indicator is arrived at by multiplying each of these categories by their respective weights and adding them all together. The denominator is the CAMEL-adjusted equity of the institution. Significant adjustments to equity will have a marked impact on the institution's leverage, or level of indebtedness. Once calculated, the leverage (risk assets/equity) indicator is rated on a scale of zero to five.

Rating Leverage

Scale	Range
5	less than or equal to 6.0
4	6.1 to 7.0
3	7.1 to 8.0
2	8.1 to 9.0
1	9.1 to 10.0
0	over 10.1

These leverage ratios apply to either NGOs or for-profit institutions with limited access to private equity, which is the typical profile of institutions currently lending to the microenterprise sector. If, however, the microfinance activity is carried out by an institution (such as a large commercial bank) that can mobilize significant amounts of equity in a short period of time and whose portfolio is diversified (including various loan products other than microfinance loans), a higher level of indebtedness would be justified and the scoring will be determined on a case-by-case basis by the analyst.

Ability to Raise Equity (Qualitative)

The analyst is not only concerned with the financial solvency of the institution at a given time, but also with the institution's ability to respond to a need to replenish or increase equity. Such a need could arise, for example, as a result of a deterioration in asset quality or because of growth rates that go beyond profits reinvested in the business.

Rating Ability to Raise Equity

Scale	Range
5	The institution has a proven capacity and/or a clear, aggressive, and effective policy for mobilizing a significant amount of equity from the private sector, as evidenced by large equity injections in the past and/or firm commitments for future capitalization.
4	The institution has a clear commitment to obtaining equity from the private sector, but it has not yet achieved this on a significant level. It does, however, have significant support from specialized institutions (multilateral and bilateral institutions) and the capacity to tap into those resources for future capitalization.
3	The institution relies exclusively on internally generated funds to increase its equity base by achieving profits in real terms.
2	The institution is able to maintain its equity base in real terms by relying on donations from individuals, corporations, or development institutions.
1	The institution has no policy with regards to capitalization; its goal is to obtain a cash flow surplus, but it does not aim to maintain the value of its equity in real terms. The institution could possibly tap into monies from development institutions.
0	The value of the institution's equity is being eroded by inflation. It does not have the credibility with third parties that would allow it to tap into resources for future capitalization.

Adequacy of Reserves (Quantitative)

The reserves established by a financial institution are created to absorb losses that have a high probability of occurring and that are separate from the general business risk incurred by the institution. For example, an increase in interest rates on monies borrowed by the institution without the ability to increase its loan rate by a commensurate amount will result—all things being equal—in a reduction in profits. A financial institution is not able to provision for movements in interest rates; this constitutes general business risk.

Among the reserves established by financial institutions are those related to loan losses, foreign exchange fluctuations, and employee benefits. The principal reserve examined under this indicator is the one for loan losses. However, the analyst must also evaluate whether other reserves would be required and attempt to quantify these reserves to determine their impact on the institution's financial statements.

It is important to mention that for-profit financial institutions have an incentive to create reserves because they reduce the institution's tax burden. Thus, regulators have very clear policies regarding the creation of reserves. For a nonprofit institution, however, the tax incentive is not applicable; instead, the institution is generally interested in *not* reducing profits by a loan loss provision and in *not* signaling to donors, via the creation or increase of a reserve, that asset quality is deteriorating.

The analyst will evaluate the sufficiency of the loan loss reserve by taking into account the following:

- CAMEL-adjusted historic loan loss rate,
- Rescheduled loan portfolio,
- Loan portfolio aging schedule, and
- Size of current loan loss reserve.

The reserve adequacy indicator is calculated by dividing the institution's actual loan loss reserve (after CAMEL-adjusted write-offs) by the CAMEL-adjusted loan loss reserve. The CAMEL-adjusted loan loss reserve is calculated by applying set provisioning percentages to the portfolio, based on an aging classification. The provisioning adjustments are shown in Table 3 in Chapter Four. The CAMEL-adjusted provisioning requirements will be harsher if the institution is rescheduling and, in doing so, reclassifying the loan as current. The highest rating for this indicator is obtained by those institutions whose actual loan loss reserve equals 80 percent or more of the CAMEL-adjusted loan loss reserve.

Rating Adequacy of Reserves

Scale	Range
5	over 80 percent
4	60 to 79 percent
3	40 to 59 percent
2	20 to 39 percent
1	0 to 19 percent
0	less than 0 percent

If the analyst has determined, by talking with clients and loan officers, that rescheduling is taking place, but the institution does not keep a record of the amount of the rescheduled portfolio, the analyst will downgrade this indicator by one point to reflect the higher risk in the portfolio.

Most microfinance programs will have other possible future expenses—such as exchange losses for loans denominated in foreign currency or severance pay for employees—that will require the creation of reserves. The analyst must determine whether the institution has made the appropriate reserves and for the appropriate amounts. If the institution is deficient in these other reserves, the analyst can reduce the scoring for adequacy of reserves by one point to account for this deficiency in other reserves. Thus, this indicator is subject to a reduction of two points if the rescheduled loan portfolio cannot be quantified and if other reserves are insufficient.

One supporting indicator—*CAMEL-adjusted loan loss reserve (after write-offs and recoveries) /adjusted loan portfolio*—for reserve adequacy is a frequently calculated ratio for financial institutions. For regulated institutions that are required to provision for loan losses according to specific parameters, this indicator speaks to the quality of their portfolios. However, when provisioning policies are applied very differently among institutions (as is the case in the microfinance sector, which includes both regulated and unregulated institutions), only the adjusted loan loss reserve number will generate an indicator that reveals the quality of the portfolio. The average range for this supporting indicator is one to four percent.

A second supporting indicator—*(adjusted equity + adjusted loan loss reserve)/adjusted past due portfolio > 30 days*—for the reserve adequacy looks at the coverage for delinquent portfolio beyond the loan loss reserve. That is, it quantifies the extent to which equity represents an added cushion against loan losses. This indicator should be a minimum of one or more, meaning that adjusted equity plus loan loss reserves should be greater than the adjusted portfolio > 30 days past due.

ASSET QUALITY

Key Indicator Summary	Weighting (%)
Portfolio at Risk (Quantitative)	**8.0**
Write-offs (Quantitative)	**7.0**
Portfolio Classification System (Qualitative)	**3.0**
Productivity of Long-term Assets (Qualitative)	**1.5**
Infrastructure (Qualitative)	**1.5**
Total	**21.0**

The asset quality of a microfinance institution refers primarily to the quality of the institution's main asset, the loan portfolio, although the productivity of the entity's fixed assets and long-term investments are also important. The combined performance of these assets reflects the quality of the management of the institution's basic business. Whether the

institution is a nonprofit or for-profit entity, the analysis in this area is identical. The type of entity will not affect the performance of the portfolio, nor are the acceptable levels of asset quality adjusted to match the type of entity.

Clear policies for credit and collection, a proven lending methodology, and good monitoring systems alone do not guarantee a low late payment rate. These procedures (discussed later under management area) must be combined with a serious attitude toward repayment—that is, a corporate culture that simply does not tolerate late payment, a quality that is measured in the final results.

The analysis of asset quality is divided into three areas: portfolio quality, which includes portfolio at risk and loan loss rate; portfolio classification system; and other assets, which considers the productivity and appropriateness of the institution's fixed assets and the policy for investing in fixed assets.

The portfolio quality of an MFI is measured in the final results. Therefore, the two key indicators in this area are portfolio greater than 30 days past due and loan loss rate. The portfolio past due indicator shows the percentage of the portfolio that is at risk of nonpayment and indicates potential losses. In contrast, the loan loss rate indicates the level of actual and adjusted write-offs.

Portfolio at Risk (Quantitative)

Historically, MFIs have reported their portfolio at risk as the total amount of payments past due divided by the total portfolio. However, this method underestimates the fact that if a loan has one or more payments past due then not only are those payments at risk of remaining unpaid, but the entire balance of the loan is at risk. Therefore, the more conservative measurement, and the one traditionally used by the banking sector, is to calculate the total balance of loans with payments past due divided by the total portfolio.

For this indicator, the institution is asked to prepare a portfolio aging schedule based on the following categories:

- Current loans—loans that have no payments past due.
- Rescheduled loans—loans that are current but have been rescheduled at some point in the past.
- 1-30 days—loans with a payment or payments past due from 1 to 30 days.
- 31-90 days—loans with a payment or payments past due from 31 to 90 days.
- 91-180 days—loans with a payment or payments past due from 91 to 180 days.
- Greater than 180 days—loans with a payment or payments greater than 180 days past due (not including loans in legal recovery).
- Legal recovery—loans that are in legal collection proceedings.

The CAMEL uses the portfolio greater than 30 days past due (the sum of the aging categories beginning with 31 to 90 days), including loans in legal recovery, to calculate this indicator.

Microfinance loans are typically short-term, averaging 120 days, amortized weekly or biweekly. Therefore, within a 30-day period, anywhere from two to four payments come due on a typical loan.

If an institution has any rescheduled portfolio between zero and 30 days, it should also be added to the numerator of the past due indicator to recognize that it represents a greater risk than the nonrescheduled portfolio that is between zero and 30 days. If the institution is only able to provide a global figure for its rescheduled portfolio, rather than a breakdown of the aging schedule, the analyst should consider 50 percent of the total rescheduled portfolio as part of the portfolio past due for this indicator.[17]

As shown in Annex C, for the 11 Latin American banks listed in Table C-3, the range in terms of overdue loans/gross loans ranged from a low of 1.05 percent in Chile to a high of 11.15 percent in Argentina, with the average of this indicator for the remaining nine other countries at 5.18 percent.

Rating Portfolio at Risk

Scale	Range
5	less than 3.0 percent
4	3.1 to 6.0 percent
3	6.1 to 9.0 percent
2	9.1 to 12.0 percent
1	12.1 to 15.0 percent
0	greater than 15.0 percent

Write-offs (Quantitative)

The loan loss rate is derived by taking the loan write-offs for the period (actual and adjusted, see Adjusting Loan Write-Offs in Chapter Four) net of recovered loans in the period and dividing the result by the "relevant portfolio." The relevant portfolio is an approximation of the outstanding portfolio from which the loans being written off originated. Because a loan that is over 180 days past due would have, at the earliest, been disbursed six months and one week (if payments are on a weekly basis) prior to the date of the aging schedule report, the relevant portfolio would be the average portfolio over a 12-month period, beginning six months prior to the date of the aging schedule report. In other words, if the period for which the write-offs are being performed is September 30, 1997, the relevant portfolio would be the average portfolio (based on monthly balances) between March, 30, 1996, and March 30, 1997.[18]

[17] If the analyst determines that the institution is rescheduling loans but is unable to obtain details on the amount of rescheduled portfolio, one point should be taken off the final Portfolio at Risk rating.

[18] If the analyst determines that the institution is rescheduling loans but is unable to obtain details on the amount of rescheduled portfolio, one point should be taken off the final rating for Loan Loss Rate.

Rating Write-offs (Loan Loss Rate)

Scale	Range
5	less than 2.0 percent
4	2.1 to 3.5 percent
3	3.6 to 5.0 percent
2	5.1 to 7.0 percent
1	7.1 to 10.0 percent
0	greater than 10.0 percent

Portfolio Classification System (Qualitative)

The analytical work in this area requires reviewing the portfolio's aging schedule and assessing the institution's policies associated with preparing that schedule and any additional risk classification used.

Many MFIs are reluctant to prepare an aging schedule of their portfolio, preferring instead to monitor the late payment rate (total payments past due/total portfolio), which understates the true risk of a late payment. Often, the institution is motivated by a desire to present optimistic results to donor agencies.

An aging schedule is prepared to estimate the potential losses associated with loans that are past due. Financial institutions, however, rate the quality of their portfolios not only based on the level of late payment but also taking into account other factors such as the collectibility of guarantees, client history, loan type, and client type. For example, at a typical financial institution, a client who may be current with his or her present loan, but was delinquent on a prior loan, would be classified by the institution as riskier than one who has never been delinquent in the past. In other words, in addition to classifying clients by their current repayment status, they should be classified by other risk factors such as their credit history, existence and quality of guarantees, and so forth. Commercial financial institutions usually classify the riskiness of their borrowers as A, B, C, or D. For a microfinance institution, the risk classification system could be based on observed patterns of loan repayment with regard to specific lines of business (commerce vs. production) or geographic location (rural vs. urban portfolio or specific branches. These classifications could be used not only to establish provisioning rates but to set differential risk-based interest rates.

However, most MFIs do not use a risk classification system, and there are no firm outlines for creating one. Bank regulators in different countries use different criteria. As the microfinance industry continues to develop and become more complex, the need for MFIs to incorporate risk classification systems will become more pronounced.

This analysis is a rating of the method developed by the institution for classifying its portfolio and the effectiveness of estimating losses by comparing real losses to past estimates. Emphasis will be given in the rating on the institution's development of new methods for estimating risk based on their own experience rather than on a predetermined format. The fact that an institution is developing databases that allow it to carry out this type of classification is a key factor in the rating for this indicator.

Rating Portfolio Classification System

Scale	Range
5	The institution has a formal portfolio classification system broken down by level of risk and by aging, which is based on a historical analysis of the specific portfolio classification. Provisions reflect the portfolio classification system that is broken down by risk.
4	The institution has a formal portfolio classification system broken down by level of risk, but based more on intuition than on a historical analysis. The system includes provisions that are not differentiated by risk but instead are based on an analysis of actual late payment rates.
3	The institution has a formal classification system based primarily on the aging of the portfolio.
2	The institution does not have a formal portfolio classification system. However, it has the intention and the available database of information to develop one.
1	The institution does not have a formal portfolio classification system and it lacks the information systems and/or verifiable historical data to create one.
0	The institution does not have a formal portfolio classification system and has neither the information nor the intention of creating one.

MFIs manage other assets in addition to their loan portfolios. These other current assets (such as cash and temporary investments) are analyzed under the liquidity area of the CAMEL. Long-term assets, such as fixed assets and long-term investments, also impact the institution's financial performance.

Productivity of Long-term Assets (Qualitative)

For this indicator, the analyst evaluates the policies for investing in fixed assets. In addition, there should be an analysis of the appropriateness of these investment decisions with respect to productivity and morale among staff, of customer satisfaction, and of the financial impact of the decisions on the institution, both in the present and in the future.

Some aspects to be considered when evaluating fixed assets and long-term investments are as follows:

- Cost savings—For example, renting a building vs. buying one.
- Inflation adjustments—Is the purpose of the investment as a hedge against inflation (see Adjusting for the Effects of Inflation)?
- Guarantees—Are the fixed assets serving the purpose of backing credit lines for the institution?
- Risk—Is there a need to provision for long-term assets or donated goods?
- Actual administration of these assets—Are they underutilized?
- Donations for fixed assets—Are donations that are specifically tied to the purchase of fixed assets being used appropriately, and did the institution do adequate research before making the purchase?
- Cost benefit analysis—Does the institution study the cost/benefit of investing in fixed assets over increasing the loan portfolio, including financing costs?
- Future growth of infrastructure—Is the institution planning appropriately for its future growth needs?

The supporting indicator of total fixed assets/total assets quantifies the institution's level of fixed asset investment in relation to total assets. The typical range for MFIs is 5-10 percent. A high ratio would warrant further investigation as the institution may be investing too heavily in fixed assets, diverting valuable resources from the MFIs main business, lending. However, a new institution may not yet have built up its portfolio in relation to its level of fixed assets.

Rating Productivity of Long-Term Assets

Scale	Range
5	The institution optimizes the utilization of its long-term assets as a result of a thorough cost/benefit analysis
4	The institution manages its long-term assets without a thorough analysis of their impact on the entity. Nevertheless, at this time, this lack of analytical rigor does not pose a risk to the institution.
3	The institution faces possible risks in the future by not analyzing appropriately the consequences of the management of its long-term assets.
2-0	The financial results of the institution are negatively affected by the institution's lack of planning and assessment of its long-term assets.

Infrastructure (Qualitative)

The infrastructure of the institution should be evaluated to determine if it is adequate to meet the needs of both staff and clients. In many cases, especially for NGOs, the infrastructure is inadequate and lacks basic elements to ensure optimal productivity.

Rating Infrastructure

Scale	Range
5	The institution has an infrastructure that guarantees maximum productivity. This includes its physical space and vehicles to transport loan officers. The office space is comfortable for the clients, well located for them, and secure.
4	The institution has an infrastructure that may not guarantee maximum productivity, but is adequate in almost all respects.
3	The institution has an infrastructure that is basically adequate, but with problems that may impede productivity.
2-0	The institution does not have an adequate infrastructure, productivity is affected, and the clients receive poor service as a result of these inadequacies.

MANAGEMENT

Key Indicator Summary	Weighting (%)
Governance/Management (Qualitative)	**6.0**
Human Resources (Qualitative)	**4.0**
Processes, Controls, and Audit (Qualitative)	**4.0**
Information Technology System (Qualitative)	**5.0**
Strategic Planning and Budgeting (Qualitative)	**1.5**
Total	**23.0**

In the initial stages of the microfinance field when the lending methodology was in the development phase, the culture of austerity that characterized the majority of NGOs was an asset and, in fact, was key to demonstrating the financial viability of this activity. Beyond this initial stage, however, only those microfinance institutions that have recognized the need to compete for highly capable personnel and to formalize management processes have been successful in growing without suffering internal crises. Moreover, it is clear that long-lasting success can only be achieved by institutions that have strong governance and strong management. As the microfinance sector faces increasing competition, requiring a more proactive approach on the part of the board and senior management, their vision and leadership are key to the success of the institution in the long term.

Governance/Management (Qualitative)

This area of analysis focuses on the governance of the institution by the board of directors and the management of the institution by its senior management team. The analysis does not differentiate between an NGO board and that of a formal financial institution, which includes individuals or institutions who have invested their own monies and therefore have a financial stake in the MFI. The analyst is concerned with the manner in which board members exercise their responsibility for governance of the institution as measured by the following criteria:[19]

- The *diversity* of the technical expertise on the board including professionals in the areas of finance, law, and marketing, and the *ability and professional experience* of the board members in their respective areas.
- The *independence* of the board vis-a-vis the management of the institution.
- The *frequency* of board meetings (monthly is optimal given the volatility that exists in the microfinance sector and the significant changes taking place in the sector, that is, competition) and the *participation* of board members on a regular basis.
- The *nature of the issues* reviewed and voted upon by the board including portfolio quality, budget, fixed asset acquisitions over certain amounts, and new initiatives.
- The *quality of the information* received by the board from the staff; that is, the degree to which the information is relevant, thorough, and up-to-date. Also, the quality of information received by the board from third parties such as accountants and consultants.
- The *quality of board minutes, which* should include resolutions taken by the board and the actions that the board is recommending to management so as to ensure transparency of operations within the board as well as clarity of communication between the board and management.
- The *structure* of the board and the existence of *term limits*; that is, the extent to which the structure of the board (for example, usage of committees) enhances its effectiveness and efficiency and whether clear policies exist for rotating members off the board.

Although management is reflected in all aspects of the organization, this indicator focuses specifically on the management team. The consolidation of a senior management team is one

[19] This information is obtained by reviewing board meeting minutes and board member CV's, and by discussing these issues with senior management.

of the most important characteristics of a successful institution. This team should possess the requisite qualifications for the responsibilities assumed, the requisite commitment to their work, and the authority to flexibly and effectively make decisions based on technical criteria.

Management styles may differ from one institution to another, but there are elements that are common to all successful microfinance institutions. First, open channels of communication should exist within the institution among all levels of the organization, including constant communication with the client. Second, there should be a keen awareness by management of the key risks facing the institution and of the level of risk it is comfortable accepting (that is, in the loan underwriting process). MFIs might not have formal risk assessment reports, but a strong and pervasive internal control environment should exist. This is evidenced, for example, by management's response to issues raised by internal and external auditors or the degree of care taken when implementing new products, technology, procedures, and so forth.

Rating Governance/Management

Scale	Range
5	The institution has a strong board with excellent and varied technical expertise and experience relevant to microfinance. The board is active and independent of management. The board receives excellent quality information from staff and third parties and has clear decision-making authority over the institution's strategic and key operating decisions. The board makes decisions on a timely basis and disagreements on issues do not impair its cohesiveness. The management team possesses the necessary skills to carry out its responsibilities, is committed to the organization, and is characterized by cohesiveness and clear objectives that are communicated throughout the institution. Communication flows openly at all levels of the organization. Lower level staff are strongly supported by management. Decisions are taken on a timely basis and are based on technical criteria. A strong and pervasive internal control environment exists within the organization.
4	The institution's board functions well, providing adequate governance to the institution. The management team is guided by specific objectives that are clear to those who report to it. Communication tends to be open and flow freely within the organization. Important decisions are taken on a timely basis and grounded in technical criteria. The internal control environment is adequate.
3	The institution's board exhibits some deficiencies in the areas outlined above, resulting in somewhat passive or not very effective governance. The management team lacks clear objectives and is unable to communicate its role to the rest of the institution. The institution exhibits deficiencies in the areas of decision making, communications, and controls.
2	The board and management team have significant deficiencies. There is a poor flow of communication and limited support provided by the management team. Decisions are routinely postponed and are taken based more on intuition than on technical criteria. A clear separation exists between management and the rest of the staff. The internal control environment is poor.
1 and 0	The institution has either a nonfunctioning board or one that rarely meets. Deficiencies associated with management have led the institution to a crisis in terms of staff morale. An open conflict exists between management and the rest of the institution's personnel. Key decisions have either been poorly made, or not made at all. There is no commitment on the part of management to internal controls.

Human Resources (Qualitative[20])

The management of human resources in an institution is carried out by each and every individual with supervisory responsibility. One of the most important functions of the Department of Human Resources (or comparable division) is to provide guidance and support to the operations staff in carrying out their supervisory responsibilities. This guidance should be clearly defined and directly related to the organizational objectives of the institution.

It is also extremely important to evaluate the institution's incentive system for personnel; a well designed system rewards personnel for results that reinforce the credit policies and procedures and, therefore, goes a long way toward ensuring their uniformity and compliance.

Rating Human Resources Policy

Scale	Range
5	The institution's human resources unit is guided by a clear mission, which coincides with that of the organization as a whole, and by a strategy and objectives that have been documented and disseminated within the organization. The unit has the necessary resources (budget, personnel, technology) to pursue its objectives. Recruiting sources have been clearly identified and are sufficient to respond to the projected growth of the institution. The procedures for selecting personnel are effective, efficient, and have been documented. Training is diversified and responds to the needs of personnel at various levels of the organization and has a proven impact. The orientation program is efficient and effective and has been documented. Job descriptions outlining responsibilities for each position are in place, have been documented, updated, and disseminated, and correspond to the actual responsibilities assumed. Personnel policies have been established, documented, and disseminated. A performance evaluation system has been established that is efficient and effective; this has been documented and disseminated to personnel and is currently operative. The institution monitors absenteeism, tardiness, staff rotation, and the working environment in general. Causes for personnel problems are identified and taken into account for decision- making purposes. The employees' benefits package is considered an important asset by personnel. A clear salary scale has been established based on market salaries, is operative, and has been documented. The incentive system is well aligned with the institution's targets and its policies and procedures.
4	The institution has a Human Resources unit guided by a mission, strategies, and objectives that have been disseminated and documented and are in accord with those of the organization as a whole. The unit has the necessary resources to carry out its basic activities. It has identified recruiting sources, and has an effective selection process and diversified training programs that respond to the different personnel needs including an effective entry training program. (All training materials have been documented). Job descriptions are updated, documented, and known to personnel. Established personnel policies and procedures are in place and known to personnel. A job performance evaluation system is operative and known to personnel. The institution monitors absenteeism, client retention, tardiness, and morale. It has an adequate benefits package, and a salary system is in place. The incentive system supports the institution's targets and its policies and procedures.
3	The institution exhibits some deficiencies in the management of the area of human resources. The procedures and mechanisms described above do exist but are somewhat deficient.
2	The institution exhibits weaknesses in the management of human resources; the mechanisms and basic processes described above do not exist. The human resources function is not part of a coherent whole and is carried out within a framework that is erratic.
1	The institution has significant deficiencies in human resources management. These translate into serious problems such as a low personnel retention rate.
0	The institution exhibits no interest in the area of human resources management. Even basic processes have not been established.

[20] A quantitative measure—personnel retention rate, which is personnel at end of period/personnel at beginning of period (12 months prior to end of period) plus new personnel hired between beginning and end periods—is a supporting indicator for this part of the analysis.

Processes, Controls, and Audit (Qualitative)

To achieve a certain magnitude of operations, an MFI needs to formalize policies and procedures so that this activity can be carried out with the level of decentralization that is required in the microcredit industry. Decentralization and standardization of clear and coherent policies and procedures is key to controlling the costs of lending to many tiny businesses and to ensure a good quality portfolio. This indicator focuses on the degree to which the institution has *formalized key processes* as well as the effectiveness with which the institution is controlling risk throughout the organization, as measured by the institution's *control environment*, and the quality of its *internal* and *external audit*.

Formalization of processes

The analyst needs to determine the extent to which the institution has policies and procedures manuals for key functional divisions such as credit, administration, and information systems. The regularity with which these manuals are updated and communicated to staff is an integral component of their effectiveness. The analyst, however, also needs to ascertain whether the institution is monitoring the application of the policies and procedures outlined in the manuals.

The existence of specialized audits and their effectiveness in carrying out the monitoring function needs to be analyzed. A methodological audit, for example, is a key specialized audit function. The poor application of credit methodology is one of the primary factors that negatively affects the quality of the loan portfolio. For example, an institution may feel pressured to reach break-even or enhance profitability by overburdening clients with increased loan amounts that are beyond their ability to repay, thereby increasing portfolio delinquency. A thorough methodological audit will include a review of credit files and client visits to determine if the credit methodology is applied as stated in the institution's credit manual.

Internal Controls

An assessment of *internal controls* encompasses an analysis of the institution's accounting system and its control policies and procedures.

The accounting system comprises the methods and records established to identify, assemble, analyze, classify, record, maintain, and report the institution's transactions and related assets and liabilities. Controls over the accounting system guard against the risk that financial statements may include errors of inaccuracy (such as misposted interest rates and depreciation lives), errors in population completeness (such as not capturing all loans that should be recorded on the system), and fraudulent transactions. Accounting system controls are numerous and include reconciliation procedures (for example, of subledger and subexpense accounts with the general ledger), analytical techniques (for example, the calculation and analysis of interest rate yields as verification of the accuracy of software

applications and comparisons of budgeted data to actual), and the re-verification of data input into the system for accuracy (for example, the comparison of new loan setup for accuracy of recorded interest rate, loan term, repayment terms, name, and so on).

Control procedures are those policies and procedures that management has established to provide reasonable assurance that the institution's transactions are authorized, complete, and recorded accurately and that assets are adequately safeguarded from loss. These policies and procedures fall into four general categories:

- **Performance reviews** that relate different sets of data—operating or financial—to one another such as comparisons of actual to budgeted performance.
- **Information processing** designed to check the accuracy, completeness, and proper authorization of transactions. Two types of information processing policies and procedures exist:
  - General controls over data center operations, system software acquisition and maintenance, access security, and application system development and maintenance that apply to the mainframe, minicomputer, and end-user environments.
  - Application controls that govern the processing of individual applications. These might include reporting, reviewing, and approving reconciliations, and checking the arithmetical accuracy of the records.
- **Physical controls** that protect the institution's assets and records from inappropriate access and loss. For example, the analyst needs to understand the system of loan repayment because, for example, if clients repay at the MFI's branches then the analyst needs to evaluate whether the appropriate security measures have been taken by the MFI to minimize the risk of loss of cash.
- **Segregation of duties** that assign different people the responsibilities of authorizing, recording, and maintaining custody of assets to minimize the possibility that one individual can perpetrate and conceal errors or irregularities in the normal course of their duties.

Internal Audit

A review of internal audit should encompass a review of the *competence* and *objectivity* of the internal auditors, and whether they have the necessary *resources* to carry out their functions.

Assessing the *competence* of the internal auditor and the *resources* available to this function should take several factors into consideration.

- Educational level and professional experience of the internal auditors.
- Quality of the internal audit strategic plan including the evaluation of internal control risk, and the nature, extent, and timing of related audit work.
- Extent to which the internal audit strategic plan addresses the risks identified by management, either formally (in a risk assessment report) or informally.
- Quality of audit programs and procedures to carry out the internal audit strategic plan.

- Quality of work performed.
- Quality of working-paper documentation, reports, and recommendations.
- Extent to which issues raised by external sources (consultants, auditors, and others) have been identified by the internal auditors.
- Quality of established issue resolution procedures. A formal process for management's resolution of control weaknesses identified by internal audit should exist with management's resolution monitored by internal audit.

Assessing the *objectivity* of the internal auditors should take into consideration the organizational status of the internal auditors including whether:

- The internal auditor reports directly to the board of directors or an audit committee that provides guidance on audit scope and support on internal audit findings and recommendations.
- The internal auditor has unlimited and direct access to all areas of the financial institution for purposes of assessing the existence and effectiveness of internal controls.
- The board of directors and/or the audit committee has responsibility for employment decisions related to the internal auditors.

External Audit

An external audit of a microfinance institution should include several factors.

- Adherence by the auditors to either national auditing standards or International Standards of Auditing, and identification by the auditors of the accounting methods used by the microfinance institution.
- A Management Letter with constructive comments to management regarding areas for improvement in the operations and internal controls of the institution.
- Statistical sampling methods to ensure that a representative sample is tested. Branch visits for testing loan portfolio and client visits for testing the loan origination process and for loan confirmation are key to a meaningful audit.

In selecting an audit firm, its independence from those who control the institution being audited is essential. An audit firm that has experience in the microfinance field is also an important element in the selection process.

As a check of the various control mechanisms evaluated, the analyst needs to determine whether the institution has suffered from fraud and, if so, the magnitude and frequency of these occurrences as well as the manner in which the institution responded to them.

Rating Processes, Controls, and Audit

Scale	Range
5	The institution's key policies and processes are documented and updated as needed. They have been communicated to personnel who use them in their day-to-day activities. The incentive system is well aligned with the institution's targets and its policies and procedures. The institution's accounting system has optimal controls and its control policies and procedures are comprehensive and effective, as measured by the rarity of instances of fraud, financial misstatements, and damage to or theft of the institution's assets. The internal audit function is both competent and independent. External auditors are independent, abide by established standards, and produce constructive Management Letters.
4	The institution's key policies and procedures are documented, updated, and used by personnel. The incentive system supports the institution's targets and its policies and procedures. The institution's accounting system has good controls and its control policies and procedures are adequate. Fraud, financial misstatements, and damage to or theft of assets has been minimal. The internal and external audit functions are adequate.
3	Most of the institution's key policies and procedures are documented in manuals and have been updated. Personnel are, for the most part, aware of these manuals and use them in their day-to-day operations. The incentive system has some deficiencies as do the institution's accounting system and control policies and procedures. The institution has had to deal with a few incidences of fraud, misstatements, and damage to or theft of assets. The internal and external audit functions exhibit some deficiencies.
2	The institution has policies and procedures by which it operates in the key areas, but these have not been documented. Personnel have varying interpretations of these policies and procedures. The incentive system has serious deficiencies. The institution's accounting system and control policies and procedures have deficiencies. The institution has dealt with numerous incidences of fraud, misstatements, and damage to or theft of assets. The internal audit function is nonfunctional and external auditors are inadequate.
1-0	There is no uniformity in the application of policies and processes within the institution. The incentive system is perverse. No internal audit function exists. Important deficiencies exist with the external audit. Weak controls have resulted in serious incidences of fraud.

Information Technology System (Qualitative)

A strong information technology system is essential to the efficient management of an institution. For MFIs, the information system falls into two basic categories: accounting and loan tracking. This area of analysis focuses on the extent to which computerized information systems are operating effectively and efficiently, and, ultimately, generating reports for management purposes in a timely and accurate manner. Deficient reports on loan delinquency, for example, will significantly impact the institution's ability to monitor and follow-up on these loans, resulting in a deterioration in asset quality.

To analyze the extent to which computerized information systems are operating effectively and efficiently, two areas should be reviewed:

- The information technology environment; and

- The extent and quality of the specific internal control areas within computerized information systems.

This analysis should be conducted through a review of existing internal documentation, interviews with key technology users, and observation of daily control procedures of the major computer functions (such as loan, accounting/finance, and, if appropriate, deposit systems).

Information Technology Environment

The information technology (IT) environment involves understanding the extent to which processes are computerized (software applications) within the institution, the organizational structure of the computer staff, and the computer hardware configuration utilized including the extent to which on-line terminals and networks are used.

The two primary uses of IT in an institution are in finance (the general ledger) and in lending (the loan portfolio tracking system.) The extent to which these processes are automated may vary. For example, the loan system may or may not be directly interfaced to the general ledger. Furthermore, there is a wide spectrum of automation options in the lending cycle, ranging from automation of the loan documentation process (for example, the use of standardized forms on a word processing system) to a loan application package that allows for the direct interface of a computerized application package to a loan documentation (loan note and disbursement) system and to the lending subledger. The greater the number of direct interfaces, the fewer times the same information (loan name, location, rate, amount, payment structure) is input into the system and the greater the opportunity for efficient transmittal of data between central and branch locations. Perhaps most importantly, at least one individual within each operating department should have a strong understanding of the computer system capabilities and have the ability to make “inquiries” to extract data in specialized report formats.

Organizationally, the information technology staff should report to a fairly senior member of the institution’s management team so that information needs and problems can be addressed quickly and that information technology development can be closely monitored.

The analyst should have an understanding of the extent to which branch locations are linked to a central computer, how the link is accomplished (for example, via satellite), and whether the link is on-line and real-time (that is, transactions are recorded at the branch immediately). The analyst must also determine the extent to which the link updates the applicable software application (loans, general ledger), batches the information (that is, entries are accumulated at the branch site by the computer system and submitted to the central location for processing at predetermined times daily), and memoposts it (entries are noted on the subledger system but not actually posted until later). The use of networks (such as WANs, or wide-area networks), which not only link a given branch with the central office but also link branches to other branches, should also be understood. With this knowledge, the analyst can assess the extent to which the information technology system meets the needs of the institution in an

efficient and cost-effective manner, given the constraints of the local environment and communications system.

Specific Information Technology Controls

After a review of the institution's general control environment has been conducted, four internal control areas should be evaluated.

- **Change Management.** This area encompasses the degree to which the information technology systems can swiftly and flexibly adapt to changing user needs. It includes controls to ensure that changes or upgrades to the computer systems are appropriately authorized, designed, developed, tested, and implemented.
- **Computer Operations.** These controls seek to ensure that daily computer operations are appropriately managed. It also encompasses the existence, adequacy, and preparedness of a disaster recovery plan that is periodically tested for viability and is well understood by potential users.
- **Physical Security.** Security controls ensure that access to the computer, production data, and software is appropriately administered and restricted, and can be reviewed and monitored over time.
- **Application Controls.** Computer programs, user procedures, and user manuals should provide an appropriate means of controlling:
  - Completeness—all transactions (and only those transactions) that should be input into or updated on the appropriate subsystem or system have been;
  - Accuracy—all transaction data are input and updated accurately;
  - Validity and authorization—all transactions are valid and have been appropriately authorized; and
  - Maintenance—all transactions, once updated to the appropriate system and/or subsystem, remain correct and current, unless modified during normal, authorized transaction processing.

The ultimate test of these controls lies in the extent to which reports generated for management purposes are comprehensive, clear, timely, and accurate and the ease with which the system can adjust to changing needs of the organization. The basic reports that microfinance institutions should produce to manage effectively are as follows (minimum periodicity indicated in parentheses, if applicable).

- Balance Sheet and Income Statement, adjusted to reflect CAMEL-type adjustments and nonadjusted, including calculation of key performance indicators (monthly);
- Actual to Budget Comparison (monthly);
- Projected Cash Flow (weekly);
- Aging of Portfolio, broken down by loan officer and branch office (weekly);
- Daily Payments Report, broken down by loan officer (daily);
- Listing of Active Clients, broken down by loan officer. Includes the customer name, amount disbursed, amount and date of next payment, and amount in arrears (weekly);

- Operations Report, indicating loan activity (number and total amount of businesses receiving first loans, number and total amount of businesses receiving follow-up loans), and savings and training activity, if applicable; and
- Staff Incentive Report.

Rating Information Technology Systems

Scale	Range
5	The institution has computerized information systems that generate the reports required to run the institution on a day-to-day basis and to undertake strategic planning. The information generated is both accurate and timely. The system is efficient (within the constraints of the local environment) and cost-effective. Information technology issues are addressed on a timely basis. Operating departments have the ability to extract the required information from the system. Controls, including a disaster recovery plan and physical security for hardware and software, are optimal. The system has the flexibility to respond to new information needs and is capable of meeting the needs of a growing organization.
4	Information systems generate all key reports in a precise and timely manner. Systems are efficient and cost-effective. Controls are in place including a disaster recovery plan, and physical security for hardware and software is adequate. The system has the flexibility to respond to new information needs, but additional investment in hardware or software is required to meet projected needs of the institution.
3	Information systems generate the key reports but these are not always accurate and/or timely. For the most part, systems are efficient, cost-effective, and flexible. Physical security is barely adequate as is the institution's disaster recovery plan.
2	Information systems are capable of generating some of the key reports, but neither on a timely nor an accurate basis. Incidents of a breach of physical security to the hardware or software system have taken place as has information loss.
1 and 0	Information systems are not capable of generating the key reports needed. The institution has dealt with serious damage to the hardware and/or software systems because of poor physical security. Information recovery has also been a problem.

Strategic Planning and Budgeting (Qualitative)

An adequate strategic planning and budgeting system allows an institution to achieve its financial goals with a minimum of pitfalls. Generating comprehensive and precise information for short- (one year) and long- (3-5 years) term purposes is essential to the effective management of the institution. Moreover, the growing competition in many microfinance markets requires that management be a great deal more aggressive and proactive. Thus, strategic planning becomes extremely important in ensuring the viability of the institution in the future.

A strategic planning process starts with the goals and objectives the institution has set for itself—independent of the current obstacles it might face—because the process involves identifying strategies for overcoming these obstacles. Strategic planning requires the participation of all key members of the management team so that the institution can capture

the breadth of inputs required for a meaningful and well-grounded plan. The basic elements in a strategic plan are as follows:

- Identify the elements that differentiate the institution from others of its kind and are responsible for its success. This involves analyzing pricing, products, and service.
- Analyze the environment in which it operates, both at the macro level (the economy and the political situation) and the micro level (its competition and the market segments that the institution reaches or desires to reach; the size and location of the institution's and its competitors' markets).
- Define the institutional objectives.
- Identify the risks and obstacles faced by the institution in reaching these objectives.
- Formulate the strategies that allow the institution to manage risk and overcome obstacles to meet the desired goals.
- Analyze the implications of these strategies in terms of the resources needed (financial, infrastructure, and human resources).
- Translate objectives, strategies, and resources into quantitative terms and, in doing so, checking for internal inconsistencies (such as client growth that does not match the number of loan officers required to service the projected loan volume).

The strategic plan should be a permanent guide in the decision-making process of management. Its relevance, however, will only be maintained over time if the plan is updated when key assumptions have changed.

Although the CAMEL does not penalize institutions that are not increasing the number of clients they service, the analyst should assess whether the assumptions for growth in number of clients serviced by the institution versus those serviced by its competition result in a reduction in the institution's market share. A reduction in market share leaves the institution vulnerable, with potentially negative financial effects. On the other hand, the analyst should also be cautious of projected growth that is excessive such as growth that results from introducing new products on a massive scale without adequate pilot testing.

The annual budget flows from the strategic plan. It serves to guide the institution in its decision-making. On a monthly basis, the institution's actual results should be measured against the budgeted numbers. The extent to which the institution is successful in meeting its budget reflects on the quality of management. When the actual results do not match the budget, the institution should be re-projecting expected results and analyzing the reasons for the deficiencies in meeting budgeted numbers.

Rating Strategic Planning and Budgeting

Scale	Range
5	The institution undertakes a comprehensive and participatory process for generating short- and long-term financial projections, grounded on technical criteria. The strategic plan incorporates an analysis of institutional franchise, goals, obstacles, and strategies, and is based on assumptions that are reasonable and internally coherent and that translate into an increase or maintenance of market share for the institution. The plan is updated as needed and used in the decision-making process. A monthly review of the budget is undertaken by staff and the Board. The budget is a key tool in the decision-making process. The MFI is successful to a large extent in meeting the projected annual budget.
4	The institution undertakes both short- and long-term projections. The strategic plan has some minor deficiencies. Both the plan and budget serve as a guide in the decision-making process. The institution is aware of its positioning with respect to current and future market share.
3	The institution has undertaken some projections, but more as an exercise than as a process for generating information that becomes key to the decision-making process of the institution.
2	In the past, the institution has generated projections, but these have not been updated and, therefore, are not used in the decision-making process.
1	Some aspects of the institution's activities have been projected, primarily in response to donors, but no overall exercise has been undertaken.
0	The institution has no strategic planning process or, if it does, it is entirely for the purposes of obtaining donations.

EARNINGS

Key Indicator Summary	Weighting (%)
Return on Equity (Quantitative)	**5.0**
Operational Efficiency (Quantitative)	**8.0**
Return on Assets (Quantitative)	**7.0**
Interest Rate Policy (Qualitative)	**4.0**
Total	**24.0**

A basic prerequisite for any MFI interested in becoming a financial intermediary is to operate profitably. Unless profitable, the institution will be unable to attract the resources of shareholders or depositors. As in the area of asset quality, the profitability of the institution is measured essentially quantitatively. Profitability is the result of the effective management of pricing, costs, financing, asset quality, liquidity, marketing, human resources, and the like.

For the purposes of the ACCION CAMEL, three quantitative indicators that represent the challenges and objectives of microfinance institutions have been chosen to measure profitability. These are (1) to maintain and subsequently increase net worth (return on equity); (2) to operate with a cost structure that, while more onerous than that of other financial institutions, continues to move closer to the efficiency levels achieved by the traditional financial sector (operating efficiency); and (3) to maintain and increase the institution's return on its asset base (return on assets).

Another important issue related to earnings is the institutional policy on maintaining the real value of equity. Although measurable in the rate of return on equity, the analyst must also assess the institution's attitudes and explicit policies in this area.

Earnings indicators used for the ratings are adjusted for loan loss provision, inflation, accrued interest, and explicit and implicit subsidies (see Adjusting the Loan Loss Provision, Adjusting for the Effects of Inflation, Adjusting for Accrued Interest Income, Adjusting for Explicit and Implicit Subsidies). In addition, there are numerous supporting indicators that can be used when analyzing earnings (Annex D).

Adjusted Return on Equity (Quantitative)

Adjusted return on equity (ROE) is calculated by dividing the adjusted net income of the microfinance activity by the average adjusted equity. This ratio measures the institution's ability to increase its equity base through earnings from operations adjusted for the effects of inflation, appropriate levels of loan loss provisions, accrued interest income, and explicit and implicit subsidies. The result will be a function of the financial margin and the level of operating efficiency, asset utilization, and leverage or debt financing, in relation to equity**.** A return of 0 percent implies that the institution does not generate a return on equity beyond the inflation rate. For the 11 Latin American countries shown in Table C-3 in Annex C, the range in ROE went from a low of -10.6 percent in Mexico to a high of 17.98 percent in Peru, with the average of the remaining nine institutions at 11.8 percent.

Rating Adjusted Return on Equity

Scale	Range
5	above 15.0 percent
4	10.0 to 14.9 percent
3	5.0 to 9.9 percent
2	0 to 4.9 percent
1	(5.0) to (0.9) percent
0	less than (5.0) percent

Operational Efficiency (Quantitative)

A key area of analysis in the CAMEL is operational efficiency, especially for those institutions facing competition in their markets.

Operational efficiency is measured as a percentage of total operating expenses to the average loan portfolio. More than profitability, this indicator measures the efficiency of the institution and allows for monitoring its progress toward the goal of functioning within margins that are closer to those of formal financial institutions. For the 11 Latin American banks in Table C-3, operating expenses/gross loans ranged from a low of 4.7 percent in Chile to a high of 14.3 percent in Brazil. The average of the nine remaining institutions stood at 9.4 percent, significantly lower than the "average-type" performance of a microfinance institution in

Latin America as indicated by the "3" rating below, which would imply a range of between 26 to 30 percent.

Rating Operational Efficiency

Scale	Range
5	Less than 20 percent
4	20 to 25 percent
3	26 to 30 percent
2	31 to 40 percent
1	41 to 50 percent
0	above 50 percent

Undoubtedly, making numerous small loans will always be more expensive than traditional commercial bank lending. However, those institutions that try to operate within the financial intermediary framework where financial margins are relatively inflexible will have to look for a way to maximize the efficiency of their staff and processes. Some MFIs have lacked the competitive pressure to do so, while others simply have not achieved the economies of scale that will allow them maximum efficiency.

Adjusted Return on Assets (Quantitative)

This indicator calculates the adjusted net income of the microfinance activity to average assets. It measures how well the institution's assets are utilized, or its ability to generate earnings with a given asset base. Unlike the adjusted return on equity, this indicator is independent of the level of leverage, or debt financing, employed by the institution.

As Table C-3 shows, ROA ranged from a low of -0.67 percent in Mexico to a high of 1.64 percent in Colombia, with the remaining nine Latin American countries averaging 0.93 percent in terms of return on assets. The "average performance" for microfinance, as reflected in the "3" rating below, is somewhat higher than the 0.93 percent average of the nine Latin American countries, ranging between 1.0 and 1.5 percent. This reflects the assumption of lower leverage in microfinance, while maintaining the need for competitive ROEs to succeed in attracting equity capital.

Rating Adjusted Return on Assets

Scale	Range
5	above 3.0 percent
4	2.0 to 3.0 percent
3	1.0 to 1.9 percent
2	0 to 0.99 percent
1	(2%) to (0.99) percent
0	less than (1.9) percent

Interest Rate Policy (Qualitative)

The analyst should assess management's policies for setting interest rates on microenterprise loans and for deposits, if applicable**.** Interest rates should be set based on an analysis of rates charged by the various sources of funding available to this sector, including both formal and informal lenders, as well as an analysis of the institution's cost of funds and financial margins necessary for achieving the profitability targets of the institution. The analyst should look at actual revisions to interest rates made in the past and the application of the stated policies.

The analytical work for this indicator places emphasis on the institution's policy for setting interest rates and the degree to which the institution anticipates and responds to macroeconomic changes by analyzing and, if necessary, adjusting its interest rates.

Rating Interest Rate Policy

Scale	Range
5	The institution structures its interest rates according to its cost structure including financing and operating costs, loan loss provision, and targeted capital increases. It also takes into account the market rates charged by both formal and informal lenders. The institution adjusts its interest rates aggressively in the face of macroeconomic changes.
4	The institution sets its interest rates based on the market rates of both informal and formal lenders rather than on a technical analysis. However, some cost variables are included in the interest rate set by the institution.
3	The institution sets its interest rates based solely on the market rates for loans charged by both informal and formal lenders, and does not include an analysis of costs.
2	The institution charges bank rates without taking into account its costs.
0-1	The institution charges rates below local bank rates. There is a total lack of technical criteria.

LIQUIDITY MANAGEMENT

Key Indicator Summary	Weighting (%)
Liability Structure (Qualitative)	**8.0**
Availability of Funds to Meet Credit Demand (Qualitative)	**4.0**
Cash Flow Projections (Qualitative)	**3.0**
Productivity of Other Current Assets (Quantitative)	**2.0**
Total	**17.0**

Liquidity is traditionally defined as the ability to meet obligations as they come due. It is the institution's ability to accommodate decreases in funding sources and increases in assets, and to pay expenses *at a reasonable cost.* Microfinance institutions incur liquidity risk in the normal course of operations. Such risk can be planned or unintentional. Various demands on liquidity and specific examples include loan portfolio growth, purchase of fixed assets, withdrawals of deposits, planned runoff of certificates of deposits, dividend payments, scheduled loan payments, salaries, and utility bills.

Liquidity risk from normal operations can be limited by establishing and adhering to specific guidelines on balance sheet composition such as loan to deposit ratios, loans to core deposits ratios, parameters on asset mix, parameters on liability mix, minimum and maximum maturities on asset categories, and funding source limits.

Liquidity risk from unplanned activities can be limited by defining and identifying liquidity sources available to the microfinance institution such as primary and secondary sources of liquidity on the asset side of the balance sheet (cash, short term investments) and prearranged borrowing agreements with other financial services institutions.

While liquidity management focuses on meeting short-term disbursement needs, liability management refers to the general funding strategy over the medium- to long-term.

Liability Structure (Qualitative)

The analyst reviews the composition of the institution's current liabilities including their tenor, interest rate, payment terms, and sensitivity to changes in the macroeconomic environment. The types of guarantees required on credit facilities, the sources of credit available to the MFI, and the extent of diversification of these resources are analyzed as well. This indicator also focuses on the MFI's relationships with banks in terms of leverage achieved based on guarantees, the level of credibility the institution has vis-a-vis the banking sector and/or depositors, and the ease with which it can obtain funds when required.

Gap Ratio for Repricing of Assets/Liabilities

This ratio measures the "gap" between rate-sensitive assets and rate-sensitive liabilities, defined as those that reprice during a specified period of time. It is concerned with the periods when assets and liabilities reprice, rather than with their final maturity. For example, if a loan matures in two years, but every three months the interest rate is set in reference to a spread over a given indicator, then this loan would fall in the period labeled 31-90 days in Table 4 below. If, in this period, the institution has more assets than liabilities that reprice in an environment where interest rates are falling, this situation would constitute a risk for the institution. If interest rates were increasing, on the other hand, this type of mismatch would result in an opportunity to enhance profits. Thus, the ratio needs to be analyzed within the context of the environment in which the MFI operates. Table 4 shows breakdown periods that are useful in calculating the gap ratio and provides an example of this calculation.

Table 4: Example of Gap Ratio Calculation Matrix

	0-30 days	31-90 days	91-180 days	Over 181 days	Total
Assets	50	90	30	5	175
Liabilities	(60)	(50)	(40)	(30)	(180)
Difference(Gap amount)	(10)	40	(10)	(25)	(5)
Gap ratio (Assets/Liabilities)	0.83	1.80	0.75	0.16	0.97

If the gap ratio for a given period is less than one, the risk for the institution lies in a rate increase. If it is more than one, the risk is of a rate decrease. The gap amount can be compared to the total loan portfolio to understand its magnitude. In Table 4, the gap of (10) for the 0-31 day period would be compared to the institution's total portfolio, which, in this case, is the total value of assets that are repricing, or 175, resulting in 5.7 percent.

Maturities Gap

Table 4 can also be used to calculate the gap in maturities. In this instance, the analyst is concerned with the final maturity of the asset or liability. Thus, in Table 4, the loan that actually matures two years from the current period—regardless of when it reprices—is classified in the over 180 day column. If the gap ratio for a given period is less than one, then the institution's concern is with the availability of resources in the system to fund this gap.

Foreign Currency Gap

The foreign currency gap is relevant for institutions that fund or have assets in more than one currency. The analyst is concerned with quantifying the degree to which assets and liabilities in foreign currencies might not be matched to assess the impact of a devaluation or revaluation on the institution. It is useful to express the currency gap as an absolute amount and as a percentage of equity. If the absolute number is positive, then the institution would be at risk of a revaluation; if it is negative, the risk is of a devaluation. The table for calculating the currency gap would look as follows:

	Amount
Foreign Currency Assets	
Foreign Currency Liabilities	
Difference	

Liquidity Ratio

The liquidity ratio includes both "stored" liquidity (cash plus short-term investments) plus that available through overdraft-type lines of credit from other financial institutions, as a

percentage of the end of period loan portfolio. The larger the ratio, the greater the institution's liquidity to fund future growth. However, the magnitude and composition of the stored liquidity will determine whether the institution has achieved an appropriate balance between the goals of liquidity and profitability. If the institution's liquidity is primarily in the form of overdraft facilities and loan commitments, the institution will most probably have enhanced its productivity of other short-term assets (see Productivity of Other Current Assets.

Rating Liability Structure

Scale	Range
5	The institution has a clear financing strategy evidenced by a diversified funding base, minimization of financing costs, and an optimal maturity structure of its liabilities. The institution has ample credibility in the financial system and can easily access significant resources based on documented arrangements with banks and past experience.
4	The institution does have a financing strategy, but it has not been successful in fully implementing it, resulting in a heavy reliance on a few funding sources. This financial structure does not minimize financing costs nor does it result in an optimal maturity structure. The institution has ample credibility with the financial system and access to some future resources, but these arrangements have not been formalized or documented.
3	The institution does not have a clear financing strategy. It has some credibility in the financial system and a limited degree of access to resources from the financial system.
2	The institution does not have a clear financing strategy. It has limited credibility in the financial system and limited accessibility to financial resources from the system.
1	The institution does not have a financing strategy nor access to resources from the financial system, but there is potential for obtaining financial resources.
0	The institution has no financing strategy, no access to resources from the financial system, and no potential for obtaining these resources in the near future.

Availability of Funds to Meet Credit Demand (Qualitative)

Studies on loan delinquency show clearly that restrictions on credit are one of the principal causes of late payment. When the MFI lacks the liquidity to disburse loan funds to clients who are complying with the terms and conditions of their current loans, it creates a strong disincentive for repayment. Microfinance NGOs may suffer added liquidity problems if they depend excessively on donor funds that may be delayed due to bureaucracy. This indicator measures the degree to which the institution has delivered credit in a timely and agile manner.

Rating Availability of Funds to Meet Credit Demand

Scale	Range
5	Borrowers receive their loans in a timely and agile manner.
4	With minor exceptions, the institution is successful at disbursing loans in a timely and agile manner.
3	The institution has occasionally encountered difficulties with timely and agile disbursement of loans. These difficulties have been resolved but with some delay.
2	The institution suffers from frequent liquidity problems that translate into insufficient funds to increase loans as anticipated by borrowers and/or delays in disbursement.
1	At times, the institution stops disbursements for lack of liquidity.
0	The institution frequently stops disbursement because of liquidity problems.

Cash Flow Projections (Qualitative)

This indicator evaluates the degree to which the institution is successful at accurately projecting the overall cash flow requirements of the institution. In assessing this area, the analyst looks at current and past cash flow projections prepared by the microfinance institution to determine whether they have been prepared with sufficient detail and analytical rigor and whether past projections have accurately predicted cash inflows and outflows. For example, in projecting loan demand the institution should differentiate between current and new borrowers, taking into account historical patterns of loan increases for subsequent loans, client desertion rates, and seasonality factors.

Rating Cash Flow Projections

Scale	Range
5	The institution prepares comprehensive cash flow projections that include cash inflows from loan repayment and other sources as well as outflows for credit disbursement and other expenses for periods of 30, 60, and 90 days. These projections have been prepared in a thorough and easily replicable manner and have generated figures that are quite close to the actual numbers.
4	The institution prepares cash flow projections for periods of up to 60 days. These projections have been prepared in a thorough and easily replicable manner and, with few exceptions, have generated results that are close to the actual numbers.
3	The institution prepares cash flow projections for periods of up to 30 days.
2	The institution estimates disbursement needs based on past experiences rather than on the basis of cash flow projections. To date, these estimates have proven to be close to the institution's actual disbursement needs.
1	The institution estimates disbursement needs based on past experience. These estimates have proven to be imprecise.
0	The institution does not estimate disbursement needs.

Productivity of Other Current Assets (Quantitative)

The ratio for determining this indicator is interest income received on cash and cash equivalents over past 12 months/[(average monthly cash + cash equivalent balances -liquidity cushion)*(average three-month CD rate) + (liquidity cushion*average saving rate)].

Liquidity Cushion

This indicator focuses on the management of current assets other than the loan portfolio; primarily cash and short-term investments. At times it is difficult for microfinance institutions to administer their short-term assets efficiently because of constraints imposed by third parties such as donors requiring that funds be kept in a segregated account and invested in a specific manner. A microfinance institution with excessive liquidity may produce earnings below that possible with a properly managed liquidity position if, for example, the institution keeps large cash balances in checking accounts.

The formula for liquidity cushion—*[(operating expenses + financial expenses - depreciation + loan disbursements - loan repayments)/52]* ***** *4*, while intimidating at first glance, is conceptually very simple. It aims to measure whether the MFI maximized the use of its cash, bank accounts, and short-term investments. This implies investing these assets in a timely fashion and at the highest returns, commensurate with liquidity needs. The institution is equally penalized if its liquidity management is too conservative or too aggressive. The examiner compares the interest earned on *cash and cash equivalents* (checking accounts and up to three-month CDs and Treasury notes) to what the institution could have earned (net of bank commissions) if it had invested the *liquidity cushion* component of these funds (as defined above) in a liquid investment and the balance in a more aggressive investment (three-month CDs). The institution's cash outflows included in the *liquidity cushion* are those incurred by the MFI in the past 12 months. This amount is divided by 52 weeks and then multiplied by 4, assuming that four weeks would be an average duration of a liquidity crisis.

Rating Productivity of Other Current Assets

Scale	Range
5	± 0 to 10 percent
4	±11 to 20 percent
3	±21 to 30 percent
2	±31 to 40 percent
1	±41 to 50 percent
0	over 50 percent

ANNEX A

BALANCE SHEET AND INCOME STATEMENT, DEFINITIONS AND FORMAT EXAMPLES

ANNEX A
BALANCE SHEET AND INCOME STATEMENT, DEFINITIONS AND FORMAT EXAMPLES

DEFINITIONS OF BALANCE SHEET ACCOUNTS

ACCOUNT	DEFINITION
ASSETS	
Cash	*Cash on hand and in noninterest-bearing accounts.*
Short-term Investments	*Marketable securities and other liquid investments with durations of less than three months.*
Current Loan Portfolio	*Total principal value of the loan portfolio that is current.*
Loan Portfolio (past due up to 30 days)	*Principal value of loans that have payments between 1 and 30 days past due.*
Loan Portfolio past due over 30 days	*Principal value of loans that have payments more than 30 days past due. This item constitutes an account subject to adjustment (see Adjusting Loan Write-Offs, Chapter Four).*
Gross Portfolio	*Total portfolio before loan loss reserve.*
(Loan Loss Reserve)	*A contra-asset which represents the accumulated provision for loan losses net of write-offs and loan recoveries. This item constitutes an account subject to adjustment (see Adjusting the Loan Loss Provisions and Adjusting Loan Write-Offs, Chapter Four).*
Net Portfolio	*Total portfolio net of loan loss reserve.*
Accounts Receivable	*Various accounts due from external parties.*
Accrued Interest Income Receivable	*Interest earned on the portfolio not yet received. This item constitutes an account subject to adjustment (see Adjusting for Accrued Interest Income, Chapter Four).*
Other Current Assets	*Other short-term assets.*
TOTAL CURRENT ASSETS	
Equipment	*A typical fixed asset account.*
Vehicles	*A typical fixed asset account.*
Property	*A typical fixed asset account.*
Depreciation	*A contra-asset account that represents the accumulated expenses associated with the usage of fixed assets.*

NET FIXED ASSETS	
Revaluation of Fixed Assets	*The cumulative increases in the value of fixed assets resulting from inflation adjustments.*
Other Assets	*Other long-term assets.*
Permanent Investments	*Investments extending beyond one year.*
TOTAL ASSETS	
LIABILITIES	
Bank Overdrafts	*Bank lines that are immediately available to the institution and can be repaid at any time.*
Deposits	*Deposits taken from the public.*
Short-term Loans	*Bank loans that have a set amortization schedule and are due within the next 12 months.*
Accounts Payable	*Accounts owed to vendors and others.*
Benefits Payable	*Employee benefits owed.*
Interest Payable	*Interest owed.*
Other Current Liabilities	*Other short-term liabilities.*
TOTAL CURRENT LIABILITIES	
Long-term Bank Debt	*Long-term (over 12 months) commercial rate bank debt.*
Subsidized Loans	*Long-term loans at rates considerably below market rates.*
Bonds in Circulation	*Bonds issued by the institution.*
Deferred Income	*Revenue deferred to future periods.*
Mortgages	*Loans for the purchase of real estate.*
Reserve for Personnel Benefits	*Reserve for future claims on employee benefits.*
Reserve for Contingencies	*Reserve for other potential claims.*
TOTAL LONG-TERM LIABILITIES	
TOTAL LIABILITIES	
EQUITY	
Capital	*The institution's initial capital base.*

Reserves	*Any special capital reserve required.*
Future Capital Increases	*Capital increases made subsequent to the initial capital.*
Adjustments to Equity	*The accumulated adjustments for inflation and implicit subsidies (see Adjusting for the Effects of Inflation and Adjusting for Explicit and Implicit Subsidies, Chapter Four).*
Capitalization of Subsidized Debt	*The accumulated adjustment for subsidized interest rates (see Adjusting for Explicit and Implicit Subsidies, Chapter Four).*
Prior Period Retained Earnings	*The accumulated net earnings from prior periods.*
Reclassified Donations	*Donations that the institution passes through its income statement reclassified as capital donations.*
Current Period Retained Earnings	*The net earnings from the current period.*
TOTAL EQUITY	
TOTAL LIABILITIES AND EQUITY	

DEFINITIONS OF INCOME STATEMENT ACCOUNTS

ACCOUNT	DEFINITION
OPERATING REVENUE	
Interest Revenue on Loan Portfolio	*Interest earned on the loan portfolio.*
Interest Revenue on Short-term Investments	*Interest earned on short-term investments.*
Fee Revenue on Loans	*Commissions earned on the loan portfolio.*
Training Fee Revenue	*Training fees earned.*
Other Operating Revenue	*Revenue from other client services provided.*
Exchange Rate/Inflation Adjustment	*Gain on the value of fixed assets due to inflation.*
Total Operating Revenue	
CAMEL Revenue Adjustments **Accrued Interest Adjustment**	***See Adjusting for Accrued Interest Income, Chapter Four***
Adjusted Operating Revenue, Microfinance	***Total operating revenue less CAMEL revenue adjustments.***
Financial Expenses	
Interest Expense on Savings deposits	*Interest paid on savings deposits.*
Interest Expense on Bank Loans	*Interest paid for commercial bank loans.*
Interest Expense on Subsidized Debt	*Interest paid for subsidized loans.*
Commissions	
Loan Loss Provision	*The institution's loan loss provision before CAMEL adjustments (see Adjusting the Loan Loss Provision, Chapter Four).*
Other Financial Expense	*Other financial expenses.*
Exchange Rate/Inflation Adjustment	*Loss on the value of equity due to inflation.*
Total Financial Expense	***Total financial expense before CAMEL adjustments.***
CAMEL Financial Adjustments	
Loan Loss Provision Adjustment	***See Adjusting the Loan Loss Provision, Chapter Four.***
Inflation Adjustments	***See Adjusting for the Effects of Inflation, Chapter Four.***
Interest Expense Adjustment for Subsidized Debt	***See Adjusting for Explicit and Implicit Subsidies, Chapter Four.***
Total Financial Adjustments	

Unadjusted Net Revenue, Microfinance Activity	*Total operating revenue less total unadjusted financial expenses.*
Adjusted Net Revenue from Microfinance Activity	*Adjusted operating revenue, microfinance activity less total financial expense less total financial adjustments.*
Operating Expenses (see Adjusting for Scope)	
Salaries	*All employee salaries including incentives, bonuses, and so forth.*
Subsidized Salary Adjustment	***Adjusted salary expense (see Adjusting for Explicit and Implicit Subsidies, Chapter Four).***
Total Adjusted Salary Expense	
External Advisors and Consultants	*Expenses for hiring external services such as lawyers, accountants, and consultants.*
Personnel Training	*Expenses incurred for training of staff.*
Services	*Expenses for utilities, postage, and so forth.*
Materials	*General office supplies.*
Rent	*Rent for office space.*
Subsidized Rent Adjustment	***Adjusted rent expense (see Adjusting for Explicit and Implicit Subsidies, Chapter Four).***
Total Adjusted Rent Expense	
Maintenance and Repairs	*Maintenance and repairs of equipment.*
Transportation	*Includes expenses related to transportation of staff.*
Legal Commissions	*Includes external auditing fees.*
Publicity	*Marketing materials.*
Reserve for Severance and Other Employee Benefits	*Expense related to employee benefits that is accumulated in the reserve for personnel benefits.*
Contingent Expenses	*Expense associated with other contingencies accumulated in the reserve for contingencies.*
Depreciation	*Expense associated with the utilization of fixed assets.*
Amortization	*Expense associated with capitalized costs.*
Insurance	*Payments for insurance.*
Taxes	*Tax payments.*
Others	*Other operating expenses.*

Total Operating Expense, Microfinance Activities Before Operating Adjustments	*Total operating expense before the adjustments of subsidized salaries and rent.*
CAMEL Operating Adjustments	***A summary of the operating adjustments.***
Subsidized Salary Adjustment	
Subsidized Rent Adjustment	
Total Operating Adjustments	
Total Adjusted Operating Expense, Microfinance Activity	***Total operating expense plus total operating adjustments.***
Other Revenue and Expenses	
Donations for Microfinance Activity	*Donations and grants received to fund the microfinance activity.*
Extraordinary Income/Expenses	*Nonrecurring income and expense.*
Unadjusted Net Income, Microfinance Activity	***Unadjusted Net Revenue, Microfinance Activity less Total Operating Expenses, Microfinance Activity plus Other Revenue and Expenses.***
Operational Net Income, Microfinance Activity	***Unadjusted Net Revenue, Microfinance Activity less Total Operating Expenses, Microfinance Activity.***
Adjusted Net Income, Microfinance Activity	***Adjusted Net Revenue, Microfinance Activity less Total Adjusted Operating Expense, Microfinance Activity.***

Sample Financial Statements (Unadjusted and Adjusted)

Year 3

Income Statement

		Before Adjustments	DEBIT	CREDIT	After Adjustments
	Operating revenue				
	Interest revenue on loan portfolio				0
	Interest revenue on short-term investments				0
	Fee revenue on loans				0
	Training fee revenue				0
	Other operating revenue				0
	Exchange rate adjustment				0
A	**Total Operating Revenue, Microfinance**	**354,000**			**354,000**
	CAMEL revenue adjustments				
B	*Accrued Interest Adjustment*		10,238 (21)		10,238
C	**Adjusted Operating Revenue, Microfinance (A-B)**				**343,762**
	Financial expenses				
	Interest expense on savings/deposits				0
	Interest expense on bank loans				0
	Interest expense on subsidized debt				0
	Commissions				0
	Loan loss provision expense				0
	Other financial expense				0
	Exchange rate adjustment				0
D	**Total Financial Expense**	**32,000**			**32,000**
	CAMEL financial adjustments				
	Loan loss provision adjustment		2,890 (1)		2,890
	Inflation adjustment-fixed assets			6,150 (17)	(6,150)
	Inflation adjustment-equity		25,260 (18)		25,260
	Interest adjustment-subsidized debt		27,625 (9)		27,625
E	***Total Financial Adjustments***		55,775	6,150	49,625
F	**Adjusted Financial Expense (D + E)**				**81,625**
G	**Unadjusted Net Operating Revenue, Microfinance Activities (A - D)**	**322,000**			**322,000**
H	**Adjusted Net Operating Revenue, Microfinance Activities (C - D - E)**				**262,137**
	Operating expenses:				
	Salaries				0
	Subsidized salary adjustment				
I	*Total Adjusted Salary Expense*				
	External advisers and consultants				0
	Personnel training				0
	Services				0
	Materials				0
	Rent				0

	Subsidized rent adjustment		3,000 (12)		3,000
J	*Total Adjusted Rent Expense*				
	Maintenance and repairs				0
	Transportation				0
	Legal commissions				0
	Publicity				0
	Reserve for severance and other employee benefits				0
	Contingent expenses				0
	Depreciation				0
	Amortization				0
	Insurance				0
	Taxes				0
	Others				0
K	**Total Operating Expense, Microfinance Activities Before Operating Adjustments**	100,000			**100,000**
	CAMEL operating adjustments				
	Subsidized salary adjustment				
	Subsidized rent adjustment				3,000
L	*Total Operating Adjustments (I + J)*				3,000
M	**Total Adjusted Operating Expense, Microfinance Activities (K + L)**				**103,000**
	Donations for microfinance activity	50,000	50,000 (6)		0
	Extraordinary income/expenses				0
N	**Total Other Revenue and Expenses**	50,000			0
O	**Unadjusted Net Income, Microfinance Activity (G - K + N)**	272,000			0
P	**Operational Net Income, Microfinance Activity (G - K)**	222,000			222,000
Q	**Adjusted Net Income, Microfinance Activity (H - M)**				**159,137**

Summary of accounting entries:
(1) Adjustment to increase loan loss provisioning to CAMEL level
(6) Adjustment to reclassify donations from income to equity
(9) Adjustment to interest expense corresponding to interest rate differential on subsidized loans
(12) Adjustment to operating expense corresponding to subsidized rent
(17) Adjustment to revenue corresponding to inflation adjustment to fixed assets
(18) Adjustment to financial expense corresponding to inflation adjustment on equity
(21) Adjustment to remove interest revenue corresponding to accrued interest

Year 3

Balance Sheet

ASSETS	Before Adjustment	DEBIT	CREDIT	After Adjust.
Cash				0
Temporary investments				0
Current loan portfolio	1,448,000			1,448,000
Loan portfolio, past due up to 30 days	80,000			80,000
Loan portfolio, past due over 30 days	72,000		6,400 (5)	65,600
Gross portfolio	1,600,000			1,593,600
(Loan loss reserve)	(32,000)	6,400 (4)	11,560 (3)	(37,160)
Net portfolio	1,568,000			1,556,440
Accounts receivable				0
Accrued interest income receivable	17,700		14,531 (23)	3,169
Other current assets				0
Total current assets	1,800,000			1,773,909
Equipment				0
Vehicles				0
Property				0
Depreciation				0
Net fixed assets	200,000			200,000
Revaluation of fixed assets		12,150 (15)		12,150
Other assets				0
Permanent investments				0
TOTAL ASSETS	**2,000,000**			1,986,059
LIABILITIES				
Bank overdrafts				0
Deposits				0
Short-term loans				0
Accounts payable				0
Benefits payable				0
Interest payable				0
Other current liabilities				0
Total current liabilities	300,000			300,000
Long-term bank debt				0
Subsidized loans	500,000			500,000
Bonds in circulation				0
Deferred income				0
Mortgages				0
Reserve for personnel benefits				0
Reserve for contingencies				0
Total long-term liabilities				0
TOTAL LIABILITIES	**1,000,000**			1,000,000
EQUITY				
Capital	600,000			600,000
Reserves				0
Future capital increases				0
Adjustments to equity			79,920 (B)	79,920
Capitalization of subsidized debt			52,625 (11)	52,625
Prior period retained earnings	128,000	102,962 (A)	6,000 (16)	31,038
Reclassified donations			64,000 (8)	64,000
Current period retained earnings	272,000			158,477
TOTAL EQUITY	**1,000,000**			986,059
TOTAL LIABILITIES AND EQUITY	**2,000,000**			1,986,059

Summary of accounting entries:	
(3) Adjustment to increase loan loss reserve to CAMEL level	
(4)(5) CAMEL adjusted write-offs	
(8) Reclassification of donations from income to equity	
(11) Capitalized interest differential corresponding to market cost of funds on subsidized loans	
(15) Adjustment to reflect increased value of fixed assets due to full effect of inflation	
(16) Cumulative fixed asset inflation adjustments from prior periods	
(23) Cumulative adjustments to remove accrued interest	
A. Debits to prior period retained earnings:	
(2) Cumulative loan loss provision adjustments from prior periods	8,670
(7) Cumulative donations from prior periods reclassified as equity	14,000
(10) Cumulative interest differential on subsidized loans from prior periods	25,000
(13) Cumulative donated rent from prior periods	6,000
(19) Cumulative equity inflation adjustments from prior periods	45,000
(22) Cumulative accrued interest adjustments from prior periods	4,292
B. Credits to adjustments to equity:	
(14) Capitalization of total in-kind rent donation	9,000
(20) Capitalization of total inflation adjustment	70,920

ANNEX B

CAMEL ADJUSTMENT WORKSHEETS AND INSTRUCTIONS

ANNEX B
CAMEL ADJUSTMENT WORKSHEETS AND INSTRUCTIONS

Each of these adjustment worksheets feeds into a sample balance sheet and income statement (Annex A), showing both unadjusted and adjusted figures for the examples given. The individual accounting entries are numbered on the financial statements to correspond to the entries shown on each adjustment worksheet. The sample financial statements correspond to Year 3, and, therefore, only the adjustments for that year are shown, including, where applicable, the cumulative prior period adjustments. (Note that current year adjustments affect both the income statement and balance sheet, but cumulative adjustments affect only balance sheet accounts.)

Instructions for Worksheet One

The following are step-by-step instructions on how to adjust the loan loss provision including an example of the calculations that correspond to accounting entries on a sample worksheet (Sheet 1), which was used to complete the CAMEL-formatted financial statements found in Annex A. Key indicators affected are listed after the instructions. An aging schedule of the portfolio is prepared with a breakdown of regular and rescheduled portfolio.

> As demonstrated in Sheet 1, the left-hand column for each year corresponds to the portfolio aging for those periods.

Using the appropriate provisioning rates, the provision level for each aging category is calculated. If the microfinance institution's management information system (MIS) shows a significant percentage of the loan portfolio that is rescheduled (the significance of the amount must be left to the discretion of the analyst), a breakdown must be provided on the aging schedule between the rescheduled and nonrescheduled portfolio. The amount provisioned will be larger for the rescheduled portfolio than for the regular portfolio, given the higher risk of the former. If the institution is unable to provide this breakdown, the analyst will fully provision for 50 percent of the rescheduled portfolio amount.

If the rescheduled amount is not tracked by the MIS , but the CAMEL examiners detect from their visits to the head office and branches (interviewing loan officers as well as clients) that the institution has rescheduled a significant amount of the loan portfolio, the provisioning rates for nonrescheduled portfolio will be applied. However, because of the lack of information regarding the aging of the rescheduled portfolio, one point is taken off the Adequacy of Reserves, Portfolio at Risk, and Loan Loss Rate indicators.

> On Sheet 1, the amount calculated in Year 1 is $18,080 compared to the $16,000 loan loss reserve shown on the balance sheet.

Once calculated, the provision amounts for each category are totaled and compared to the actual loan loss reserve on the institution's balance sheet.

The difference between the two reserves represents the amount of the adjustment for the period. If the institution's reserve is larger than the CAMEL adjusted reserve, no adjustment is made.

The difference for Year 1 shown on Sheet 1 is $2,080.

The adjustment amount is debited as an expense under loan loss provision adjustment on the income statement.

The adjustment amount is also credited on the loan loss reserve account on the balance sheet creating an adjusted loan loss reserve.

The procedure is identical for the following periods, except when determining the actual provision for those periods, which will be marginal. To arrive at the marginal adjustment, the loan loss provision calculated for each of the years subsequent to Year 1 is compared to the CAMEL adjusted loan loss reserve, which is the sum of the institution's actual loan loss reserve for that period plus the cumulative CAMEL adjustments from the prior periods.

For example, on Sheet 1 the calculated loan loss reserve required for Year 3 equals $43,560. The difference between this and the CAMEL adjusted loan loss reserve of $40,670 (the institution's actual loan loss reserve in Year 3 of $32,000 plus the cumulative CAMEL adjustments from prior periods of $8,670) equals $2,890.

The resulting difference between these two amounts constitutes the provision adjustment for the period, which is debited under loan loss provision adjustment on the income statement and credited on the balance sheet's loan loss reserve account.

The sum of the prior period adjustments is debited from prior period retained earnings and credited to the loan loss reserve on the balance sheet.

In the example on Sheet 1, the prior period cumulative adjustments to be debited from prior period retained earnings total $8,670 in Year 3. This combined with the current period adjustment of $2,890 results in a total adjustment to the Loan Loss Reserve of $11,560 for Year 3.

Key Indicators Affected:

Adjusted Return on Equity — both net income and equity are adjusted.
Adjusted Return on Assets — net income and total assets are adjusted.
Adequacy of Reserves — this indicator is calculated after adjusting for loan write-offs.
Leverage (Risk Assets/Equity) — both total assets and total equity change.

SHEET 1

ADJUSTING THE LOAN LOSS PROVISION

	Year 3			Year 2			Year 1		
TOTAL LOAN PORTFOLIO	*1,600,000*	CAMEL PROV. (%)	CAMEL PROVISION	*1,200,000*	CAMEL PROV. (%)	CAMEL PROVISION	*800,000*	CAMEL PROV. (%)	CAMEL PROVISION
CURRENT LOANS	1,424,000	0	0	1,020,000	0	0	720,000	0	0
REFINANCED LOANS (CURRENT)	24,000	10	2,400	18,000	10	1,800	0	10	0
LOANS PAST DUE 1-30 DAYS	80,000	10	8,000	60,000	10	6,000	48,000	10	4,800
LOANS PAST DUE 31-90 DAYS	40,000	30	12,000	30,000	30	9,000	24,000	30	7,200
LOANS PAST DUE 91-180 DAYS	9,600	60	5,760	7,200	60	4,320	4,800	60	2,880
LOANS PAST DUE > 180 DAYS	4,800	100	4,800	3,600	100	3,600	2,400	100	2,400
LOANS IN LEGAL RECOVERY<180 DAYS	1,600	100	1,600	1,200	100	1,200	800	100%	800
RESCHEDULED LOANS PAST DUE 1-30 DAYS	12,000	50	6,000	9,000	50	4,500	0	50	0
RESCHEDULED LOANS PAST DUE 31-90 DAYS	4,000	75	3,000	3,000	75	2,250	0	75	0
RESCHEDULED LOANS PAST DUE 91-180 DAYS	0	100	0	0	100	0	0	100	0
RESCHEDULED LOANS PAST DUE > 180 DAYS	0	100	0	0	100	0	0	100	0
RESCHEDULED LOANS IN LEGAL RECOVERY<180 DAYS	0	100	0	0	100	0	0	100	0
TOTAL LOAN LOSS RESERVE REQUIRED ---------->			43,560			32,670			18,080
INSTITUTION'S LOAN LOSS RESERVE			32,000			24,000			16,000
PLUS CUMULATIVE PRIOR PERIOD CAMEL ADJ.			8,670			2,080			0
CAMEL ADJUSTED RESERVE ---------->			40,670			26,080			16,000
ADJUSTMENT CURRENT YEAR			2,890			6,590			2,080
TOTAL CUMULATIVE ADJUSTMENTS			11,560			8,670			2,080

Accounting Entries for Provision Adjustment Year 3:

(1) Debit Loan Loss Provision Adjustment	2,890	
(2) Debit Prior Period Retained Earnings	8,670	
(3) Credit Loan Loss Reserve		11,560

Instructions for Worksheet Two

The following are step-by-step instructions on how to adjust loan write-offs, including an example of the calculations that correspond to accounting entries on a sample worksheet (Sheet 2), which was used to complete the CAMEL-formatted financial statements found in Annex A. Key indicators affected are listed after the instructions.

Based on the aging schedule of the portfolio prepared for the loan loss provision adjustment, the total amount of loans greater than 180 days past due and in legal recovery is determined.

In the example on Sheet 2, this amounts to $3,200 for Year 1.

In the first period analyzed, this amount is credited on the portfolio more than 30 days past due account on the balance sheet, which removes the loans from the portfolio. The amount is also debited from the loan loss reserve account on the balance sheet, which removes these loans from the loan loss reserve.

On Sheet 2, the amount corresponding to Year 1 is $3,200.

The net value of the portfolio will remain the same, and because loans more than 180 days past due are provisioned 100 percent under the loan loss provision adjustment, there is no further adjustment to the income statement.

For the purposes of calculating the loan loss rate, the adjustment in the following years is broken down into two parts. Once the total amount to be written off is identified as described in step 1, the write-offs specific to the period are determined by subtracting the cumulative amount of write-offs from prior periods from the total write-off amount.

As shown in the example on Sheet 2, the total amount to be written off in Year 3 equals $6,400. From this, we subtract the $4,800 that corresponds to the write-off adjustments from prior periods to derive the write-off amount corresponding only to Year 3, which is $1,600.

Key Indicators Affected:

Portfolio past due>30 days/total portfolio
Net write-offs/total portfolio
Operating expense/average portfolio

SHEET 2

ADJUSTING LOAN WRITE-OFFS

	Year 3	Year 2	Year 1
TOTAL LOAN PORTFOLIO	*1,600,000*	*1,200,000*	*800,000*
CURRENT LOANS	1,424,000	1,020,000	720,000
RESCHEDULED LOANS (CURRENT)	24,000	18,000	0
LOANS PAST DUE 1-30 DAYS	80,000	60,000	48,000
LOANS PAST DUE 31-90 DAYS	40,000	30,000	24,000
LOANS PAST DUE 91-180 DAYS	9,600	7,200	4,800
LOANS PAST DUE > 180 DAYS ---------->	4,800	3,600	2,400
LOANS IN LEGAL RECOVERY<180 DAYS ---------->	1,600	1,200	800
RESCHEDULED LOANS PAST DUE 1-30 DAYS	12,000	9,000	0
RESCHEDULED LOANS PAST DUE 31-90 DAYS	4,000	3,000	0
RESCHEDULED LOANS PAST DUE 91-180 DAYS	0	0	0
RESCHEDULED LOANS PAST DUE > 180 DAYS	0	0	0
RESCHEDULED LOANS IN LEGAL RECOVERY<180 DAYS	0	0	0
AMOUNT TO BE WRITTEN OFF AS ADJUSTMENT ------>	6,400	4,800	3,200
LESS PRIOR PERIOD ADJUSTMENTS	4,800	3,200	0
ADJUSTMENT AMOUNT FOR CURRENT PERIOD (to calculate loss rate) ---------->	1,600	1,600	3,200

Accounting Entries for Write-off Adjustment Year 3:

(4) Debit Loan Loss Reserve	6,400	
(5) Credit Portfolio Past Due Over 30 Days		6,400

Instructions for Worksheet Three

The following are step-by-step instructions on how to adjust for explicit and implicit subsidies including an example of the calculations that correspond to accounting entries on a sample worksheet (Sheet 3), which was used to complete the CAMEL-formatted financial statements found in Annex A. Key indicators affected are listed after the instructions.

1. Donations that have been accounted for as operating revenue are identified and reclassified as donations for microfinance activity.

In the example on Sheet 3, a total of $50,000 in donations have been identified as income in Year 3. This amount is debited from the income statement and credited to reclassified donations on the balance sheet. In addition, the donated income from prior periods, which totals $14,000 in this example, is debited from prior period retained earnings and credited to reclassified donations on the balance sheet.

2. Subsidized debt is identified and monthly balances are determined. These balances are averaged to arrive at an average balance for the period.

In Year 3 of the example on Sheet 3, the institution has a single loan (Loan A) of $500,000 at a per annum rate of 7.5 percent. Because the institution cannot capture deposits, the rate is compared to the average local short term lending rate(14 percent) to determine whether Loan A is subsidized. The result of the comparison is that the rate on Loan A is only 54 percent of the average short- term lending rate. Therefore, the loan is considered to be subsidized and needs to be adjusted.

3. The appropriate commercial rate to be applied is determined.

   - If the institution is already accessing commercial lines of credit, then a weighted average of the interest rate on this debt would be the appropriate rate to use.

In the example on Sheet 3, the institution is not accessing any commercial funds.

   - If the institution does not have funding at commercial rates of interest, then the average of the short term loan rate in the financial system should be used.

The rate in the example on Sheet 3 is 14 percent.

4. The chosen rate is then multiplied by the average outstanding balance of subsidized debt. This results in the total amount of interest that would have been paid in the period had the debt been at a commercial rate.

As shown in the example on Sheet 3, the monthly balances of the debt that is being adjusted are averaged, resulting in an average balance of $425,000. This is multiplied by 14 percent to determine the total amount of market rate interest, which equals $59,500.

5. The actual amount of interest paid during the period is subtracted from the calculated amount to arrive at the amount of the adjustment.

> In the example on Sheet 3, the institution paid a total of $31,875 in interest on Loan A during Year 3. The resulting difference between the market rate interest amount and the amount paid is $27,625, which equals the amount of the adjustment corresponding to Year 3.

6. The adjustment amount for subsidized debt is debited as an expense on the income statement and credited under the capitalization of subsidized debt account on the balance sheet.

7. The cumulative adjustments from prior periods are debited from prior period retained earnings and credited to capitalization of subsidized debt.

> On Sheet 3, the cumulative adjustments from prior periods at Year 3 total $25,000. This amount plus the adjustment in Year 3 equals $52,625.

8. In-kind donations, such as free rent or consultancies paid by outside parties, are identified. The value of these services is determined and debited as an expense under the operating subsidy adjustments. Prior period adjustments are debited from prior period retained earnings and the total cumulative adjustments are credited to adjustments to equity.

> On Sheet 3, the example shows that the institution has use of a facility rent-free. The facility is necessary for the institution to function, therefore, an adjustment needs to be made to incorporate the equivalent rent that would have been paid for a similar facility. The amount identified in this case is $3,000 per year. The cumulative prior period adjustments at Year 3 total $6,000, and the total cumulative adjustments for all three years equal $9,000.

Key Indicators Affected:

Adjusted Return on Equity — while the net effect is zero for equity, the reduced net income will reduce ROE.
Adjusted Return on Assets — the adjusted net income side of this equation is affected.
Operational Efficiency — the additional operating expenses resulting from the subsidy adjustments will affect this ratio.

SHEET 3

ADJUSTING FOR EXPLICIT AND IMPLICIT SUBSIDIES

Donations	Year 3	Year 2	Year 1
Total donations identified as revenue on the institution's income statement	50,000	8,000	6,000
Cumulative Prior Period Adjustments	14,000	6,000	N/A
Total Cumulative Adjustments	64,000	14,000	6,000

Subsidized Debt	Year 3	Year 2	Year 1
Total loans to MFI	Outstanding Balance	[?]Interest p.a.	
Loan A	500,000	7.5%	

Rate comparison:	
Institution's average deposit rate	N/A
Average local 3-month CD rate	10.0%
Average local short-term lending rate	14.0%
Comparative rate to use	14.0%
Loan A rate	7.5%
Loan A rate as a percentage of comparative rate (adjust if 75% or less)	54.0%
Rate to be used for adjustment:	
Weighted average rate of institution's commercial credit lines	N/A
Average Local Short-term Lending Rate	14.0%
Monthly balances, subsidized debt	
January	200,000
February	200,000
March	200,000
April	500,000
May	500,000
June	500,000
July	500,000
August	500,000
September	500,000
October	500,000
November	500,000
December	500,000
Average balance	425,000
Average Local Short-term Lending Rate	14.0%
Average balance, subsidized debt	425,000
Market interest amount	59,500

Less actual interest paid	31,875		
Amount of Adjustment, current period	27,625	15,000	10,000
Cumulative Adjustment, prior periods	25,000	10,000	N/A
Total Cumulative Adjustments	52,625	25,000	10,000

Implicit Operating Subsidies

	Year 3	Year 2	Year 1
Free rent identified equivalent to 3,000/yr. = amount of subsidized rent adjustment	3,000	3,000	3,000
Cumulative adjustments prior periods	6,000	3,000	N/A
Total Cumulative Adjustments	9,000	6,000	3,000

N/A = Not applicable.

Accounting Entries for Explicit and Implicit Subsidies Year 3:

(6) Debit Donations for Microfinance Activity	50,000	
(7) Debit Prior Period Retained Earnings	14,000	
(8) Credit Reclassified Donations		64,000
(9) Debit Interest Adjustment, Sub. Debt	27,625	
(10) Debit Prior Period Retained Earnings	25,000	
(11) Credit Capitalization of Subsidized Debt		52,625
(12) Debit Subsidized Rent Adjustment	3,000	
(13) Debit Prior Period Retained Earnings	6,000	
(14)Credit Adjustments to Equity		9,000

Instructions for Worksheet Four

The following are step-by-step instructions on how to adjust for the effects of inflation including an example of the calculations that correspond to accounting entries on a sample worksheet (Sheet 4), which were used to complete the CAMEL-formatted financial statements found in Annex A. Key indicators affected are listed after the instructions.

1. The local and institutional accounting policies for inflation adjustments are studied. If the institution fully adjusts for inflation, no CAMEL adjustment is needed. If the institution does not adjust for inflation at all, the full adjustment will be performed. If the institution partially adjusts for inflation, a marginal adjustment will be performed.

> In the example on Sheet 4, the institution has an accounting policy of using 75 percent of the inflation rate to adjust its net fixed assets and equity. As a result, a marginal adjustment needs to be made.

2. The year-on-year inflation rate for the periods studied is determined.

In the case of the example on Sheet 4, the rate in Year 3 is 12 percent.

3. Average net fixed assets for each of the years studied is multiplied by the corresponding inflation rate. The result is the value of the full inflation adjustment. If the institution does not adjust for inflation, this is the amount that will be used for the CAMEL adjustment. If the institution partially adjusts for inflation, the full adjustment amount is subtracted from the institution's actual inflation adjustment for fixed assets to arrive at the amount of the CAMEL adjustment. The resulting CAMEL adjustment amount is credited on the income statement under inflation adjustment-fixed assets and debited on the balance sheet under revaluation of fixed assets. In the following years, the cumulative adjustments from prior periods are debited on revaluation of fixed assets and credited to prior period retained earnings.

In Year 3 of the example on Sheet 4, the average net fixed assets total $205,000. The full inflation adjustment would be $24,600. From this amount, the $18,450 that the institution has already accounted for (75 percent of the full adjustment) is subtracted to arrive at the marginal adjustment of $6,150. Cumulative prior period adjustments in this case total $6,000 at Year 3, and the total cumulative adjustments equal $12,150.

Average equity for each of the periods studied is multiplied by the corresponding inflation rate. The result is the value of the full inflation adjustment. If the institution does not adjust for inflation, this is the amount that will be used for the CAMEL adjustment. If the institution partially adjusts for inflation, the full adjustment amount is subtracted from the institution's actual inflation adjustment to equity to arrive at the amount of the CAMEL adjustment. The resulting CAMEL adjustment amount is debited as an expense on the income statement under inflation adjustment-equity and credited on the balance sheet under adjustments to equity. In the following years, the cumulative adjustments from prior periods are debited from prior period retained earnings and credited to inflation adjustment-equity.

In the example on Sheet 4, the average equity in Year 3 is $930,000, and the full adjustment amount totals $111,600. From this, the $83,700 that the institution has already accounted for (75 percent of the full adjustment) is subtracted, resulting in an adjustment amount of $27,900. The cumulative adjustments from prior periods at Year 3 total $45,000, and the total cumulative adjustments total $72,900.

SHEET 4

ADJUSTING FOR THE EFFECTS OF INFLATION	Year 3	Year 2	Year 1
Average net fixed assets	205,000		
Year-on-year inflation rate	12.0%		
Total inflation adjustment	24,600		
Institutional policy is to use 75% of the inflation rate to adjust for inflation	18,450		
Full adjustment minus institution's adjustment = CAMEL inflation adjustment for fixed assets for the period	6,150	4,000	2,000
Cumulative Prior Period Adjustments	6,000	2,000	N/A
Total Cumulative Adjustments	12,150	6,000	2,000
Average net worth	930,000		
Year-on-year inflation rate	12.0%		
Full inflation adjustment	111,600		
Institutional policy is to use 75% of the inflation rate to adjust for inflation	83,700		
Full adjustment minus institution's adjustment = CAMEL inflation adjustment to equity for the period	27,900	25,000	20,000
Cumulative Prior Period Adjustments	45,000	20,000	N/A
Total Cumulative Adjustments	72,900	45,000	20,000

N/A = Not applicable.

Accounting Entries for Inflation Adjustment Year 3:

(15) Debit Revaluation of Fixed Assets	12,150	
(16) Credit Prior Period Retained Earnings		6,000
(17) Credit Inflation Adjustment-Fixed Assets		6,150
(18) Debit Inflation Adjustment-Equity	27,900	
(19) Debit Prior Period Retained Earnings	45,000	
(20) Credit Adjustments to Equity		72,900

Instructions for Worksheet Five

The following are step-by-step instructions on how to adjust for accrued interest income including an example of the calculations that correspond to accounting entries on a sample worksheet (Sheet 5), which was used to complete the CAMEL-formatted financial statements found in Annex A. Key indicators affected are listed after the instructions.

1. The analyst studies the institution's accounting policies to determine whether the institution accrues interest on its past due portfolio over 30 days. If not, no adjustment is necessary.

In the example on Sheet 5, the institution does accrue interest on loans that are more that 30 days past due.

2. The amount of interest accrued on the portfolio past due over 30 days for the period is identified. If the institution is unable to provide this breakdown, the analyst must make an estimate by calculating the potential amount of accrued interest on the current portfolio plus portfolio past due up to 30 days. This is done by calculating the interest earned on the current portfolio plus portfolio past due up to 30 days during half of the average repayment period. In other words, if payments are made every two weeks, on average the institution would be accruing up to one week's worth of interest. The resulting amount is then subtracted from the institution's total accrued interest to arrive at the estimate of the accrued interest on the portfolio past due over 30 days.

In the example on Sheet 5, the institution is unable to provide the breakdown of its accrued interest, so an estimate must be made for the adjustment. The institution's annual interest rate is 25 percent, which breaks down to a weekly rate of 0.48 percent In Year 3, the total current portfolio plus the portfolio past due up to 30 days equals $1,552,000. This is the amount of the portfolio for which interest accrual would be allowable under the CAMEL. Loan repayments for this institution's loans are biweekly. Therefore, on average, they could be accruing up to one week's worth of interest. The weekly rate of 0.48 percent multiplied by the portfolio for which interest accrual is allowable, $1,552,000, gives us a total of $7,462 compared to accrued interest totalling $17,700, which has been identified on the institution's financial statements in Year 3. The difference between these two figures, $10,238, equals the amount of the adjustment to be made for Year 3. In other words, it represents an estimate of the amount of interest accruing on the portfolio greater than 30 days past due.

3. The amount of the adjustment is debited from interest revenue on the income statement and credited accrued interest on the balance sheet.

4. For the following periods, the cumulative adjustments from prior periods are debited from prior period retained earnings and credited to accrued interest.

The cumulative adjustments from prior periods in this example total $4,292 at Year 3, and the total cumulative adjustments equal $14,531.

SHEET 5

ADJUSTING FOR ACCRUED INTEREST INCOME

	Year 3	Year 2	Year 1
Institution's annual interest rate	25.0%	25.0%	25.0%
Weekly rate[a]	0.48%	0.48%	0.48%
Total current portfolio	1,448,000	1,038,000	720,000
Portfolio past due up to 30 days	104,000	60,000	50,400
Total portfolio for which interest accrual allowable	1,552,000	1,098,000	770,400
Amount of total accrued interest identified	17,700	8,850	4,425
Less average allowable interest accrual ((weekly rate) * (no. of weeks in repayment period) * (total portfolio for which interest accrual is allowable))/2	7,462	5,279	3,704
Amount of adjustment, current period	10,238	3,571	721
Cumulative adjustments, prior periods	4,292	721	N/A
Total cumulative adjustments	14,531	4,292	721

N/A = Not applicable.

[a] Loan repayments are biweekly.

Accounting Entries for Accrued Interest Adjustment, Year 3:

(21) Debit Accrued Interest Adjustment	10,238	
(22) Debit Prior Period Retained Earnings	4,292	
(23) Credit Accrued Interest		14,531

ANNEX C

COMPARATIVE ANALYSIS

ANNEX C
COMPARATIVE ANALYSIS

The ranges presented in this Technical Note are based on the experience of ACCION International with its affiliates throughout Latin America. Undoubtedly, this is a limited universe and MFIs that do not share the same characteristics as ACCION affiliates will show results that might have to be interpreted differently, given the environment in which those institutions are operating. Robert P. Christen has made an important contribution to the field by beginning to put together peer groups of microfinance institutions. In the first edition of the *MicroBanking Bulletin* (November 1997), Christen analyzed 28 MFIs from different parts of the world, large and small, operating in rural and urban areas with different lending methodologies. All of the 28 institutions included, however, (1) have been in existence for at least five years and (2) cover at least 75 percent of their costs (after adjusting for inflation, subsidies, and loan loss provisioning) from client revenues.

The 28 participating institutions provided financial statements plus they completed a questionnaire about accounting practices, subsidies, liabilities structure, loan delinquency levels, and other topics to allow the above-mentioned adjustments to be made. The information, however, was not verified prior to inclusion in the database. For 6 of the 28 institutions included in the peer groups, the data used was from 1993, originating from a field study done at that time. The criteria that Christen selected were program size, income level of country,[1] region, and lending methodology. Based on these four criteria, he organized the institutions into six peer groups. According to Christen, because the number of MFIs in each peer group is low, the variance of the data is relatively high. Moreover, because these institutions must meet a minimum threshold of financial self-sufficiency for inclusion in the database, great caution should be used in extrapolating performance standards from this data. However, the data exhibited good t-test results. That is, the difference between the mean of the peer group and the mean of all MFIs in the sample was found to be statistically significant for the six peer groups. The peer groups are as follows:

I. *Latin American Microcredit Institutions in Lower- and Middle-Income Countries*—MFIs that use a variety of lending methodologies, but mostly provide some variant of solidarity group lending.

II. *Microbanking Institutions in Middle-Income Countries*—Licensed microbanking intermediaries that operate in countries having GNP per capita around $1,000.

III. *Asian Village-Level Institutions*—MFIs that operate in small villages and use both group and individual lending mechanisms.

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[1] *Upper income* refers to countries with GNP per capita greater than $ 3,000, *middle* to those with GNP per capita of $750-3,000 and *lower* to those with GNP per capita less than $ 750; as per the World Development Indicators tables shown in the *World Development Report* 1996, World Bank.

IV. *Microcredit Institutions in Countries Other than Latin America and Asia*—MFIs in middle-income countries that mostly operate in urban areas and use various credit methodologies.

V. *Latin American Village-Level Institutions*—MFIs that operate in some of their countries' poorest areas, are more rural and village-based than urban, and utilize large-group lending methodologies.

VI. *Latin America Microcredit Institutions in Upper-Income Countries*—MFIs in upper income countries in Latin America, that mostly operate in urban areas and use various credit methodologies.

Table C-1 shows five key quantitative indicators (ratios) calculated for each of the six peer groups. The ratios focus on profitability—adjusted return on assets (ROA), adjusted return on equity (ROE), and total operating expense to average portfolio; the quality of assets—portfolio at risk over 90 days to average loan portfolio; and the capitalization, or level of indebtedness, of the institution—average assets to average equity.

Table C-1: Ratings Of Microenterprise Peer Groups, By Five Key Indicators

Indicator	Peer Group						
	I	II	III	IV	V	VI	All MFIs
Adjusted ROA (%)— Adj. net operating income/Avg. total assets	**7.6**	**2.5**	1.8	-0.8	-2.1	**-6.5**	**1.7**[a]
Adjusted ROE (%)— Adj. net operating income/Avg. equity	**21.9**	**16.1**	6.5	-1.4	-7.9	**-9.1**	**9.0**
Total operating expense/Avg. portfolio[b] (%)	**34**	**22**	14	17	37	**42**	**28**
Portfolio at risk >90 days/Avg. loan portfolio[c] (%)	**3.6**	**1.6**	5.6	2.5	2.7	**5.7**	**3.3**
Average assets/Avg. equity(x)	**2.3**	**5.7**	2.8	1.5	1.9	**5.8**	**3.3**

Source: R. Christen, Economics Institute, Boulder, Colorado, "The Microbanking Bulletin," vol. 1, Issue 1, Nov. 1997.

[a] Outlying observations have been suppressed in Christen's data for adjusted ROA and ROE.
[b] These expenses are actually labeled "administrative," rather than "operating," by Christen. They include salary expense, depreciation, and other administrative costs.
[c] The adjustment for provisions differs from that performed by the ACCION CAMEL. For those institutions in Christen's database, the adjustment is as follows: loans past due 90-180 days (50 percent) and loans past due over 180 days (100 percent).

It is interesting to compare the performance in Table C-1 of peer groups I, II, and VI, which come closest to the type of institution from which the ACCION CAMEL instrument draws its standards, to the ranges included in the ACCION CAMEL for the same five indicators (Table C-2).

Table C-2: ACCION CAMEL Ratings For Five Key Indicators Rating

Indicator	Rating					
	5	4	3	2	1	0
Adj. ROA (%)	over 3	2 -3	1.0- 1.9	0-0.99	(2.0)-(0.99)	less than (2)
Adj. ROE (%)	above 15	10.0 to 14.9	5.0 to 9.9	0 to 4.9	(5.0) to (0.9)	less than (5)
Operating Expenses/ Avg. Portfolio (%)	less than 20	20 to 25	26 to 30	31 to 40	41 to 50	over 50
Portfolio at risk>90 days /Avg. loan portfolio (%)	less than 3	2.1 to 3.5	3.6 to 5.0	5.1 to 7.0	7.1 to 10.0	greater than 10
Avg. assets/Avg. equity (x)	less than or = 6	6.1 to 7.0	7.1 to 8.0	8.1 to 9.0	9.1 to 10.0	over 10.1

NOTE: Portfolio at risk for the ACCION CAMEL includes portfolio past due over 30 days.

The results achieved in Latin America, according to Christen's data, in terms of ROA are quite impressive for two of the three peer groups. The results of peer groups I and II would allow these MFIs to score the highest (five) in terms of ROA under the ACCION CAMEL. As regards ROE, these same two peer groups would also score the highest on the ACCION CAMEL. This is the case *despite* the very low leverage of these two peer groups. That is, it is the extremely high ROA that allows these institutions to generate competitive ROEs even when their level of indebtedness is quite low. This very conservative ratio of assets to equity allows the institutions in peer groups I and II to also obtain the highest score in the capital adequacy area. It is also important to note that the excellent profitability achieved by peer groups I and II is *not* a function of operating efficiencies. Both peer groups respectively would score a three and a four in terms of operating expenses to average portfolio. Finally, the asset quality of the Latin American peer groups in Christen's data is quite varied, ranging from a strong ratio of 1.6 for peer group II (for a five rating under ACCION CAMEL) to 5.7 for peer group VI (for a two rating for ACCION CAMEL).

Beyond the field of microfinance, it is instructive to compare the results of banks in Latin America to the ranges established by CAMEL. Table C-3 shows the key indicators for the entire banking system in each of 11 Latin American countries.

Table C-3: Five Key Indicators for Banking Systems in Latin America, By Country, as of December 31, 1996

Country	ROA (%)	ROE (%)	Operating expenses/Gross loans (%)	Overdue Loans/Gross loans (%)	Assets/Equity (x)
Argentina	0.41	2.99	5.3	11.15	7.3
Bolivia	0.79	11.78	5.5	4.59	14.8
Brazil	-0.45	-5.24	14.3	5.25	11.6
Chile	0.91	15.08	4.7	1.05	16.6
Colombia	1.64	10.49	13.0	7.05	6.4
Dom. Republic	1.42	15.99	10.7	3.35	11.2
Ecuador	1.08	5.85	12.6	5.82	5.4
Guatemala	1.16	14.57	11.4	5.59	12.6
Mexico	-0.67	-10.60	5.8	6.79	15.8
Nicaragua	0.99	16.79	10.5	2.98	17.0
Peru	1.62	17.98	9.9	5.22	11.1

Source: *Latin Banking Guide and Directory 1997-1998,* Latin Finance, July/August 1997.

The main profitability indicators—ROA, ROE, and the ratio of operating expenses to loans—have been included as well as the level of capitalization and portfolio quality. When comparing CAMEL ranges for ROE to the performance of Latin American banks, one notes that the highest ranges established by CAMEL coincide with the highest averages per country in the traditional banking sector in Latin America. On the other hand, the top range for ROA established by CAMEL exceeds the country averages of Latin American banks. In terms of the efficiency indicator, the reverse is true. The top performers as rated by CAMEL would exhibit efficiency indicators significantly worse than the highest averages, per country, achieved by Latin American banks because of the nature of the microlending business. The levels of indebtedness for the top performers, as per CAMEL, have a ceiling that is significantly below the average for the banking system of the majority of countries. Finally, stringent targets have been set for portfolio quality for MFIs as compared to the results achieved by Latin American banks, as measured by overdue loans to gross portfolio.

Yet another comparison is that of the CAMEL ranges to the performance of U.S. banks. Table C-4 shows five key quantitative indicators for a sample of 48 U.S. banks as of December 1996. The indicators with asterisks include large money center banks (8), major regional banks (21), and regional banks (19); those without an asterisk apply only to U.S. regional banks (the 19 regional banks included in this data had an average asset size of $15 billion as of December 1996).

Table C-4: Five Key Indicators for U.S. Banks, as of December 31, 1996

Indicator	Average	Range
Return on assets (%)	1.25	0.9 to 1.8
Return on equity (%)	15.12	10.6 to 21.4
Noninterest expense/Avg. portfolio* (%)	5.94	N/A
Net charge-offs/Avg. portfolio* (%)	0.58	N/A
Assets/Equity (x)	11.90	7.9 - 18.2

Source: *Industry Surveys*, (Banking Industry Survey, November 20, 1997); a publication of Standard and Poor's Equity Research Department.

N/A = Not applicable.

ANNEX D

SUPPORTING INDICATORS FOR EARNINGS

ANNEX D
SUPPORTING INDICATORS FOR EARNINGS

1. *(Adjusted Net Income, Microfinance Activity/Unadjusted Net Income, Microfinance Activity)*100*

This indicator allows the analyst to compare the effects of the CAMEL adjustments on the reported profitability of the institution. It quantifies the magnitude of the adjustments, with a lower percentage indicating a bigger gap between the adjusted results and the nonadjusted results.

2. *Financial Self-Sufficiency: Adjusted Net Operating Revenue, Microfinance Activities/Total Adjusted Operating Expense, Microfinance Activities*

When the institution is not generating a positive return on assets (ROA) or return on equity (ROE) after adjustments, this indicator quantifies the extent to which there is a shortfall. For example, an institution with a negative ROA or ROE might have a financial self-sufficiency indicator of 95 percent, indicating that it is very close to covering all costs associated with the microfinance operation, including the CAMEL adjustments.

3. *Adjusted Financial Margin: Adjusted Net Operating Revenue/Average Loan Portfolio*

This indicator quantifies the margin available to the institution to cover operating expenses. If the institution is operating with little competition in the microfinance sector, this ratio tends to be very high.

4. *Adjusted Interest Revenue on Loan Portfolio + Fee Revenue on Loans/Average Loan Portfolio; and Interest Revenue on Short-term Investments/Average Short-term Investments*

These two indicators isolate the factors that affect the adjusted financial margin by quantifying the return on the average loan portfolio and that on average short-term investments.

5. *Total Loan Officer Salaries/Average Loan Portfolio; Total Operating Expenses, Agencies/Average Loan Portfolio; Total Operating Expense, Head Office/Average Loan Portfolio;* **and** *Number of Field Personnel/Number of Administrative Personnel*

These indicators begin to identify where operating inefficiencies might lie within the MFI. A ratio of adjusted operating expenses to average loan portfolio of 20 percent is a strong one for MFIs. In the more efficient MFIs within the ACCION network, this ratio usually breaks down differently depending on the size of loan officer salaries, total agency operating expenses, or total head office operating expenses (Table D-1).

Table D-1: Ranges For Ratios Of Various Operating Expenses To Average Portfolio

Indicator	Percent
Total loan officer salaries/Average portfolio	8
Total operating expenses, Agencies/Average portfolio	6
Total operating expenses, Head Office/Average portfolio	6

These ranges are based on the assumption that an optimal balance between the number of field personnel and the number of personnel in an administrative capacity is 2:1. For the purposes of this indicator, the numerator (field personnel) includes loan officers, collection agents, marketing officers, and agency/branch heads (if they report to operations rather than administration). As defined here, administrative personnel is the difference between total personnel and field officers.

If the analyst determines that the range for head office or agency expenses in relation to average loan portfolio is too high, the reason is either high salaries for administrative personnel, inefficient processes that inflate operating expenses beyond target levels, or both. On the other hand, if the ratio of loan officer salaries to average portfolio is out of line, too high for example, then any of three factors, or a combination thereof, could have given rise to this situation: (1) low physical productivity of the average loan officer, (2) high loan officer salary, and (3) low outstanding loan balance per client. The next four indicators assist the analyst in better understanding these factors

6. *Number of Active Borrowers at End of Period/Number of Loan Advisors at End of Period*

This indicator measures the physical productivity of the loan officer. The number of borrowers serviced by each loan officer will vary according to the density of microfinance clients in the region and the lending methodology employed by the institution. For institutions using the solidarity group lending methodology, a ratio of 85 groups, or 340 borrowers assuming four borrowers per group, would be an appropriate target. For institutions using the individual lending methodology, an appropriate target would be 250 clients.

7. *Personnel Retention Rate: Administrative Personnel at End of Period/Administrative Personnel at Beginning of Period (12 Months Prior to End of Period) Plus New Administrative Personnel Hired between Beginning and End Period; and Field Personnel at End of Period/Field Personnel at Beginning of Period (12 Months Prior to End of Period) Plus New Field Personnel Hired between Beginning and End Period.*

A high ratio indicates that the institution is successful in retaining personnel, which is an indirect way of measuring whether compensation is adequate. Low compensation would tend to result in high rotation, unless there is significant unemployment in that country.

8. *Total Amount of Credit Disbursed during the Period/Number of Credit Operations = Average Loan Disbursed; Average Loan Disbursed/Minimum Monthly Wage*

A comparison of the average loan disbursed to the minimum monthly wage in that country allows the analyst to measure whether the microfinance market is being serviced or if the institution has moved above or below this market. In Latin America, this multiple averages between 5 and 10 times. If the indicator is below five times, then the low average loan size might be the reason for the low financial productivity of the loan officer.