Definitions of Selected Financial Terms Ratios and Adjustments for Microfinance

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IMPORTANT

This set of definitions was not meant to be a template for financial reporting by microfinance institutions, and should not be used for that purpose. For the most part, indicators were included in this document because they presented definitional issues, not because they were necessarily preferred indicators for financial reporting.

SEEP will be publishing a guide to financial reporting by, and analysis of, MFIs late in 2002.

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Introduction

The evolution of the microfinance industry has led to a greater focus on the financial viability of microfinance institutions (MFIs). A variety of measurements have been used to measure MFI performance, many of which have been recognized as standard indicators. On closer examination, it is evident that these standard indicators are being calculated and applied in many different ways. This has led to confusion among practitioners and analysts, as well as to considerable distortions when comparing MFIs. The industry recognizes this deficiency and agrees that developing standard definitions of financial terms and some common indicators is an important next step in its development. This step would make comparisons between MFIs more meaningful and promote more transparency in MFI reporting. Transparency is increasingly important in the industry as mature MFIs look to commercial funding sources and investors to support their growth. It is anticipated that this paper will be a step in creating a standard terminology for several financial terms and ratios within the international microfinance industry.

The terms and ratios presented here mostly include those that the authors believed were not only commonly used, but also the subject of some confusion. This document is intended for an audience that has some basic familiarity with accounting terms, financial statements, and microfinance institutions. The primary objective of this document is to put forward standard definitions for the selected financial terms, and suggest a standard method of calculating certain financial ratios. The document is divided in three sections including (I) a list of financial terms and definitions, (II) a description of financial ratios and (III) a brief discussion and description of financial adjustments.

The contributors to this effort recognize that it is not possible for all microcredit providers to use the same accounting standards and chart of accounts, which are frequently dictated by local practices and internal needs. To be clear, this document should not be used as a substitute for a chart of accounts or accounting policies. It is also not intended to be a financial analysis guide, as analysts will normally use other financial indicators and information beyond what is contained in this document. There are many reference materials for MFIs and analysts, several of which are listed at the end of this document.

The intent of this document is to establish standard or default definitions for some commonly used terms and ratios. MFIs may reference the document when reporting to external sources to indicate if the MFI's reports follow the document standards. If an MFI does not wish to use the document's definition or formula suggestion, it can use the document as a point of reference to explain how the its definition or formula differs from the standard. In the coming year, the SEEP Network intends to develop a more comprehensive guide for financial terms, ratio and adjustments that will guide MFI managers on how to categorize accounts and calculate key ratios and adjustments.

This section defines certain key financial accounts used by MFIs. The definitions are provided in two main sections, (1) those found on the income statement; and (2) those found on a balance sheet. There are additional definitions included that will assist the reader in understanding the formulas for the financial ratios. Most are presented in the order in which they would appear on the financial statement.

I. Financial Terms

Income Statement

The income statement is also known as the profit and loss statement. It is a flow statement that summarizes all financial activity during a stated period of time, usually a month, quarter or year. It displays all revenues and expenses for a stated period of time. The bottom line of an income statement is the net income (or net profit or surplus) for the period.

The terms *revenue* and *income* are frequently used interchangeably as are the terms *income* and *profit*. For the sake of consistency, this document refers to all gross proceeds as revenue, such as *interest and fee revenue*. All net proceeds are referred to as income, such as *net operating income*. MFIs which choose to use the terms *interest and fee income* and *net operating profit* are free do so, but should recognize that these accounts are defined under different names in this document. An asterisk (*) is used to indicate those terms that may also be referred to as *income*.

1.1 **Financial revenue* from loan portfolio** – revenue from interest earned, fees and commission (including late fees and penalties) on the gross loan portfolio only. This item includes not only interest paid in cash, but also interest accrued but not yet paid.

1.2 **Financial revenue* from investments** – revenue from interest, dividends or other payments generated by financial assets other than the gross loan portfolio, such as interest-bearing deposits, certificates of deposits and treasury obligations. This includes not only interest paid in cash, but also interest accrued but not yet paid.

1.3 **(Total) Financial revenue*** – includes I1 and I2, revenue generated from both the gross loan portfolio and investments.

1.4 **Interest and fee expense on funding liabilities** – all interest, fees and commissions incurred on deposits accounts of clients held by the MFI as well as commercial or concessionary borrowings by the MFI that are used to fund all financial assets. It generally does not include interest expense on liabilities that fund fixed assets (B14), such as mortgage or leasing interest. It includes accruals as well as cash payments.

1.5 **Financial expense** – all interest, fees and commissions incurred on all liabilities (B14), including deposit accounts of clients held by the MFI (B11), commercial and concessional borrowings (B12, B13), mortgages, and other liabilities. It may also include facility fees for credit lines. It includes accrued interest as well as cash payment of interest.

1.6 **Loan loss provision expense** – a non-cash expense that is used to create or increase the loan loss reserve (B5) on the balance sheet. The expense is calculated as a percentage of the value of the gross loan portfolio that is at risk of default. It

is common to use the term loan loss provision and loan loss reserve interchangeably. To avoid confusion between this expense and the loan loss reserve, analysts prefer to use the term *reserve* for the balance sheet account, and the term *provision* only for the expense account. It is also helpful to include the word *expense* when referring to this latter account.

1.7 **(Total) Operating revenue* –** includes all financial revenue (I3) and other operating revenue. Other operating revenue is that which is generated from other financial services, such as fees and commissions for non-credit financial services that are not considered financial revenue. This item may include revenues linked with lending such as membership fees, ATM card fees, transfer fees, or other financial services such as payment services or insurance. Operating revenue may include net foreign currency gains/(losses). (See Section III for more information on recording this expense).

Operating revenue does not include any revenue that is not generated from the MFI's core business of making loans and providing financial services, such as merchandise sales (see I12). However, if the MFI views training as an integral element of the financial service it provides, then training revenue would be included in Operating Revenue

1.8 **Personnel expense** – includes staff salaries, bonuses, and benefits, as well as employment taxes incurred by the MFI. It is also referred to as *salaries and benefits* or *staff expense*. It may also include, and/or costs of recruitment and initial orientation. It does not include on-going or specialized training for existing employees, which is an administrative expense.

1.9 **Administrative expense** – non-financial expenses directly related to the provision of financial services or other services that form an integral part of the MFIs financial services relationship with its clients. Examples include depreciation, rent, utilities, supplies, advertising, transportation, communications, and consulting fees. It does not include taxes on employees, revenues, or profits, but may include taxes on transactions and purchase, such as value-added taxes.

1.10 **(Total) Operating expense** – includes all personnel expense (I8) and administrative expenses (I9), but excludes all financial expenses (I5) and loan loss provision expense (I6). It does not include expense linked to non-financial services (see I13). The authors recognize that it is common to refer to the sum of all expenses from operations (i.e. financial and loan loss provision expenses) in the definition of this term, just as operating revenue includes all revenue from operations. However, the definition proposed here corresponds with the commonest usage in banking.

1.11 **Net operating income** – total operating revenue (I7) less all expenses related to the MFI's core financial service operations, including total operating expenses (I10), financial expenses (I5), and loan loss provision expense (I6). It does not include donations, revenues expenses from non-financial services. Many MFIs choose not to deduct taxes on revenues or profits from the net operating income; rather they are included as a separate category (I14). MFIs are encouraged to indicate if taxes are included in this account.

1.12 **Non-operating revenue*** – all revenue not directly related to core microfinance operations, such as revenue from business development services, training, or sale of merchandise. Donations and revenues from grants are also be considered non-operating revenue, but it is recommended that they be included in their own account. It is strongly recommend that MFIs with significant non-operating revenue or expenses should produce a segmented income statement, organized so as to show net operating income (I11), net non-operating income (I12-I13), and consolidated net income. At a minimum, MFIs should provide a footnote detailing non-operating revenue, if it is significant.

1.13 **Non-operating expense** – all expenses not directly related to the core microfinance operation, such as the cost of providing business development services or training (unless the MFI includes training as a requirement for receiving loans). This may also include extraordinary expenses, which are one-time expenses incurred by the MFI that are not likely to be repeated in coming years. When MFIs have significant non-financial programs, it is common to use segment reporting if possible or, at a minimum, provide a footnote detailing non-operating expenses if they are significant.

1.14 **Taxes** – includes all taxes paid on net income or other measure of profits as defined by local tax authorities. This item may also include any revenue tax. It excludes taxes related to employment of personnel, financial transactions, fixed-assets purchase or other value-added taxes, (which should be included in operating expenses).

1.15 **Net income** – total revenue less total expenses, operating and non-operating, including all donations and taxes, if any. Some MFIs prefer to present net income before donations and taxes. If so, the MFI should label it as such (such as *net income before donations*).

Balance Sheet

The balance sheet is a stock statement, which is a snapshot of the MFI at a moment in time. The statement reflects what the MFI owns and what is owed to it (assets), what it owes others (liabilities), and the difference between the two (equity or net assets). The balance sheet shows the net worth of an institution at that moment.

When referring to balance sheet accounts, *short-term* refers to any account or portion of an account that is due or matures within 12 months. *Long-term* loan portfolio is an account or portion of an account that is due or matures after 12 months.

2.1 **Gross loan portfolio** - the outstanding principal balance of all of the MFI's outstanding loans including current, delinquent and restructured loans, but not loans that have been written off. It does not include interest receivable. Although some regulated MFIs may be required to include the balance of interest accrued and receivable, the MFI should provide a note that provides a breakdown between the sum of all principal payments outstanding and the sum of all interest accrued. Some MFIs choose to break down the components of the gross loan portfolio (see B2, B3, B4).

The gross loan portfolio is frequently referred to as the *loan portfolio* or *loans outstanding*, both of which creates confusion as to whether they refer to a gross or a net figure. The gross loan portfolio should not be confused with the value of the loans disbursed (see P1 below).

2.2 **Performing portfolio**– is part of the gross loan portfolio which includes the value of all loans outstanding that do not have a principal installment of principal past due beyond a certain number of days and have not been rescheduled or restructured (see B4). It does not included accrued interest. A standard of ≤ 30 days is common, but regulations may require MFIs to use a different standard. The MFI should state clearly what the definition of the performing portfolio is.

2.3 **Portfolio-at-risk** –the value of all loans outstanding that have one or more installments of principal past due more than a certain number of days. This item includes the entire unpaid principal balance, including both the past due and future installments, but not accrued interest. It also does not include loans that have been restructured or rescheduled. Portfolio at risk is usually divided into categories according to the amount of time passed since the first missed principal installment (see PAR ratio in Section II).

2.4 **Loan loss reserve** – the portion of the gross loan portfolio that has been expensed (provisioned for) in anticipation of losses due to default. This item represents the cumulative value of the loan loss provision expenses (I6) less the cumulative value of loans written off (P5).

It should be noted that the loan loss reserve is usually not a cash reserve, but rather an accounting device to provide the reader information about the size of the anticipated loan losses from. The reserve is built up from specific provision expenses related to the portfolio at risk (B3) or in some cases general provision expense against the entire gross loan portfolio (B1).

2.5 **Net loan portfolio** – is the gross loan (B1) portfolio less the loan loss reserve (B5).

2.6 **Net fixed assets** – the purchase value or cost of all physical property and property improvements, furniture, and equipment that are currently used by the MFI (including all donated equipment) less cumulative value of all depreciation expenses and the value of gross fixed assets that have been fully written-off, sold, or retired in the current and previous periods. Fixed assets may also include *intangible assets*, such as goodwill, or up-front investments in product or MIS development, which have no physical properties but represent a future economic benefit to the MFI.

2.7 **Total assets** – includes all asset accounts net of all contra asset accounts, such as the loan loss reserve and accumulated depreciation.

2.8 **Financial assets** – non-physical assets whose value is denominated in currency. It includes cash, bank accounts, investments, the net loan portfolio (B6), and other receivables. It does not include net fixed assets.

2.9 **Earning assets** – all financial assets that generate financial revenue. Examples include investments and the gross loan portfolio (B1). Cash and current bank accounts are not considered earning assets unless a current bank account, such as a demand deposit account, is interest bearing.

2.10 **Deposits** – the total value of funds placed in an account with the MFI that is payable on demand to the depositor. This item includes any current, checking, or savings accounts that are payable on demand. It also includes time deposits, which have a fixed maturity date.

2.11 **Commercial borrowings** – funds received by the MFI through a loan agreement or other contractual arrangement that carry a market rate of interest. Commercial borrowings include loans, lines of credit, and overdraft facilities with outstanding balances, but do not include deposits. While definitions of market rate vary, a common benchmark is the rate that local commercial banks pay on time deposits of 90 days or more. The MFI should note what benchmark it uses to determine if a borrowing is at a market rate, and therefore commercial.

2.12 **Concessional borrowings** – funds received by the MFI through a loan agreement or other contractual arrangement that carry a below market rate of interest (see B12 for definition of market rate). The MFI should note what benchmark it uses to determine if a borrowing is below market, and therefore concessional.

2.13 **(Total) Funding liabilities** – all liabilities used to finance the MFI's financial assets. Funding liabilities include deposits (B11) and borrowings (B12, B13), but do not include accounts payable, or borrowings (or any portion thereof) that are used to finance fixed assets (such as equipment financing or mortgages).

2.14 **Total liabilities –** all the liability accounts representing everything that the MFI owes to others, including all deposits, borrowings, accounts payable, and other liability accounts.

2.15 **Donated equity** – accumulated donations that carry no restrictions. MFIs use different methods for calculating donated equity. For most, donated equity includes all donations, regardless of their use. For others, donated equity includes only in-kind donations and donations for financing the gross loan portfolio or fixed assets. All donations for operating and non-operating expenses are included in retained earnings. MFIs should indicate what donations are included in donated equity.

2.16 **Total equity** –total assets less total liabilities. It is also the sum of all of the equity accounts net of any equity distributions such as dividends, stock repurchases, or other cash payments made to shareholders.

Additional Terms

There are a number of additional terms that are frequently used by MFIs and are necessary to calculate financial ratios. Many of these terms would appear on an MFI's quarterly or annual report or on its portfolio report.

3.1 **Value of loans disbursed** –the value of all loans disbursed during the period, regardless of whether they are performing, non-performing or written off. This value should not be confused with gross loan portfolio (B1), which can be several times less than the value disbursed.

3.2 **Number of loans disbursed** – the number of loans disbursed during the period. For MFIs using a group lending methodology, the number of loans should refer to the number of individuals receiving part of a group loan, unless the MFI specifies a different definition.

3.3 **Number of loans outstanding** – the number of loans that have been neither fully repaid nor written off, and thus that are part of the gross loan portfolio (B1). As noted above, for MFIs using a group lending methodology this term includes every individual who is responsible for repaying a portion of a group loan, unless another definition is specified

3.4 **Value of payments in arrears** – the sum of all principal payments that are past due. It does not include past-due interest. This item is also referred to as *total arrears* and should not be confused with portfolio at risk (B3).

3.5 **Value of loans written–off** –the value of loans that have been recognized for accounting purposes as uncollectable. The process of recognizing an uncollectable loan is called a *write-off* or a *charge-off*. A write-off is an accounting procedure that removes the outstanding balance of the loan from the gross loan portfolio (B1) and from the loan loss reserve (B5). Thus the write-off does not affect the balance of the net loan portfolio (B6), total assets (B8), or any equity account, unless the loan loss reserve was insufficient to cover the amount written off. Most MFIs have policies requiring a write-off of all loans past due more than a certain number of days. It should be noted that a write-off does not have any bearing on the MFI's efforts to collect the delinquent loan or the client's obligation to pay. It is not uncommon that MFI's recover loans after they have been charged-off.

3.6 **Current portfolio** –the outstanding value of all loans that do not have any installment of principal past due. It does not include accrued interest.

3.7 **Number of active borrowers** – the number of individuals who currently have an outstanding loan balance with the MFI or are responsible for repaying any portion of the gross loan portfolio. This number should be based on the individual borrowers rather than the number of groups.

3.8 **Number of depositors or savers** – the total number of individuals who currently have funds on deposit with an MFI, which the MFI is liable to repay. This number applies only to deposits that are held by the MFI, not to those deposits held in other institutions by the MFI's clients. The number should be based on individuals rather than the number of groups. It is possible that a single deposit account may represent multiple depositors.

3.9 **Number of savers facilitated** – the total number of individuals with savings accounts in another institution that the MFI has facilitated but is not liable to repay. Many MFIs work with third parties, usually a commercial bank or the borrowing group itself, in which their borrowing clients maintain savings accounts which may or may not be used as collateral by the MFI. In this document, this is referred to as *facilitated savings*. When presenting the number of savers, MFI should be clear not to include these as depositors (P8).

3.10 **Obligatory savings** – the value of savings that an MFI's clients are required to maintain as a condition of an existing or future loan. Obligatory savings may be either a deposit held by the MFI or facilitated savings accounts maintained outside of the MFI.

3.11 **Voluntary savings** – the value of savings that an MFI's clients maintain, but are not required as a condition of an existing or future loan. They may be deposits held by the MFI or a facilitated savings maintained outside the MFI as part of the overall MFI's financial services.

3.12 **Number of active clients** – the number of individuals who are active borrowers, depositors or both. Individuals who have multiple loans or accounts with the MFI should be counted as a single client. Individuals who do are not currently receiving any service directly from the MFI are not included, such as those with facilitated savings.

3.13 **Number of clients** – the total number of active clients plus the number of individuals who are neither active borrowers nor depositors, but who remain members or are otherwise using the services of the MFI. These are often referred to as *members*. This could include clients with only facilitated savings.

3.14 **Number of loan officers –** the number of personnel whose main activity is direct management of a portion of the gross loan portfolio. A loan officer is the staff member of record who is directly responsible for arranging and monitoring a client's loan. The term "loan officer" refers to *field personnel* or *line officers* that interact with the client, but not to administrative staff or analysts who process loans without direct client contact. Loan officers include contract employees who may not be part of permanent staff, but are contracted on a regular basis in the capacity of loan officer.

Number of loan officers is reported on a full-time-equivalent (FTE) basis. In cases where a staff member manages some loans, but also has other duties (for instance, a supervisor), this indicator should include a fraction < 1 that represents the amount of time spent doing loan officer duties. For instance, an MFI that has 5 loan officers and one supervisor that manages some loans may report 5 ½ as the number of loan officers.

3.15 **Number of personnel –** the number of individuals who are actively employed by the MFI. This number includes contract employees or advisors who dedicate the majority of their time to the MFI, even if they are not on the MFI's roster of employees. This number should be expressed as a full-time equivalent, such that an advisor that spends 2/3 of her time at the MFI would be considered 2/3 of a full-time employee.

II. Financial Ratios

II. Financial Ratios

This section includes a list of some commonly used ratios in the microfinance industry. The purpose of this section is to define the formulas and purposes of key ratios, and to highlight some of the key issues related to each ratio, including some general calculation issues. The ratios are divided into four categories, namely:

Sustainability/Profitability
Asset/Liability Management
Portfolio Quality
Efficiency/Productivity

This list of ratios is by no means exhaustive. Some ratios are included here because they are very common; others are included because of ambiguity in their use. MFIs and analysts are encouraged to use whatever ratios they feel are appropriate and relevant to measuring performance. **This set of ratios is not meant be used as a reporting template.**

The contributors to this section are also aware that MFIs have definitions that differ from those provided. It is hoped that the definitions below can serve as a reference point for the industry, such that those who do use alternative formulas or definitions can explain the difference by comparing them to the definitions below. For each ratio there is a reference code, a formula, and an explanation of the purpose.

Calculation Issues

Annualizing

Unless otherwise indicated, it is assumed that all revenue and expense accounts used in indicators are stated on an annual or annualized basis. When calculating financial ratios in section III, it is assumed that the income statement represents one year. If not, then income statement figures must first be annualized before they can be compared with previous years or against other MFIs.

To annualize a number, the formula is:

$$AA = [A \times (12/M)]$$

Where

AA = annualized amount
A = amount for the period
M = number of months in the period

Averaging

Many financial ratios require an average for a balance sheet account, such as the net loan portfolio outstanding. Averages for a period (such as a year) can be calculated simply by adding a beginning amount and an end amount and dividing the result by two.

$$P^{avg} = [(P^o + P^1)/2]$$

Unfortunately, such simple average calculations often provide a distorted number. This distortion is particularly true for institutions whose loan portfolios are growing quickly or for institutions that experience significant seasonal fluctuations in lending activities. Period averages are much more meaningful when they are computed on a monthly or at least a quarterly basis. When using such sub-period averages, the numerator is the opening balance plus the sum of the balance at the end of each sub-period, while the denominator is the number of sub-periods plus one. As an example, a quarterly average would be calculated as:

$$P^{avg} = \frac{(P^o + P^1+P^2+P^3+P^4)}{(4+1)}$$

Sustainability/Profitability

4.1	Return on equity (ROE)	Net operating income + taxes / Average equity	Calculates the rate of return on the average equity for the period. Because the numerator does not include non-operating items such as donations, the ratio is a frequently used proxy for commercial viability. Usually, ROE calculations are net of profit or revenue taxes. MFIs that are not using average equity as the denominator should indicate if it is based on equity at the beginning of the period or the end This ratio may be calculated on an adjusted basis to address the effects of subsidies, inflation, loan loss provisioning, and other items that are not normally included in an MFI's net operating income. Adjustments are addressed in Section III
	Adjusted return on equity (AROE)	Adjusted net operating income + taxes / Average equity	
4.2	Return on assets (ROA)	Net operating income + taxes / Average assets	Measures how well the MFI uses its total assets to generate returns. This ratio may also be calculated on an adjusted basis to address the effects of subsidies, inflation, loan loss provisioning, and other items that are not normally included in an MFI's net operating income. Adjustments are addressed in Section III.
	Adjusted return on assets (AROA)	Net adjusted operating income + taxes / Average assets	
4.3	Operational self-sufficiency	Operating revenue / (Financial expense + Loan loss provision expense + Operating expense)	Measures how well an MFI can cover its costs through operating revenues. In addition to operating expenses, it is recommended that financial expense and loan loss provision expenses be included in this calculation as they are a normal (and significant) cost of operating.

4.4	Profit Margin	$\frac{\text{Net operating income}}{\text{Operating revenue}}$	Measures what percentage of operating revenue remains after all financial, loan loss provision and operating expenses are paid.
4.5	Financial self-sufficiency	$\frac{\text{Adjusted operating revenue}}{\text{Financial expense + Loan loss provision expense + Adjusted operating expense}}$	Measures how well an MFI can cover its costs taking into account a number of adjustments to operating revenues and expenses. The purpose of most of these adjustments is to model how well the MFI could cover its costs if its operations were unsubsidized and it were funding its expansion with commercial-cost liabilities Adjustments are discussed in Section III.

Assets/Liability Management

5.6	Yield on gross portfolio	Cash financial revenue from loan portfolio / Average gross loan portfolio	Indicates the gross loan portfolio's ability to generate cash financial revenue from interest, fees and commissions. It does not include any revenues that have been accrued but not paid in cash, or any non-cash revenues in the form of post-dated checks, seized but unsold collateral, etc.
5.7	Current ratio	Short-term assets / Short-term liabilities	Measures how well the MFI matches the maturities of its assets and liabilities. Short-term are assets or liabilities or any portion of the same that have a due date, maturity date, or may be readily converted into cash within 12 months.
5.8	Yield gap	100% minus Yield on net portfolio / Expected annual yield	Compares revenue actually received in cash with revenue expected under the terms of the loan contracts. While a small gap is common, a substantial yield gap (> 10%) may indicate significant past due payments (arrears), fraud, inefficiency or accounting error. In this formula, "expected annual yield" means the loan contracts' effective interest rate (the declining-balance-equivalent rate) for a single payment period, multiplied by the number of periods in a year.[1]
5.9	Funding expense ratio	Interest and fee expenses on funding liabilities / Average gross loan portfolio	Shows the blended interest rate the MFI is paying to fund its financial assets. This ratio can be compared with yield on gross portfolio to determine the interest margin.

[1] Compounding is not used. Thus, if the effective monthly rate is 3%, then the expected annual yield is (3% x 12 months) = 36%, not $1.03^{12} - 1 = 42.58\%$

5.10	Cost of funds ratio	Interest and fee expense on funding liabilities / Average funding liabilities	The ratio gives a blended interest rate for all of the MFI's funding liabilities. Funding liabilities do not include interest payable or interest on loans to finance fixed assets.

Portfolio Quality

6.1	PAR ratio	$\frac{\text{Portfolio at risk(X days)}}{\text{Gross loan portfolio}}$	The most accepted measure of portfolio quality. Portfolio at risk is the outstanding principle amount of all loans that have one or more installments of principal past due by a certain number of days. When referring to PAR, the MFI should always specify the number of days. MFIs should indicate whether restructured loans are included in their calculation. Some MFIs automatically include restructured loans in their portfolio at risk. This practice reflects the belief that restructured loans have higher risk than those than current loans.
6.2	Write-off ratio Adjust-ed write off ratio	$\frac{\text{Value of loans written- off}}{\text{Average gross loan portfolio}}$ $\frac{\text{Adjusted value of loans written – off}}{\text{Average gross loan portfolio}}$	Represents the percentage of the MFI's loans that have been removed from the balance of the gross loan portfolio because they are unlikely to be repaid. A high ratio may indicate a problem in the MFI's collection efforts. However, MFI's write-off policies vary, which makes comparisons difficult. As a result, analysts may present this ratio on an adjusted basis to provide for uniform treatment of write-offs. (See Section III)
6.3	Risk cove-rage ratio	$\frac{\text{Loan loss reserve}}{\text{Portfolio at risk} > \text{X days}}$	Shows how much of the portfolio at risk is covered by the MFI's loan loss reserve. It is a rough indicator of how prepared an institution is to absorb loan losses in the worst-case scenario. MFIs should provision according to the aging of their portfolio at risk: the older the delinquent loan, the higher the loan loss reserve.

For example, a ratio for PAR > 90 days may be close to 100%, whereas the ratio for PAR > 30 days is likely to be significantly less. Thus, a risk coverage ratio of 100% is not necessarily optimal.

Efficiency/Productivity

These indicators reflect how efficiently an MFI is using its resources, particularly its assets and its personnel. MFIs use many different efficiency and productivity indicators, tailoring them to reflect their own organizational structure, product lines, and monitoring priorities. In calculating these indicators, MFIs need to select which denominator they will use. The most common denominators related to assets are (1) gross loan portfolio, (2) performing assets, and (3) average total assets. Most MFIs choose to use the average gross loan portfolio because they calculate other ratios using this same denominator. However, there are strong arguments for using performing assets, which is the standard for the commercial banking industry, or average total assets, which is the most easily measured of the three. Using average total assets as the denominator for efficiency/productivity ratios is more relevant for MFIs that manage deposit and/or share accounts in addition to loans. Regardless, the MFI should be consistent in its use of denominator. For the sake of simplifying presentation, the gross loan portfolio is used below; however, the asterisk (*) in the denominator of several ratios indicates that average total assets could be used.

MFIs must also decided if they wish to use the number of personnel or number of loan officers as their benchmark for human resources. The purpose for considering loan officers as a separate category is that they are usually involved directly in revenue generating tasks and income (i.e. making and collecting loans), whereas other personnel are not. However, there is a trend toward using total personnel in productivity calculations, recognizing that loan officers' tasks may overlap with the tasks of administrative staff.

7.1	Loan officer product-ivity	$\frac{\text{Number of active borrowers}}{\text{Number of loan officers}}$	Measures the average caseload of each loan officer, as defined in Section II. This is a common ratio, but is difficult to compare among MFIs when their definitions of loan officer vary. MFIs may also substitute (1) number of loans outstanding as a surrogate for number of active borrowers; and (2) number of financial services officers for loan officers. Regardless, MFIs should explain their definition of the numerator and denominator.
7.2	Personnel product-ivity	$\frac{\text{Number of active borrowers}}{\text{Number of personnel}}$	Measures the overall productivity of the MFI's total human resources in managing clients who have an outstanding loan balance and are thereby contributing to the financial revenue of the MFI.

		Number of active clients / Number of personnel	Alternatively, the MFI may wish to measure the overall productivity of the MFI's personnel in terms of managing clients, including borrowers, savers, and other clients. This ratio is the most useful ratio for comparing MFIs.
7.3	Average disbursed loan size	Value of loans disbursed / Total number of loans disbursed during period	Measures the average loan size that is disbursed to clients. MFIs should be careful to distinguish between disbursed loan size and outstanding loan size (see R17).
7.4	Average outstand-ing loan size	Gross loan portfolio / Number of loans outstanding	Measures the average outstanding loan balance by client, which may be significantly less than the average disbursed loan size. It is frequently compared to per capita GDP to determine how well an MFI is targeting very low-income clients.
7.5	Operating expense ratio	Operating expense / Average gross loan portfolio*	Includes all administrative and personnel expense, and is the most commonly used efficiency indicator. Care must be taken when using this ratio to compare MFIs. Smaller MFIs or those that provide smaller loans will compare unfavorably to others, even though they may be serving their target market efficiently. Likewise, MFIs that offer savings and other services will also compare unfavorably to those that do not if gross loan portfolio is used as the denominator; therefore, average total assets is more appropriate denominator for financial intermediaries when calculating the operating expense ratio.
7.6	Cost per borrower Cost per client	Operating expense / Average number of active borrowers Operating expense	Provides a meaningful measure of efficiency for an MFI, allowing them it to determine the average cost of maintaining an active borrower or client. MFIs may choose to substitute number of active

		Average number of clients	loans as the denominator to see cost per active loan outstanding. It is also useful when to compare to GNP per capita to assess the MFI's efficiency in the local context. Because they count clients rather than amounts, these indicators have the advantage that they do not prejudice MFIs who offer smaller loans and savings accounts.
7.7	Other expense ratios	Any expense / Average gross loan portfolio*	Expense ratios can be created for nearly any expense account on the income statement. The purpose is to allow the MFI or analyst to track the growth or decline of particular expense over time or across a group.

Financial analysts often calculate a number of adjustments, most of which make analytical additions to the reported expenses of the MFI. Four groups of adjustments are common:

- Subsidy adjustments, including
  - subsidized cost of funds adjustments, and
  - in-kind subsidy adjustments
- Inflation adjustments
- Adjustments for non-performing loans, including
  - adjustment of loan loss reserves and provision expense,
  - write-off adjustments, and
  - reversal of interest accrued on non-performing loans
- Adjustments for foreign exchange gains/losses

Any attempt to standardize definitions of adjustment must deal with two levels: (1) how is each individual adjustment calculated, and (2) which combination of individual adjustments are implied in the use of a term such as "adjusted return on assets (AROA).

(1) There is no attempt in this document to provide a precise standard calculation method for each individual adjustment; rather, a general approach is described for each adjustment. If an analyst uses the name of one of these adjustments, then it should be calculated along the lines described here. **Any report that refers to individual adjustments should describe the calculation method actually used. The description**

should be especially precise when the method used differs substantially from the one described in this document.

(2) Adjusted returns on assets or equity (R1, R2) usually incorporate the effects of several adjustments. It is not practical to define a standard package of adjustments that will be implied anytime these general indicators are used. Different analysts will use different adjustments, for their own equally valid purposes, in arriving at AROA and AROE.[2] In view of this, **whenever a report refers to AROA or AROE, there should be a precise indication of which individual adjustments are included in the analysis underlying that indicator.**

[2] For instance, a database like the MicroBanking Bulletin, whose purpose is comparison and benchmarking might wish to adjust all MFIs' loan loss reserve in line with a standard policy. On the other hand an analyst of an individual MFI might feel that its reserve policy, while "non-standard," is perfectly appropriate, and thus that no adjustment of that reserve is necessary.

III. Adjustment

Subsidy adjustments

Subsidy adjustments serve two purposes. First, MFIs vary widely in the amount of subsidy they receive, if any. Some MFIs get no subsidy at all. Thus, adjustments that offset subsidies will allow for a more meaningful comparison of performance among MFIs with differing amounts of subsidy. Second, the industry has accepted that, in the long term, MFIs should be able to operate without subsidies, relying instead on commercial sources and private investment at market rates. An adjustment that cancels out the effects of present subsidies will reveal how close the MFI is to having a business that could expand viably in a subsidy-free commercial environment.

Subsidy adjustments are not included in a MFI's normal financial statements; rather, they are hypothetical revenues or expenses that managers and analysts use when calculating certain indicators and ratios. Two types of subsidy adjustments are common among MFIs.

8.1 Subsidized cost of funds adjustment

This adjustment looks at the difference between the MFI's financial expense and the financial expense it would pay if all of its funding liabilities were priced at market rates. One common way of doing this is to multiply the MFI's average funding liabilities by some shadow price—a market interest rate—and then subtract the actual financial expense. The difference is the amount of the adjustment and is treated as an expense.[3]

No single shadow rate is appropriate in all circumstances. Many analysts use as a shadow price the rate that local banks are paying on 90-day time deposits.[4]

In theory, the cost of attracting commercial equity capital should also be factored in, as private investors are motivated by retained earnings growth and dividends. In practice, however, analysts do not shadow-price equity in this way; rather they subject the MFI's equity to an inflation adjustment. (A3).

8.2 In-kind subsidy adjustment

Donors often give MFIs, not only funds, but also goods and service at no cost or at a below-market cost. Common examples of these in-kind subsidies are computers, consulting services, free office space, and free services of a manager. The in-kind subsidy adjustment is the difference between what the MFI is actually paying for the good

[3] Some analysts apply a cost-of-funds adjustment only to loans whose interest rate is more than some fixed percentage (e.g., 2-5%) below the commercial shadow rate.
[4] Line 160 of the International Monetary Fund's *International Financial Statistics*

or service and what it would have to pay for the same good or service on the open market.

If a donor agreement requires an MFI to accept a good or service that it would not have purchased otherwise, the item is generally not treated as an in-kind subsidy in calculating this adjustment.

Some young MFIs receive free services of a highly-paid manager, often a foreign national. If the analyst believes that the MFI will soon be able to use a less expensive manager, then she might make an adjustment, not for the cost of the donated manager, but rather for the expected cost of a local manager.

As indicated in previous definitions and ratios, MFI financial performance is measured on the basis of net operating income, which excludes donations. This exclusion can be thought of as a third form of subsidy adjustment.

Inflation Adjustment

In the private sector, equity is generally considered to be the most expensive form of financing; investors require a greater return than lenders because they are taking greater risk. In contrast, many MFIs do not have to pay out anything for their equity funding. (Exceptions include financial cooperatives and corporations with commercially motivated investors.) The rationale behind the inflation adjustment is that an MFI should, at a minimum, preserve the value of its equity against erosion due to inflation. Inflation produces a loss in the real value (purchasing power) of equity. The inflation adjustment recognizes and quantifies that loss.

Unlike subsidy adjustments, recording the inflation adjustment in the MFI's normal financial statement is common in many parts of the world and has support under international accounting standards. Section 29 of the *International Accounting Standards* mandates the use of inflation-adjusted accounting in high-inflation countries. In low-inflation countries, the inflation adjustment is seldom incorporated in the financial statements of businesses.

9.1 Inflation adjustment

There are many different methods of inflation adjustment. All methods involve some version of the same core approach: net fixed assets (B7) are subtracted from equity (B17), and the result is multiplied by the inflation rate for the period.[5] The amount of a period's inflation adjustment is treated as if it were an increase in the MFI's financial expense. If inflation adjustments are incorporated within the MFI's financial statements and carried forward from year to year, then in addition to creating an expense on the income statement, it will also generate a reserve in the balance sheet's equity account. This reserve will reflect the amount of the MFI's cumulative retained earnings that have been consumed by the effects of inflation.

Whenever any indicator is used that is supposed to incorporate an "inflation adjustment," the adjustment should either (a) be based on a nationally approved inflation-based accounting system, or (b) use an analytical adjustment of equity similar to that described above. The loss in real equity value due to inflation is not adequately captured by restating financial statements in terms of constant local currency or a low-inflation hard currency.

[5] Some analysts use beginning-of-period values for equity and fixed assets, while others argue for the use of period averages. The same objective can be achieved by subtracting liabilities from financial assets.

Adjustments for non-performing loans

An MFI's treatment of non-performing (that is, delinquent) loans can have a large impact on how sound its financial results appear. MFIs differ widely in their accounting policies with respect to loan loss provision expense, write-offs, and accrual of interest income. Analysts adjust these accounts in order to compare MFIs and/or to eliminate a material distortion in financial statements resulting from unrealistic accounting treatment of the non-performing portfolio. There are three main types of portfolio adjustment:

10.1	Adjustment to loan loss reserves and provision expense	An analyst will often adjust an MFI's loan loss reserve (B5) to bring it in line with standard accounting policies, or up to a level that is appropriate for the individual MFI's risk. In order to adjust the reserve on the balance sheet, the analyst will have to make an adjustment of the loan loss provision expense (I6) that flows into that reserve. A frequently-used policy—mentioned here only as an example—is to adjust reserves so that they cover 50 percent of the outstanding balance for loans 91-180 days late and 100 percent for loans over 180 days late. However, there is no consensus on how this adjustment should be calculated.
10.2	Write off adjustment	Analysts will often adjust the MFI's write-offs to bring them in line with a standardized accounting policy. One frequently used standard (mentioned here only as an example) is to treat the portfolio at risk > 180 days as if it had been written off. On the balance sheet, both the gross loan portfolio and the loan loss reserve are reduced by the amount written off.
10.3	Reversal of interest accruals	MFIs that recognize interest and fee revenue from the loan portfolio on an accrual basis record interest when it is earned rather than when a cash payment is received from the borrower. If a loan falls delinquent, it is appropriate at some point to stop accruing more interest income on it and to reverse previously accrued income. Many analysts will reverse all revenue that has been accrued on loans that are presently more than 30 days late, including revenue that has been accrued for loans that have been written off, if the MFI has not already done this.

Foreign exchange adjustment

A final category of adjustments relates to MFIs who have assets or liabilities denominated in a foreign (hard) currency, but do their accounting in local currency. When the exchange rate between the two currencies changes, the local-currency value of the asset or liability changes, producing a gain or loss. Treatment of such gains or losses is normally dictated by local accounting standards. There is still debate as to how net foreign currency gains or losses should be recorded. Some argue that such a gain or loss (1) should only be recorded on the income statement when the asset is sold or the liability is liquidates or that such gains and losses (2) should be considered extraordinary; and therefore, non-operating. Some regulations require that (3) they should only be recorded on the balance sheet as an increase/decrease to the relevant asset and liability accounts, and offset by an equal increase/decrease to equity. If an MFI's financial statements have not treated foreign exchange gains/losses appropriately, the analyst may need to make an adjustment.

Table Financial Statement Adjustments and their Effects

Adjustment	Effect on Financial Statements	Type of Institution Most Affected by Adjustment
Subsidized cost of funds adjustment	Increases financial expense to the extent that the MFI's liabilities carry a below-market rate of interest. Decreases net income.	MFIs with heavily-subsidized loans
In-kind subsidy adjustment	Increases administrative expense to the extent that the MFI is receiving subsidized goods or services. Decreases net income.	MFIs using goods or services for which they are not paying a market-based cost
Inflation adjustment of equity (minus net fixed assets)	Increases financial expense. May generate a reserve in the balance sheet's equity account, reflecting that portion of the MFI's retained earnings that has been consumed by the effects of inflation. Decreases profitability and "real" retained earnings.	MFIs funded more by equity than by liabilities will be hardest hit, especially in high-inflation countries.
Loan loss reserve and provision expense adjustment	Usually increases loan loss provision expense on income statement and loan loss reserve on balance sheet.	MFIs that have unrealistic loan loss provisioning policies.
Write-off adjustment	On balance sheet, reduces gross loan portfolio and loan loss reserve by an equal amount, so that neither net loan portfolio nor the income statement is affected. Improves (lowers) portfolio-at-risk ratio.	MFIs that do not write off non-performing loans aggressively enough.
Reversal of interest income accrued on non-performing loans	Reduces interest income and net profit on the income statement, and equity on the balance sheet.	MFIs that continue accruing income on delinquent loans past the point where collection becomes unlikely, or that fail to reverse previously accrued income on such loans.