Technical Guide for the Analysis of Microenterprise Financial Institutions

Inter-American Development Bank
Microenterprise Unit
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Acknowledgements

The ***Technical Guide*** is a product of the combined efforts of the professionals of the Microenterprise Division of the Inter-American Development Bank and members of the consulting firm Interdisziplinäre Projekt Consult GmbH (IPC). In 1993, the Microenterprise Division contracted IPC to draft a technical guide for the analysis of credit-granting, non-governmental organizations based on the evaluation methods that IPC employed in a series of institutional carried out in the previous year. The Microenterprise Division then created the ***Technical Guide*** as a standard for the analysis of the Division's operations, incorporating many of the techniques presented in the IPC document.

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Foreword

The Inter-American Development Bank has been carrying out an extensive program of support to micro and small enterprises in Latin America for many years. First, under the Small Projects Program, the Bank has funded financial and technical assistance to non-governmental organizations (NGOs) servicing microenterprises since 1978. Subsequently, beginning in 1990 with the Seventh Replenishment, the Bank intensified its concern and efforts to foster the development of the micro and small enterprise sector creating the Microenterprise Division, substantially expanding the Small Projects Program, and introducing other operations specially designed to extend credit and technical cooperation to the sector. Bank support to the microenterprise sector under the Seventh Replenishment reached a total of 399 operations and US$321.6 million. This represents, in the four years of the cycle (1990-1993), an amount of resources three times as large as the cumulative total for the period prior to this Replenishment (1978-1989).

The qualitative changes in micro and small enterprise support brought about by the Seventh Replenishment are as striking as the quantifiable accomplishments. The operations of the last four years have emphasized institutional strengthening of the intermediary organizations, their administrative and financial self-sufficiency, accountability and responsibility in the management of loan portfolios, and the elimination of distortions in resource transfers to the microentrepreneurs. New credit management techniques have been incorporated in the design of programs in order to reduce the costs of servicing microenterprises, to induce more financial institutions to provide services to this clientele, and thereby expand microenterprise access to formal finance.

These changes in Bank operations characterize the relationship that has developed during this period between microenterprise finance organizations and the institutions that support them. The traditional donor-recipient relationship has given way to a partnership built on the common interest in creating sustainable microenterprise finance institutions. In this emerging context, the ***Technical Guide*** was developed in the interest of providing rigorous analytical methods and standards for the design, management, monitoring and evaluation of finance institutions specialized in servicing micro and small enterprises. The ***Technical Guide*** is a management and evaluation tool that establishes a technical basis for the analysis of microenterprise finance institutions as well as the design of the externally-funded programs through which they are supported.

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Table of Contents

ACKNOWLEDGEMENTS

FOREWORD

1. INTRODUCTION 1

2. PREPARING THE DATA 5

2.1 PRESENTING THE RAW (UNADJUSTED) DATA 6

2.1.1 The Balance Sheet 7
2.1.2 The Statement of Profit and Loss 8

2.2 ADJUSTING THE DATA 9

2.2.1 Adjusting Asset Accounts: The Loan Portfolio 10
2.2.2 Adjusting Asset Accounts: Fixed Assets 15
2.2.3 Adjusting Income Accounts For Unreported Donations 16
2.2.4 Adjusting Income Accounts to Reflect Actual Income From Operations 16

2.3 PREPARING THE ADJUSTED FINANCIAL STATEMENTS 17

2.4 PRESENTATION OF INFLATION-ADJUSTED FINANCIAL STATEMENTS 18

2.5 CALCULATING A BASE FOR FINANCIAL PERFORMANCE INDICATORS 19

3. FINANCIAL ANALYSIS 23

3.1 LEVELS OF COST COVERAGE 23

3.1.1 Actual Financial Costs 23
3.1.2 Operational Costs 23
3.1.3 Imputed Cost of Capital 23

3.2 TYPES OF INSTITUTIONS 25

3.3 COST-STRUCTURE ANALYSIS 26

3.3.1 Specialized Deposit-taking and Non Deposit-taking Financial Institutions 26
3.3.2 Multi-purpose Institutions with a Credit Program 29

3.4 ANALYSIS OF ASSET AND LIABILITY STRUCTURE 32

3.5 ANALYSIS OF INCOME STRUCTURE 33

3.6 ANALYSIS OF OPERATIONAL COST STRUCTURE 34

4. ANALYZING OPERATIONAL EFFICIENCY 36

4.1 ANALYSIS OF HISTORICAL DATA 36
4.1.1 Personnel Resources 37
4.1.2 Output Data 37
4.1.3 Portfolio Data 37
4.1.4 Efficiency Indicators 38
4.1.5 Interpreting the Data 40

4.2 PRODUCTIVITY ANALYSIS OF PROGRAM OPERATIONS 40
4.2.1 Analysis of Credit Officer Caseload 41
4.2.2 Analysis of Management and Support Staff Caseload 44

5. TARGET GROUP ORIENTATION 45

5.1 GENERAL INDICATORS FOR TARGET GROUP ORIENTATION 46

5.2 DISTRIBUTION OF PORTFOLIO BY GENDER AND ECONOMIC ACTIVITY 46

5.3 ANALYSIS OF THE FINANCIAL PRODUCT 47
5.3.1 Description of Lending Method 47
5.3.2 Type of Credit Instrument: Fixed Asset vs Working CapitalLoans.....49
5.3.3 Loan Conditions 50
5.3.4 Cost of Credit 51
5.3.5 Guarantee Requirements 53
5.3.6 Opportunity Costs 54

5.4 INTERPRETATION OF THE DATA 54

6. INTERPRETING THE RESULTS 56

6.1 CREDIT TECHNOLOGY 57

6.2 CREDIT TERMS 57

6.3 ADMINISTRATIVE STRUCTURE 57

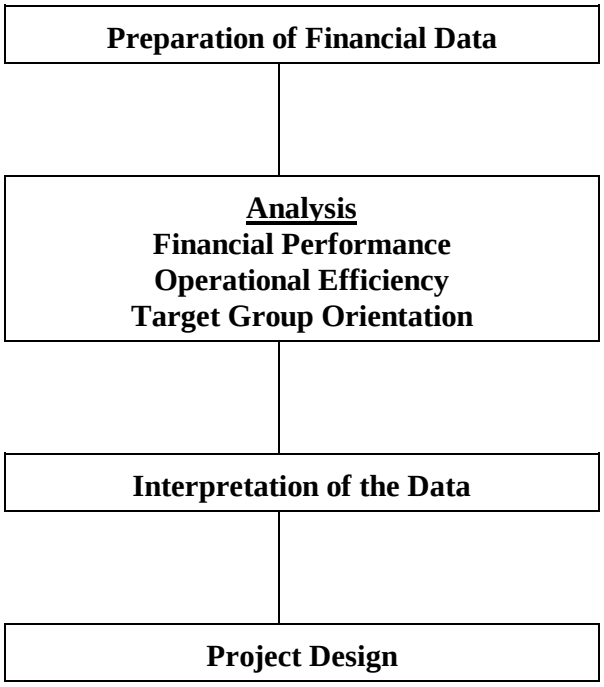
6.4 MANAGEMENT INFORMATION SYSTEMS 58
6.4.1 Operational Planning and Management 60
6.4.2 Financial Management and Control 60
6.4.3 Portfolio Management 60

6.5 FINANCIAL MANAGEMENT 60

6.6 INCENTIVE STRUCTURES 62

1. INTRODUCTION

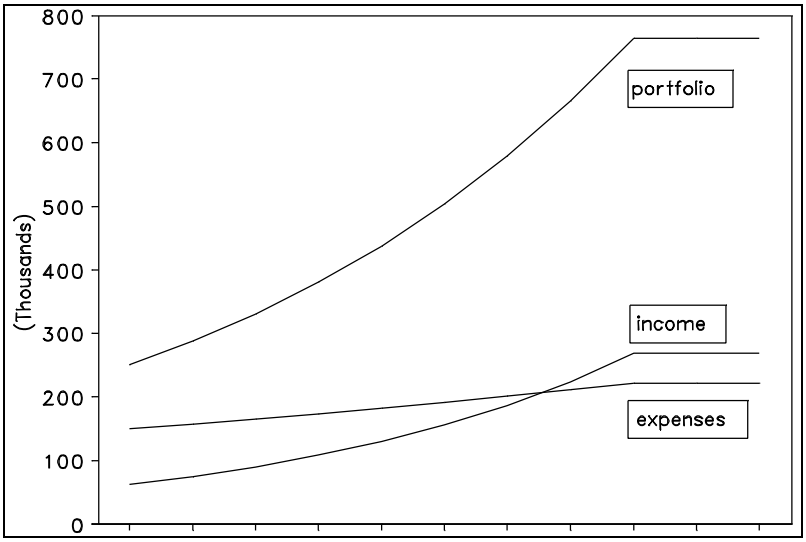
The purpose of this technical guide is to provide a standard format for the analysis of institutions that provide financial services to the microenterprise sector. The technical guide outlines the appropriate techniques and scope of analysis for evaluating and designing programs of support to specialized financial institutions. The analytical techniques presented in this guide are structured to facilitate the process of institutional analysis and project design represented in the diagram below.



The analytical framework applied in this technical guide is comprised of two basic components. The first part of the analysis, described in chapters 1 through 5, is dedicated to deriving a series of

quantitative performance indicators that measure the performance of the institution. The investigation begins with an analysis of financial performance in order to derive general indicators regarding the sustainability of the institution. Credit operations are then analyzed in order to identify sources of inefficiency. The investigation concludes with an assessment of the impact of the credit services on the institution's clients.

Given the complexity and heterogeneity of specialized financial institutions, guidelines for interpretation and program design must be flexible enough to accommodate a variety of approaches to building innovative and sustainable institutions. The second part, described in the last chapter on ***Interpreting the Results,*** consists of a qualitative analysis of operational and management systems. This last chapter is written to call attention to the links between operational systems and institutional structures and the performance indicators derived from the analysis; it is the task of the evaluator to formulate the most appropriate interpretation for each institution and to design a program of support accordingly.



The object of this type of design process is to identify the changes to existing policies, procedures or levels of resources that will result in a sustainable financial institution. In general terms, a sustainable institution is one that covers all of its expenses with operational income and generates sufficient surplus to maintain the real value of its equity base. In many cases, the analysis will show that the institution is not presently sustainable by this definition and thus the analysis must produce the data necessary to

define the conditions under which it can be sustainable and what resources are required for the institution to make the necessary changes. The analysis should provide sufficient data to construct a detailed operational plan that facilitates the development depicted in the graph: growth in the portfolio with income eventually surpassing expenses when the institution has attained a sustainable scale. The financial resources required for this development should also be projected with sufficient confidence to determine appropriate terms and conditions for a package of financial support to the institution.

Interpretation of the results of the analysis and the subsequent design of an operational plan for the organization will also depend upon the type of institution in which the financial services are housed. The technical guide is designed for the analysis of credit-granting organizations typically not regulated by a formal banking regulatory agency. These organizations include cooperatives, credit unions, finance companies, and, most commonly, the tax-exempt agencies often referred to as non-governmental organizations (NGOs). The credit operations of each of these organizations must be target group oriented, operationally efficient and financially sustainable, but the challenge of achieving these goals are distinct in each type of institution. For this reason it is important to classify a financial institution according to the following typology. The classification has implications for the type of analysis that is applied to the institution, particularly in regard to the financial sustainability of the credit operations.

Some credit programs are housed within NGOs that provide a range of services, some of which are subsidized from outside donors. The institutional sustainability of such a credit program is thus inextricably related to the viability of an organization that depends on subsidies. The credit operation should be analyzed to determine whether it is self-sufficient, that is, whether it covers its financial and operational costs and generates sufficient surplus to maintain the real value of the capital invested in the portfolio. Nevertheless, in this case the institutional sustainability of a credit operation is still dependent upon the sustainability of the grant-dependent NGO. The analysis must address the question of whether even a financially self-sufficient credit operation is institutionally sustainable when housed in such an organization.

The most common type of specialized microenterprise finance institution is a non-regulated, credit-granting organization, typically a finance company or an NGO. This type of organization is distinct from the first in that the credit operation is the primary activity of the institution. The sustainability of the institution depends completely upon the viability of the credit operation.

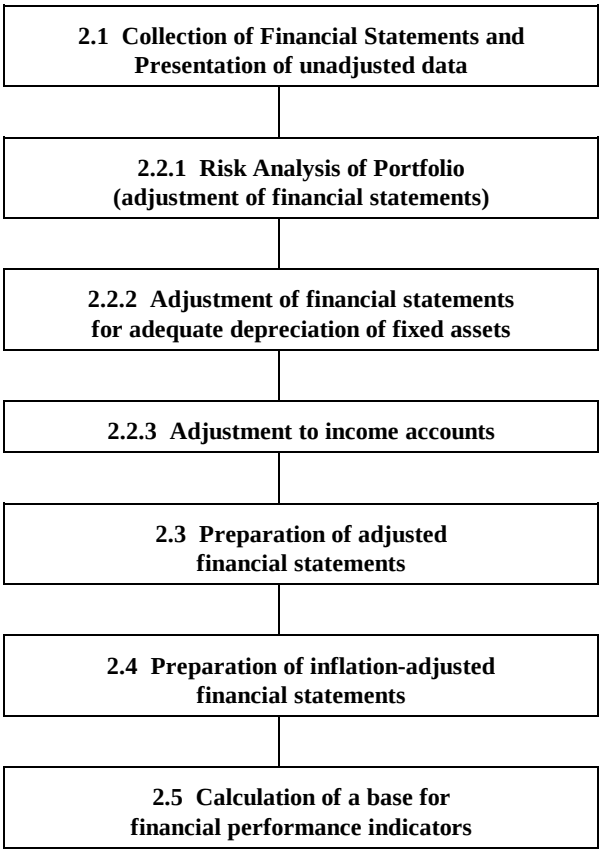
The final type of organization is a deposit-taking financial intermediary institution. The success of such institutions depends upon their ability to provide an attractive package of credit and deposit services while ensuring institutional viability.

In order to illustrate the application of the analytical approach presented in this guide, the analytical techniques are applied to a hypothetical financial institution. FONDOEMPRESA is an unregulated financial institution that provides both credit and deposit services to microentrepreneurs.

2. PREPARING THE DATA

Most of the indicators that are used to evaluate a financial institution are derived from data taken from two financial statements, the Statement of Profit and Losses and the Balance Sheet. However, the financial reporting practices of non-regulated financial institutions very often do not conform to standard conventions of accounting. The financial statements and accounting practices of such institutions more often reflect the reporting requirements of donors or local laws governing NGOs or Cooperative Societies; in the worst cases standard accounting procedures are simply not observed. The objective of this chapter is to present a technique for adjusting an institution's financial statements in order to derive accurate data for the analysis.

The technique presented in this chapter follows the sequence of steps presented below:



To illustrate the technique of adjusting and presenting financial data, the financial statements for the case study program,

FONDOEMPRESA, are presented in this chapter. The table below contains the financial data for the past three years as presented by FONDOEMPRESA.

UNADJUSTED FINANCIAL STATEMENTS	YEAR 1	YEAR 2	YEAR 3
ASSETS			
Cash	33,535	55,000	132,000
Investments	30,000	70,000	70,000
Portfolio	146,000	440,000	726,900
(reserve)	0	(10,000)	(10,000)
Property	175,000	175,000	175,000
Total Assets	384,535	730,000	1,093,900
LIABILITIES			
Loans	0	200,000	400,000
Deposits	0	131,465	250,000
EQUITY			
Capitalized Earnings	374,535	384,535	398,535
Accumulated Earnings	10,000	14,000	45,365
Total Liabilities and Equity	384,535	730,000	1,093,900
INCOME			
Credit Income	17,500	96,250	216,750
Investments	4,500	10,000	15,000
Donations	98,000	75,000	50,000
TOTAL INCOME	120,000	181,250	281,750
EXPENSES			
Personnel	80,000	104,000	148,785
Administration	30,000	40,000	50,600
Provisions	0	10,000	0
Total Operational Costs	110,000	154,000	199,385
Financial Costs	0	13,250	37,000
TOTAL EXPENSES	110,000	167,250	236,385
NET INCOME	10,000	14,000	45,365

2.1 PRESENTING THE RAW (UNADJUSTED) DATA

In order to analyze an institution like FONDOEMPRESA it is necessary to gather audited financial statements for the past three years. The most important statements are the balance sheet, the statement of profit and loss (P&L) and subsidiary ledgers that report on the status of the loan portfolio. Financial statements should be presented in local currency. Inflation rates should also be collected for the three-year period in order to present separate, inflation-adjusted financial statements.

The first step is to present the financial statements in a format that will facilitate a basic analysis of the institution's financial position. The following categories provide a basic level of detail. When analyzing institutions that provide additional detail, it may be necessary to group accounts in the basic categories presented below. In addition, for organizations that provide a range of services, it may be necessary to disaggregate the financial statements according to activity.

2.1.1 The Balance Sheet

Assets

Cash is all liquid assets that generate little or no interest, for example, cash and current accounts deposited in a bank.

Investments are liquid assets that do bear interest, e.g., Treasury Bills, Certificates of Deposits, etc.

The gross loan ***Portfolio*** should be presented including performing and non-performing loans that have not yet been written off.

The ***(reserve)*** account shows the amount set aside as a provision for non-performing loans. The net portfolio is equal to the gross portfolio less the reserve account. The reserve should accurately reflect the level of risk in the portfolio.

Fixed Assets contains the original value of all equipment.

The ***(depreciation)*** account indicates the cumulative reserves that have been set aside for the replacement of fixed assets.

Property contains all real estate holdings.

The institution may also have miscellaneous accounts receivable.

Liabilities

Loans shows all borrowed funds the institution must repay.

Deposits are savings deposits captured by the institution.

The institution may also have miscellaneous accounts payable.

Equity

Capitalized Earnings are retained earnings capitalized from previous fiscal periods.

Accumulated Earnings shows the net income for the current fiscal period.

2.1.2 The Statement of Profit and Loss

Income

Income of the institution is mainly comprised of revenue from credit extension, revenue from financial investments, and grants:

Credit Income includes all interest, commissions and fees which the institution derived from its lending operations.

Investment Income covers all income earned on all invested funds. Income derived from foreign exchange transactions should also be included here.

Donations cover all funds received from local and international donors.

Expenses

Personnel costs consist of all salaries and other payments made to or for employees of the NGO.

Administrative costs are all non personnel-related costs that are incurred in the operation of the NGO, e.g. rent, utilities, office supplies, travel, per diem, etc.

Depreciation shows the amount by which the value of fixed assets is written-off each year.

Provisions represent the expenses incurred in the current fiscal period for creating a reserve for bad loans.

Extraordinary Write-offs indicate the value of bad loans charged off in addition to the amount set aside in the provision account. Normally, all loans are written off against the reserve account on the balance sheet. The reserve account is then readjusted to reflect the current level of risk in the portfolio and any adjusting entries are made through the provision account in the P&L. The extraordinary account is introduced here simply to distinguish between the two types of expenses, provisions against future losses and the extraordinary write-off of bad loans in the current period.

Financial costs are distinct from the operational expenses above and include all interest or fees paid on debts.

2.2 ADJUSTING THE DATA

After organizing the data, the evaluator must verify that proper accounting procedures were observed in the preparation of the financial statements. Where the financial statements do not reflect the real position of the institution, the evaluator must adjust the data. The evaluator should verify two general categories of data. First, the portfolio and fixed asset accounts should be assessed to determine whether they reflect the true value of those assets and that adequate provision has been made for bad loans and depreciation. Secondly, income and expense accounts should be reviewed to verify that the institution has accounted for all resources received from donor agencies, and that only income actually received, as opposed to accrued, from lending operations is reported.

2.2.1 Adjusting Asset Accounts: The Loan Portfolio

In order to determine the true value of the portfolio it necessary to measure the level of risk of loan default. The following two indicators define the portfolio's exposure to future default:

The ***arrears rate*** expresses the value of past-due principal payments as a percentage of the outstanding principal balance of the portfolio. This measures the value of outstanding delinquent principal payments but ignores the remaining balance of payments that have not yet come due. Thus the arrears rate underestimates the amount of the portfolio at risk.

$$\text{Areas rate} = \frac{\text{Balance of delinquent principal payments}}{\text{Outstanding Principal Portfolio}}$$

Once a client has failed to make a payment according to the contracted loan repayment schedule the entire outstanding balance of the loan is at risk. As a measure of that risk, the ***portfolio at risk ratio*** expresses the total outstanding principal balance of all loans that have any payment in arrears as a percentage of the outstanding principal portfolio. This indicates the amount of the portfolio that is exposed to risk but does not measure the degree of risk that delinquent clients will default entirely on their loans. Thus the portfolio at risk ratio exaggerates the actual risk to the portfolio.

Classifying the Portfolio

The most accurate measure of risk is derived from a classification of the portfolio and expressed in the loan loss reserve account on the Balance Sheet. First, the loan portfolio must be classified according the status of payments due. This can be done in one of two ways:

The only accurate way to classify the portfolio is to evaluate each individual loan, allocating the balance of that loan to the category of the oldest past-due payment. For example, a loan with three past-due monthly payments outstanding would be allocated to the "greater than 90 days" category.

If it is not possible to evaluate each individual loan, the evaluator can select a representative sample of loans, conduct the analysis, and apply the weighted distribution of delinquent loans in the sample to the entire portfolio. This may be necessary if adequate information on the status of individual loans is not available.

The table below shows the arrears analysis as presented by FONDOEMPRESA. The value of principal payments past-due is equal to 14.7% of their portfolio.

UNADJUSTED ARREARS ANALYSIS

Past-due Principal Payments at end of Year 3

Portfolio: P/726,900	**1-30 days**	**31-60 days**	**61-90 days**	**> 90 days**	**Total**
Total principal payments past-due	30,000	27,000	20,000	30,000	107,000
Percentage of Portfolio	4.1%	3.7%	2.8%	4.1%	14.7%

However, when the portfolio is classified according to the balance of doubtful or uncollectible loans, the potential effect of loan default is more serious. As demonstrated in the table below, 48.6% of FONDOEMPRESA's portfolio is at risk.

ADJUSTED PORTFOLIO CLASSIFICATION

Outstanding Principal of Delinquent Loans at end of Year 3

Portfolio: P/726,900	**1-30 days**	**31-60 days**	**61-90 days**	**> 90 days**	**Total**
Balance of Delinquent Loans	150,000	100,000	56,000	46,900	352,900
Percentage of Portfolio	20.6%	13.8%	7.7%	6.4%	48.6%

The next step is to adjust the portfolio and reserve accounts so that they accurately reflect the value of

and the level of risk in the collectable portfolio. This involves two adjustments. Loans determined to be uncollectible are removed from the portfolio asset account and written-off to the ***extraordinary write-off*** expense account. In contrast, doubtful loans are kept on the books but a reserve is established in the event that the loan becomes uncollectible. This reserve is booked as a contra-account on the asset side of the balance sheet, for which the institution incurs a ***provision*** expense.

Adjustment to the Portfolio for Uncollectible Loans

The decision to classify a loan as uncollectible depends upon the standards to which the institution is accountable. Unregulated institutions such as NGOs and most credit unions make this decision at their own discretion. Regulated financial institutions are subject to the standards of the banking regulatory agency, but even these standards vary from country to country. However, it is generally accepted that delinquent loans with payments more than 90 days past-due are classified, for accounting purposes, as "uncollectible" and should be written-off the books. This convention is adequate for portfolios with loans with short maturities.

The adjusted portfolio analysis indicates that FONDOEMPRESA is carrying P/46,900 in delinquent loans of more than 90 days. This balance should be written-off. However, it is important to allocate this write-off to the appropriate accounting period. Writing-off the full amount in Year 3 would exaggerate loan loss expenses for that year. The bad loans are the product of all three years and the expense of writing them off should offset the income derived from operations in those years. There are at least two ways to allocate the write-offs:

write the loan off in the year in which it became more than 90 days delinquent, or
write the loan off in the year it was originated.

The first method is the most accurate and can be employed if the institution has records of the delinquency of each loan. The calculations are presented in the table below. Note that writing off the loans reduces the amount of the portfolio. The "adjusted" portfolio is P/680,000 at the end of Year 3.

ALLOCATION OF WRITE-OFFS FOR FONDOEMPRESA			
	Year 1	**Year 2**	**Year 3**
Extraordinary Write-Offs (annual)	6,000	30,000	10,900
(cumulative)	6,000	36,000	46,900
Unadjusted Portfolio	146,000	440,000	726,900
Adjusted Portfolio	140,000	404,000	680,000

Adjustment to the Reserve Account for Doubtful Loans

The next step is to adjust the reserve account so that it reflects the level of risk or doubtful loans in the adjusted portfolio.

The percentage of a doubtful loan that must be covered by the reserve is a function of the number of days the loan is past-due. The following table applies a standard percentage to each of the portfolio categories in order to determine the total amount required for the reserve.

CALCULATION OF RESERVE FOR LOAN LOSS AT END OF YEAR 3				
	1-30 days	**31-60 days**	**61-90 days**	**Total**
Percentage required for reserve	10%	25%	50%	
Balance of Delinquent Loans	150,000	100,000	56,000	306,000
Amount required for reserve	15,000	25,000	28,000	68,000

The calculation above indicates that at the end of Year 3 FONDOEMPRESA should have P/68,000 in reserves to cover the actual level of risk in the adjusted portfolio. Like the extraordinary charge-off of uncollectible loans, the provision expenses incurred in establishing the reserve account must be

allocated over the past three years. The most accurate way to allocate the expenses is to classify the portfolios at the end of years 1 and 2 and adjust the reserve accounts accordingly. If the necessary arrears information is not available, the evaluator may assume that the reserve account, as a percentage of the portfolio, should have been constant (and equal to the current level) in all three years. For example, the P/68,000 reserve calculated for FONDOEMPRESA is equal to 10% of the P/680,000 adjusted portfolio. The table below demonstrates the distribution of this 10% across Years 1 through 3.

ALLOCATION OF PROVISION EXPENSES FOR LOAN-LOSS RESERVE			
	Year 1	**Year 2**	**Year 3**
Adjusted Portfolio	140,000	404,000	680,000
Reserve for bad debt (@ 10%)	(14,000)	(40,400)	(68,000)
Annual Provision expenses	14,000	26,400	27,600

The last step in this exercise is to compare the results of the these calculations to the provisions and write-offs that appear on the unadjusted financial statements and make any necessary adjustments. The table below shows the relevant lines from the unadjusted Balance sheet and P&L of FONDOEMPRESA:

PORTFOLIO AND RESERVE ACCOUNTS FROM UNADJUSTED FINANCIAL STATEMENTS			
	Year 1	**Year 2**	**Year 3**
Portfolio	146,000	440,000	726,900
(reserve)		(10,000)	(10,000)
Provisions		10,000	
Extraordinary Write-Offs			

The following table summarizes the adjustments necessary to reconcile the financial statements with the results of the analysis:

ADJUSTED PORTFOLIO AND RESERVE ACCOUNTS			
	Year 1	**Year 2**	**Year 3**
Portfolio	140,000	404,000	680,000
(reserve)	(14,000)	(40,400)	(68,000)
Provisions	14,000	26,400	27,600
Extraordinary Write-Offs	6,000	30,000	10,900

The changes introduced to the financial statements will obviously effect the net income and accumulated earnings accounts. These changes are incorporated in the ***Adjusted Financial Statements*** presented at the end of the chapter.

2.2.2 Adjusting Asset Accounts: Fixed Assets

The same principles applied in assessing the real value of the portfolio may also be applied to an institution's fixed assets. First, it is necessary to verify that all equipment used in the institution's operations are in fact accounted for on the balance sheet. The unadjusted financial statements presented by FONDOEMPRESA indicate that the institution has no fixed assets. However, FONDOEMPRESA in fact owns vehicles and computers that were donated in Year 2. Since FONDOEMPRESA did not pay for the equipment, they never reported the transactions on their financial statements. To correct this situation it is first necessary to enter the value of the donation as income and book the equipment received as a fixed asset. As indicated in the table below, this is done in Year 2. Note that the P/30,000 donation is added to the P/75,000 of donation income already reported by FONDOEMPRESA.

Second, it is necessary to depreciate those assets according to a reasonable depreciation schedule. In the case of FONDOEMPRESA, the P/30,000 worth of equipment is depreciated out over five years, resulting in depreciation expenses of P/6,000 per year in Years 2 and 3. The cumulative depreciation appears in the depreciation account on the Balance Sheet.

ADJUSTED FIXED ASSETS AND DEPRECIATION ACCOUNTS			
	Year 1	**Year 2**	**Year 3**
Fixed Assets		30,000	30,000
(depreciation)		(6,000)	(12,000)
Donation Income	98,000	105,000	50,000
Depreciation Expenses		6,000	6,000

2.2.3 Adjusting Income Accounts For Unreported Donations

As in the case of FONDOEMPRESA, organizations sometimes do not report donations as income. Technical assistance, equipment and training and travel scholarships are common types of donations that do not get reported, typically because the organization receives the donation in kind. When the goods or services received are directly related to the organization's credit operations they should be registered as donation income. At the same time, the cost of the goods or services should be registered as an expense. In the case of FONDOEMPRESA, the vehicles and computers received where entered as income, booked as fixed assets and then depreciated on a five year schedule. These changes to the financial statements provide a more accurate picture of the organization's actual operational costs. The revised financial statements also more accurately portray the organization's dependence on subsidies.

2.2.4 Adjusting Income Accounts to Reflect Actual Income From Operations

Income reported on the adjusted financial statements should reflect interest income actually received by the institution. The evaluator must therefore verify what type of accounting procedures were used to report interest income. There are basically three possibilities.

If the institution uses the accrual method and books interest income as it becomes due, the income reported in the P&L must be adjusted for income due but not received. If the institution books interest due in an interest receivables account, then income actually received can be calculated by

subtracting from the interest income account the difference between the balance of the interest receivables account at the beginning and end of the period. For example, if the institution shows P/100,000 in annual interest income, and the interest receivables account grew from P/5,000 to P/15,000 during the year, then the institution actually received only P/90,000. The evaluator must also account for the method used to write-off unrecoverable interest receivables. Interest receivables written-off must also be subtracted from interest income.

If the institution books interest income as it becomes due but does not use an interest receivables account, the only way to accurately determine the amount of interest income received is to total the value of every individual interest payment received during the year. If this is not possible, the evaluator may estimate the percentage of income actually received from the arrears rate in the portfolio.

Finally, institutions that use the cash accounting method only book income as it is actually received and report actual income on the P&L, therefore no adjustments are necessary. This is the method employed by FONDOEMPRESA.

2.3 PREPARING THE ADJUSTED FINANCIAL STATEMENTS

After making the adjustments described above, the final step is to incorporate the revised data into adjusted financial statements. The adjustments for FONDOEMPRESA, summarized below, are presented in the adjusted statements at the end of the chapter. Adjustments made to the financial statements are highlighted.

The portfolio is reduced by the amount of the extraordinary write-offs that appear in the P&L.
The reserve account is increased by the amount booked as a provision expense in the P&L.
Fixed assets were added in Year 2, resulting in an adjustment in donation income.
The fixed assets were depreciated in Years 2 and 3, reflected both in the depreciation account in the Balance Sheet and in the depreciation expense account in the P&L.

Adjustments to income and expenses resulted in a revised Net Income figure for each year, which in turn effected the accumulated earnings and capitalized earnings lines in the Balance Sheet.

The results of these adjustments may be dramatic. In the case of FONDOEMPRESA, for example, adjusted total assets at the end of Year 3 are P/1,007,000, an 8% reduction from the P/1,093,900 presented by FONDOEMPRESA. The adjusted loan portfolio, net of provisions, is 15% less than the unadjusted portfolio. Expenses in Year 3 are P/280,885, a 19% increase over the expenses reported by FONDOEMPRESA.

2.4 PRESENTATION OF INFLATION-ADJUSTED FINANCIAL STATEMENTS

Once the financial data has been adjusted, it is useful to produce a separate set of inflation-adjusted financial statements. Inflation-adjusted financial data is useful to analyze the real growth of specific line-items in the financial statements, for example, real growth of performing assets. However, the analyst must be careful when using inflation-adjusted data to characterize changes to large categories of data such as total assets or equity. In the case of FONDOEMPRESA, depicted in the adjusted financial statements at the end of the chapter, total assets grew 109% in real terms over three years. However, because the value of property assets was not adjusted for inflation, the adjusted financial statements show the real value of this asset declining in real terms over the three-year period. If the value of property assets were adjusted every year to reflect appreciation the value of that asset would remain constant in real terms and Year 3 total assets would be P/804,112, a 121% increase from Year 1. Equity Capital would also be adjusted accordingly.

Financial performance indicators are expressed as ratios and should be calculated using financial data in local currency in nominal terms. Real rates of growth can be derived from nominal rates with the following formula:

$$r = \frac{1 - p}{1 + p}$$

Where:

r = real growth rate

i = nominal growth rate

P = inflation rate

For example, the real rate of growth for an institution that increased its equity by 40% during a year of 15% inflation would be 21.7%, demonstrated in the following formula:

$$r = 0{,}217 = \frac{0{,}4 - 0.15}{1{,}15}$$

2.5 CALCULATING A BASE FOR FINANCIAL PERFORMANCE INDICATORS

Most of the performance indicators employed in this analysis will be expressed in relationship to average (adjusted) performing assets.[1] The most accurate figure is a weighted average of the combined monthly balances of the performing asset accounts during the fiscal period. The weighted average captures the effect of seasonal variations or irregular growth, which is common in incipient or expanding institutions. However, it is not possible to calculate a weighted monthly average from the adjusted annual financial statements because the data from the monthly statements is still unadjusted and does not correspond to the adjusted balances of the revised statements. However, the simple average from the adjusted annual figures can be adjusted to reflect a weighted average by the following procedures:

In FONDOEMPRESA, for example, the adjusted balance of performing assets, which include investments and gross portfolio, was P/750,000 at the end of Year 3. The adjusted balance of those same accounts was P/474,000 at the end of Year 2. Thus the simple average of performing assets for Year 3 was P/612,000.

Next it is necessary to verify if there have been irregular growth patterns during the fiscal period. Using the unadjusted financial statements, the analyst should compare the average of the twelve monthly balances to the simple average of the balances at the beginning and end of the fiscal year. For example, the average of the performing assets balances at the end of Year 2 and Year 3 from FONDOEMPRESA's unadjusted financial statements is P/565,000 + P/928,900 = P/746,950. The average of the twelve monthly balances is also P/746,950 because FONDOEMPRESA grew consistently throughout the fiscal year.

However, if the monthly statements had shown that performing assets had remained at P/565,000 for the first six months of the year and then expanded rapidly, the weighted average balance of performing assets during the year would have been less than the simple average of the beginning of year and end of year balances. In such a case, the percentage difference between the weighted monthly average and the simple average of the year-end balances of the unadjusted statements can be used to adjust the simple average calculated with the adjusted data. In the case of FONDOEMPRESA, there is no difference between the averages and therefore it is not necessary to adjust the simple average from the adjusted financial statements. However, if the weighted average monthly balance of FONDOEMPRESA's performing assets was 10% less than the simple average calculated from the unadjusted financial statements, the average of the adjusted data, P/612,000 for Year 3, should be reduced by 10%.

ADJUSTED FINANCIAL STATEMENTS	YEAR 1	YEAR 2	YEAR 3
ASSETS			
Cash	33,535	55,000	132,000
Investments	30,000	70,000	70,000
Portfolio	140,000	404,000	680,000
(reserve)	(14,000)	(40,400)	(68,000)
Fixed Assets	0	30,000	30,000
(depreciation)	0	(6,000)	(12,000)
Property	175,000	175,000	175,000
Total Assets	364,535	687,600	1,007,000
LIABILITIES			
Loans	0	200,000	400,000
Deposits	0	131,465	250,000
EQUITY			
Capitalized Earnings	374,535	364,535	356,135
Accumulated Earnings	(10,000)	(8,400)	865
Total Liabilities and Equity	364,535	687,600	1,007,000
INCOME			
Credit Income	17,500	96,250	216,750
Investments	4,500	10,000	15,000
Donations	98,000	105,000	50,000
TOTAL INCOME	120,000	211,250	281,750
EXPENSES			
Personnel	80,000	104,000	148,785
Administration	30,000	40,000	50,600
Depreciation		6,000	6,000
Provisions	14,000	26,400	27,600
Extraordinary Write-offs	6,000	30,000	10,900
Total Operational Costs	130,000	206,400	243,885
Financial Costs	0	13,250	37,000
TOTAL EXPENSES	130,000	219,650	280,885
NET INCOME	(10,000)	(8,400)	865

Shaded areas indicate line items that were either added or adjusted.

INFLATION-ADJUSTED FINANCIAL STATEMENTS Annual Inflation	**YEAR 1** n/a	**YEAR 2** 15%	**YEAR 3** 15%
ASSETS			
Cash	33,535	47,826	99,811
Investments	30,000	60,870	52,930
Portfolio	140,000	351,304	514,178
(reserve)	(14,000)	(35,130)	(51,418)
Fixed Assets	0	26,087	22,698
(depreciation)	0	(5,217)	(9,704)
Property	175,000	152,174	132,325
Total Assets	364,535	597,913	761,437
LIABILITIES			
Loans	0	173,913	302,457
Deposits	0	114,317	189,036
EQUITY			
Capitalized Earnings	374,535	316,987	269,289
Accumulated Earnings	(10,000)	(7,304)	654
Total Liabilities and Equity	364,535	597,913	761,437
INCOME			
Credit Income	17,500	83,696	163,894
Investments	4,500	8,696	11,342
Donations	98,000	91,304	37,807
TOTAL INCOME	120,000	183,696	213,043
EXPENSES			
Personnel	80,000	90,435	112,503
Administration	30,000	34,783	38,261
Depreciation		5,217	4,537
Provisions	14,000	22,957	20,870
Extraordinary Write-offs	6,000	26,087	8,242
Total Operational Costs	130,000	179,478	184,412
Financial Costs	0	11,522	27,977
TOTAL EXPENSES	130,000	191,000	212,389
NET INCOME	(10,000)	(7,304)	654

3. FINANCIAL ANALYSIS

Financial strength is the primary indicator of the overall efficiency and longterm viability of a financial institution. An institution is financially sound and sustainable when it generates sufficient income from its investment activities to cover operational and financial costs and maintain the real value of its equity base. In analyzing the financial performance of an institution, it is useful to distinguish between the different types of costs and, accordingly, different levels of cost coverage.

3.1 LEVELS OF COST COVERAGE

3.1.1 Actual Financial Costs

At the most basic level, it is important to determine the difference, or spread, between the gross yield on performing assets and actual financial costs. This spread is called the gross financial margin.

3.1.2 Operational Costs

The gross financial margin must be sufficient to cover operational costs. These include administration and personnel costs as well as the cost of maintaining an adequate provision for loan losses. The financial margin minus operating costs yields the net operating margin. The net operating margin reflects the net income position. If the net operating margin is 0, the institution is maintaining a positive cash flow in the current period but is not capitalizing any profit and thus the equity base is eroding in real terms with the rate of inflation.

3.1.3 Imputed Cost of Capital

In addition to covering financial and operational costs, a financial institution must generate

sufficient surplus to maintain the real value of its capital. This means that the institution generates and capitalizes enough net income (profit) to increase the capital base by the economic cost of capital. The "cost" of maintaining the real value of capital must be calculated and then imputed in the financial analysis to demonstrate the institution's ability to cover the economic cost of capital. These imputed costs compensate for capital costs that do not appear on the Statement of Profit and Loss. The addition of imputed capital costs is based on the assumption that the performing assets of a financial institution should produce sufficient income to cover the economic cost of maintaining the real value of the institution's capital base.

There are at least two important benchmarks to consider when calculating the economic cost of capital. The inflation rate reflects the cost of maintaining the real purchasing power of capital. The opportunity cost of capital, defined by the weighted cost of capital in the financial market, measures the economic cost of investing capital in the institution's activities as opposed to another investment opportunity. In most cases, the inflation rate will serve as an adequate proxy for the economic cost of capital. However, the opportunity cost of capital is a more accurate standard when it is necessary to compare the net economic benefits of several financial institutions. In the case of FONDOEMPRESA, the inflation rate is used.

The capital of most microenterprise finance institutions is comprised of equity and concessional loans. Normally, a financial institution is not concerned with maintaining the value of borrowed funds; the only cost the institution incurs is the interest it pays on the loan. However, concessional loans are really a quasi-equity form of investment in which the investor, in the interest of supporting the institution, allows the institution to reinvest the rents they would normally have to pay back to the investor. Moreover, concessional loans constitute a form of irreplaceable capital because, after they are repaid, such funds normally cannot be replaced on the same terms. The institution is therefore responsible to maintain the real purchasing power of this quasi-equity investment just as it must maintain the real value of its own equity.

3.2 TYPES OF INSTITUTIONS

The performance of a financial institution is expressed as a series of ratios of income and expenses to income-generating assets. However, the allocation and calculation of income and expenses as well as the definition of "performing assets" depends on the type of institution. The table below summarizes two approaches to calculating financial performance indicators according to the type of financial institution.

TYPE OF INSTITUTION	BASE	INCOME	FINANCIAL COSTS	OPERATIONAL COSTS	IMPUTED CAPITAL COSTS
Deposit-taking Financial Institution or Non Deposit-taking Financial Institutions	performing assets	income derived from performing assets	total cost of funds	all administration and personnel costs, and loan loss provision	Inf * (equity + soft loans) less actual financial costs less imputed asset appreciation
Multi-purpose Institution with credit program	loan portfolio	income derived from lending activities	total cost of funds	direct personnel, % of admin costs and loan loss provision	Inflation * (portfolio*1.2), less financial costs

The viability of a financial institution depends on the ability to generate sufficient income from performing assets to cover all the operational and financial costs of the organization. The financial ratios measure the institution's performance in those terms. However, many NGOs engage in a range of activities generating income and incurring costs unrelated to the credit operations. The analysis of a multi-purpose NGO can be adapted to measure the financial performance of the credit operations in isolation. A method is presented in this chapter. However, it is important to note that the financial performance of a credit program within a multi-purpose NGO is not an adequate measure of institutional viability. Ultimately, the viability of the credit program depends on the economic strength as well as the clarity of purpose of the entire institution.

3.3 COST-STRUCTURE ANALYSIS

3.3.1 Specialized Deposit-taking and Non Deposit-taking Financial Institutions

The most comprehensive approach to analyzing the financial performance of an institution is to compare all income derived from income-generating (performing) assets to all financial, operational and imputed capital costs ***expressed as a percentage of performing assets***. The calculation measures the institution's ability to efficiently manage its assets.

This approach is applied to FONDOEMPRESA and the results of the analysis for Year 3 are presented in the table below:

FONDOEMPRESA COST STRUCTURE					
ITEM	**PERFORMING ASSETS**	**INCOME**	**FINANCIAL EXPENSES**	**OPERATIONAL EXPENSES**	**IMPUTED CAP COSTS**
CALCULATION	612,000	231,750	37,000	243,885	55,235
PERCENTAGE		37.9%	6.1%	39.9%	9.0%

FONDOEMPRESA's ***average performing assets*** in Year 3 were P/612,000. ***Income*** derived from those assets totals P/231,750, representing a yield of 37.9%, and consists of credit income and income from investments. It is important to note that this calculation does not include the income derived from grants. ***Financial expenses*** of P/37,000 represent a financial cost ratio of 6.1% of average performing assets. The gross financial margin of the case program is therefore 37.9% - 6.1%=31.8%.

Operational expenses include all administrative and loan loss provision costs. The total of P/243,885 represents an operational cost ratio of 39.9% of performing assets. The difference between the gross financial margin and the operating cost ratio yields the net operating margin: 31.8% - 39.9%=(8.1%),

which corresponds to the second level of cost coverage. This calculation indicates that FONDOEMPRESA is not covering actual costs with income derived from the lending operation. The severity of the 8.1% deficit is not immediately apparent in the institution's financial statements because of the additional P/50,000, or 8.2%, received as grants.

In order to calculate the third and final level of cost coverage, it is necessary to impute the net economic cost of capital as a real cost associated with the management of the financial institution. This analysis consists of a calculation of the ***imputed cost of capital*** and the imputed benefit derived from property assets. The table below demonstrates the calculation for FONDOEMPRESA.

BALANCE SHEET ITEM	Annual Average	ECONOMIC (COST)/BENEFIT @ 15%	ACTUAL (COST)/BENEFIT	IMPUTED (COST)/ BENEFIT
Capital				
Concessional loans	300,000	(45,000)	(17,000)	(28,000)
Equity	356,568	(53,485)	0	(53,485)
Assets				
Property	175,000	26,250	0	26,250
Total				(55,235)

The imputed cost of capital is included in the financial analysis to compensate for the economic costs of maintaining the real value of equity and quasi-equity sources of capital. In the case of FONDOEMPRESA, the 15% inflation rate is applied to the institution's average equity and concessional loans for Year 3. The institution actually paid P/17,000 in interest on the concessional loans and the difference between that and the economic cost of that concessional loan is imputed (P/45,000-P/17,000=P/28,000). The P/53,485 economic cost of maintaining the real value of the equity base is also imputed. It is important to note that there is no cost of maintaining the real value of savings deposits, since the depositors accepted the savings rate as adequate compensation for the effect of inflation on their savings.

Just as there are economic costs associated with the capital of an institution, there may also be

economic benefits associated with the institution's assets that are not captured in the Profit and Loss Statement. For example, the institution has invested P/175,000 of its capital in property. It is realistic to assume that the property asset is increasing in value at the same rate as inflation and thus an economic benefit of P/26,250 is being generated by the appreciation of the property asset. The economic benefit of property must therefore also be included in the calculation. In the example of FONDOEMPRESA, net economic costs equal P/55,235, or 9.0% of average performing assets.

The profitability analysis of FONDOEMPRESA indicates that even with a financial margin of 31.8%, the institution functions with a negative net operating margin of (8.1%) and, in the last fiscal year, subsidized that deficit with grants equal to 8.2%. In addition, the institution is decapitalizing or eroding the value of concessional loans by an amount equal to another 9.0%. This analysis shows that the institution would need to increase its yield on assets 45.1%, from 37.9% to 55.0%, in order to cover all of its long-term costs. The 45.1% provide an indication of the level of subsidy required to maintain the institution in the long term.

PROFITABILITY ANALYSIS OF FONDOEMPRESA		
Financial Income	37.9%	
Actual Financial Costs	6.1%	
Gross Financial Margin	31.8%	Level 1
Operating Costs	39.9%	
Net Operating Margin	(8.1%)	Level 2
Imputed Capital Costs	9.0%	
TOTAL	(17.1%)	Level 3
Required Yield	55.0%	
Subsidy Index	45.1%	

3.3.2 Multi-purpose Institutions with a Credit Program

The analysis of financial performance of credit programs housed within multi-purpose institution must take into account that only part of the institution's operating, financial and imputed capital expenses are associated with the credit program. In the following table, this calculation is performed on a case program as if it were housed within a multi-purpose institution, FONDOMULTI. In order to perform these calculations, it is assumed that the case program does not capture savings and that all of its liabilities are loans.

FONDOMULTI COST STRUCTURE					
ITEM	**PORTFOLIO**	**INCOME**	**FINANCIAL EXPENSES**	**OPERATIONAL EXPENSES**	**IMPUTED CAP COSTS**
CALCULATION	542,000	216,750	37,000	199,524	60,560
PERCENTAGE		40%	6.8%	36.8%	11.2%

In the case of a multi-purpose institution, the only performing asset relevant to the lending operation is the portfolio itself. In FONDOMULTI, the ***average outstanding portfolio*** for the last fiscal year was P/542,000. Likewise, only ***income*** derived from the portfolio should be included in the income calculation. The P/216,750 is comprised of interest income. Gross yield on the portfolio is 40%.

When allocating the financial costs of the institution, it is easiest to assume that any borrowed funds are invested in the loan portfolio. As long as liabilities are less than or equal to 120% of the average outstanding portfolio, all of the institutions financial costs can be allocated to the credit program. (Here it is assumed that the institution must mobilize enough capital to maintain at least 20% of the amount of the portfolio in cash reserves.) Under these assumptions, FONDOMULTI's average liabilities were P/490,733, 90% of the average outstanding portfolio of P/542,000. Therefore all of the actual financial costs of P/37,000, 6.8% of the portfolio, can be allocated to the credit program. The gross financial margin for the credit program is thus 40% - 6.8% = 33.2%.

Operational expenses can be calculated by allocating all direct expenses plus a percentage of overhead expenses. In the absence of a sophisticated cost accounting system, one of two methods can be employed to derive a ratio to use in assigning a percentage of overhead costs to the credit operation. The most accurate method is to determine the percentage of time that each employee dedicates to credit activities and then calculate an average. The second-best option is to calculate the ratio of full-time credit employees to total staff. In FONDOMULTI, for example, 14 of the institution's 22 operational employees (64%) are involved exclusively with the credit program. This operational employee ratio may serve as a weighting factor to distribute overhead and administrative costs. The salaries of the 14 employees directly involved in credit operations equal P/105,600. Of the remaining P/43,185 of salary expenses, P/30,000 are related to administrative and management staff. 64% of these and all non salary administration and depreciation expenses should also be allocated to the credit program. Finally, all provision and extraordinary write-off expenses are allocated to the credit program since they are directly related. Total operational expenses thus equal P/199,524, or 36.8% of the average portfolio.

	Institution	%	Credit Program
Operational Employees	22	64%	14
Direct Salaries	105,600	100%	105,600
Administrative Salaries	30,000	64%	19,200
Administrative Expenses	56,600	64%	36,224
Loan Provisions	38,500	100%	38,500
TOTAL			199,524

The ***imputed cost of capital*** associated with the credit program is calculated on the amount of equity and/or concessional loans that are invested in the portfolio, plus 20% of the amount of the portfolio that is normally required for cashflow management. In the case program, 120% of the average portfolio is P/650,400. The economic cost of maintaining the real value of this amount with 15% inflation is P/97,560. The imputed cost of capital is therefore P/97,560 minus the P/37,000 of actual financial costs: P/60,560, or 11.2% of the average portfolio.

The results of this analysis indicate that FONDOMULTI generates a 33.2% gross financial margin from its credit operations. However, operational expenses are 36.8% and thus the net operating margin is a (3.6%) deficit. The institution is likely financing this deficit by cross-subsidizing the credit operation with resources from other programs. Imputed capital costs are an additional 11.2%, resulting in a level 3 total of (14.8%). The yield on the portfolio would have to increase by 37%, from 40% to 54.8%, to be sustainable in the long term.

PROFITABILITY ANALYSIS OF FONDOMULTI	
Income	40%
Actual Financial Costs	6.8%

Gross Financial Margin	33.2%	Level 1
Operating Costs	36.8%	
Operating Margin	(3.6%)	Level 2
Imputed Capital Costs	11.2%	
TOTAL	(14.8%)	Level 3
Required Yield	54.8%	
Subsidy Index	37.5%	

3.4 ANALYSIS OF ASSET AND LIABILITY STRUCTURE

Having calculated indicators of general financial performance, it is important to determine the sources of inefficiency. The structure of an institution's assets and liabilities should be examined. As a first step, it is helpful to create a distribution table of the balance sheet. The table below shows the distribution of FONDOEMPRESA's Balance sheet at the end of Year 3.

A superficial review of the distribution of assets is sufficient to determine whether the institution maintains too many of its resources in non-productive assets. However, it is necessary to conduct a more detailed analysis of the net return on individual assets and costs of sources of capital in order to determine whether efficiency could be improved by restructuring assets and liabilities.

BALANCE SHEET DISTRIBUTION	
Assets	100%
Cash	13%
Investments	7%
Portfolio (net)	61%
Fixed Assets (net)	2%
Property	17%
Liabilities and Equity	100%
Loans	40%
Deposits	25%
Capitalized Earnings	35%
Accumulated Earnings	0%

3.5 ANALYSIS OF INCOME STRUCTURE

A simple distribution table such as the one below illustrates two important aspects of an institution's income structure. In the left column of each year, income is expressed as a percentage of average performing assets. The evolution of this indicator over the three years demonstrates the yield of the institution's investments. In the case of FONDOEMPRESA for example, yield on the portfolio and investments increased from 25.9% of performing assets in Year 1 to 37.9% in Year 3.

The right-hand column displays the distribution of income by source. This demonstrates the relative importance of the different sources of income. In the case of FONDOEMPRESA, portfolio income increased as a percentage of total income from 14.6% in Year 1 to 76.9% in Year 3 while grant income declined from 81.6% to 17.7%.

	YEAR 1*		YEAR 2		YEAR 3	
	% of Perf Assets	% of total income	% of Perf Assets	% of total income	% of Perf Assets	% of total income
Credit Income	20.6%	14.6%	29.9%	45.6%	35.4%	76.9%
Investments	5.3%	3.8%	3.1%	4.7%	2.5%	5.3%
Donations	115.3%	81.6%	32.6%	49.7%	8.2%	17.7%
Total	141.2%	100%	65.6%	100%	46.1%	100%

* FONDOEMPRESA began operations in Year 1 and therefore average performing assets are half of the end of Year 1 balances.

3.6 ANALYSIS OF OPERATIONAL COST STRUCTURE

The same analysis should be conducted on the distribution of costs. In the left-hand column, the evolution of cost categories, expressed as a percentage of average performing assets, demonstrates the operational efficiency of the institution. In FONDOEMPRESA, for example, total operational costs declined from 153.0% of average performing assets in Year 1 to 39.9% in Year 3. It is also important to examine the evolution of individual line items. In FONDOEMPRESA, personnel and administrative costs declined significantly as performing assets grew, from 94.1% to 24.3% and from 35.3% to 8.3% respectively.

In addition, the distribution of expenses, shown in the right-hand column, should provide a profile of the cost structure. The evaluator must examine the profile carefully to determine which relationships are significant. In the case of FONDOEMPRESA, for example, the relative importance of administrative costs has declined while financial expenses have increased. This is not unusual for a program like FONDOEMPRESA in an expansion phase.

	YEAR 1		YEAR 2		YEAR 3	
	% of Perf Assets	% of total expenses	% of Perf Assets	% of total expenses	% of Perf Assets	% of total expenses
EXPENSES						
Personnel	94.1%	61.5%	32.3%	47.3%	24.3%	53.0%
Administration	35.3%	23.1%	12.4%	18.2%	8.3%	18.0%
Depreciation	n/a	n/a	1.9%	2.7%	1.0%	2.1%
Reserve	16.5%	10.8%	8.2%	12.0%	4.5%	9.8%
Extraordinary Write-offs	7.1%	4.6%	9.3%	13.7%	1.8%	3.9%
Total Operational Costs	153.0%	100.0%	64.1%	94.0%	39.9%	86.8%
Financial Costs	0%	0%	4.1%	6.0%	6.0%	13.2%
TOTAL EXPENSES	153.0%	100.0%	68.2%	100%	45.9%	100%
NET INCOME	(11.8%)		(2.6%)		0.1%	

In an incipient institution, such as FONDOEMPRESA, the distribution of income and expenses is likely to change dramatically during periods of expansion. The distribution tables may illustrate important trends, but it is often necessary to conduct a more profound analysis of program operations and administrative structure to understand the factors that determine the income and expense structure. The following chapter is dedicated to the analysis of operational efficiency as a method for analyzing the basic operational and administrative systems that determine the income and expense structure of the institution.

4. ANALYZING OPERATIONAL EFFICIENCY

The performance of a financial institution depends on several factors that determine the income and expenses associated with the lending operation. But financial performance begins with operational efficiency. The following chapter presents a series of indicators that can be used to measure the efficiency of program operations.

Efficiency analysis consists of two steps. The first part consists of an analysis of historical data and produces general indicators of the operational efficiency of the institution. The second part of the analysis consists of a detailed examination of the loan origination and administration process. This analysis should enable the evaluator to locate the causes of inefficiency in specific operational procedures and lending policies.

4.1 ANALYSIS OF HISTORICAL DATA

The following data, summarized in the table on the following page, must be gathered and compiled in order to conduct the efficiency analysis.

4.1.1 Personnel Resources

"Personnel Resources" refers to the staff who deliver the loan products. It is necessary to disaggregate personnel data according to the following categories:

Average Number of Loan Officer

The loan officer is the basic productive unit of the lending operation. Loan officers are those employees who work directly with the clients in the loan origination process. Some institutions divide the various tasks of loan origination, training and loan follow-up among different personnel. In these cases, the analyst will have to determine which of the personnel should be considered as "basic units" in the loan disbursement and follow-up process.

Average Number of Staff in Credit Operations

This includes all support and management staff associated with the credit operation. If the institution conducts other activities not related to the credit operations, it is necessary to classify staff according to the amount of time they spend in the credit operations.

4.1.2 Output Data

"Output" data consists of the following indicators:

Number of loans disbursed during the fiscal year

Number of loans disbursed to first-time borrowers during the fiscal year

Amount disbursed during the fiscal year

Average loan amount disbursed during the fiscal year

4.1.3 Portfolio Data

Portfolio data consists of the following indicators:

Weighted average outstanding loan portfolio

Weighted average number of active loans

Weighted average outstanding loan balance

OPERATIONAL EFFICIENCY INDICATORS	YEAR 3
PERSONNEL RESOURCES	
Weighted Average Number of Credit Officers	14
Weighted Average Number of Credit Operations Staff	22
OUTPUT DATA	
Number of Loans disbursed in fiscal year	1,008
Number of loans disbursed to first-time borrowers in year	670
Amount disbursed in fiscal year	P/1,360,800
Average Loan amount disbursed in fiscal year	P/1,350
PORTFOLIO DATA	
Weighted average outstanding loan portfolio	P/542,000
Weighted average number of active loans	1,000
Weighted average outstanding loan balance	P/542
EFFICIENCY INDICATORS	
Output Data Indicators	
Loans disbursed per credit officer/year	72
Amount disbursed per credit officer/year	P/97,200
Portfolio Data Indicators	
Active loans per credit officer	71
Gross outstanding principal per credit officer	P/38,714
Active loans per credit staff	45
Gross outstanding principal per credit staff	P/24,636

4.1.4 Efficiency Indicators

Output Data Indicators

Output data indicators can be analyzed to determine whether there have been changes in the volume

of disbursements. If there have been significant changes in the output data variables, it is important to determine whether such changes are a result of changes in loan policies or from changes in output capacity. It is important to note that while output data indicators are useful to portray certain aspects of credit operations, they are not an adequate measure of operational efficiency. The efficiency of a credit operation ultimately depends on the size of the portfolio, which is a function of loan size and loan term as well as the number of disbursements.

loans disbursed per credit officer per year

amount disbursed per credit officer per year

Portfolio Data Indicators

"Portfolio" data indicators are the most comprehensive measure of operational efficiency because they reflect the combined effect of loans disbursed, amount loaned and the loan term.

active loans per credit officer

This indicator measures the efficiency of the lending method and administrative systems of the organization.

outstanding principal portfolio per credit officer

The average size of the credit officer's portfolio is a product of the number of active loans and the size of an average loan. Measured in these terms, the productivity of the credit officer represents the efficiency of the basic productive unit of a credit operation. These indicators measure the basic and indivisible economy of scale in the sense that the ratio of credit officer to number of active loans will not change regardless of the scale of operations.

A comparison of portfolio data to all staff involved in credit operations is an even more comprehensive measure of institutional efficiency. These indicators are more sensitive to changes in efficiency due to economies of scale. The productivity of the credit officer is ultimately prescribed by the lending method, but an institution can attain more efficient economies of scale by streamlining support and management systems to accommodate more credit officers.

active loans per credit staff

outstanding principal portfolio per credit staff

4.1.5 Interpreting the Data

The table above summarizes the results of the operational efficiency analysis of FONDOEMPRESA. During 1993, FONDOEMPRESA maintained an average portfolio of 1000 loans worth P/542,000 with 14 credit officers and 8 management and support staff. During that year, FONDOEMPRESA disbursed 1,008 loans totaling P/1,360,800, 670 of which were to first-time borrowers.

The financial analysis of FONDOEMPRESA has demonstrated that the institution was not able to cover the total costs of operations in 1993. In the case of FONDOEMPRESA, the critical question is whether the high operational costs are due to inefficient lending policies and operational procedures or to an efficient scale of operations. Growth may remedy the latter problem, but it will only compound the former. FONDOEMPRESA's financial statements indicate the institution expanded rapidly in 1993 and thus it is difficult to draw conclusions about long term productive capacity from 1993 data. It is therefore necessary to analyze the productive capacity of FONDOEMPRESA operations in more detail.

4.2 PRODUCTIVITY ANALYSIS OF PROGRAM OPERATIONS

The output and portfolio indicators characterize the historical performance of an institution. However, these indicators do not identify the operational factors that determine the institution's productive capacity. Productivity analysis examines the basic operational procedures of the lending operation. Whereas the output and portfolio indicators are derived from current output and portfolio data, productivity analysis calculates the maximum portfolio that is possible given the time required to execute current operational procedures. If the output and portfolio indicators are similar to the results of the productivity analysis, then the organization is probably operating at full capacity and therefore increases in financial performance will have to be achieved through changes to lending policies and/or streamlining operational procedures. However, if the institution is not functioning at its potential productive capacity, operational efficiency can most likely be gained through more effective time

management.

Most importantly, productivity analysis demonstrates the "productivity limits" of current lending policies and procedures. The productivity indicators enable the analyst to make projections of portfolio growth and operational costs that are based on realistic assumptions about operational capacity. This analysis is also useful in identifying policies and procedures that could be changed to render the institution more efficient.

4.2.1 Analysis of Credit Officer Caseload

Productivity analysis consists of a detailed evaluation of all aspects of the loan origination and administration process, the combined effect of which results in the average credit officer caseload. The table below summarizes the steps in the analysis. The ***credit officer portfolio profile*** is a product of the ***caseload analysis*** and the ***time usage of the credit officer.***

Credit Officer Portfolio Profile

As the table indicates, the maximum portfolio that a credit officer can manage at any given time is a function of the average numbers of loans disbursed per month, the effective loan ter, the average loan amount and the amortization method used to schedule the repayment of loans.[4]

Caseload Analysis

The maximum number of loans that a credit officer can manage at one time is determined by the

[4] For example, a FONDOEMPRESA credit officer should be able to disburse an average of 9 twelve-month loans every month. If a new credit officer worked at this pace, her portfolio would have 108 active loans at the end of the twelfth month. In the thirteenth month, the nine loans disbursed in the officer's first month would make their last payment and nine new loans would be disbursed. This rotation would occur in every month thereafter and the portfolio would always have an average of 108 active loans. The size of the portfolio would then depend on the average outstanding balance. FONDOEMPRESA clients repay their loans in equal monthly installments, therefore the average outstanding balance is half of the original average loan amount.

amount of time required to originate and monitor loans. A FONDOEMPRESA credit officer requires around 6 hours to originate a loan to a first-time borrower, 3 hours for a follow-up loan, and about 45 minutes a month to monitor each active clients that is in the process of repaying his or her loan. This figures appear in the left column in the table.

Of 9 loans originated in a given month, 6 are typically first loans requiring 36 hours of the credit officer's time. The remaining three loans to repeat clients require only 9 hours. And the credit officer spends 72 hours visiting and monitoring the remaining 97 clients who are repaying their loans. In total, the credit officer spends 117 hours during the month working directly with the clients.

Time Usage of the Credit Officer

In addition to time spend directly with the clients, credit officers must fulfill other obligations as employees of the institution. In the case of FONDOEMPRESA, credit officers also spend 30 hours a month in meetings and attending to miscellaneous administrative matters, and they spend 4 hours a month preparing reports. An average of 15 hours a month are lost to vacation, national holidays, sick leave and unproductive time. The table shows the allocation of a credit officer's time among these activities. The total must be less than the number of hours in a typical work month in the country.

ANALYSIS OF FONDOEMPRESA CREDIT OFFICER CASELOAD			
CREDIT OFFICER PORTFOLIO PROFILE			
9	Loans disbursed per month		
12	Average effective loan term		
108	= Number of active loans in portfolio		
P/1,350	* Average loan amount		
2	\ Amortization factor		
P/72,900	= Average Portfolio		
CASELOAD ANALYSIS Hours/client		total clients	total hours
6	First loan analysis	6	36
3	Follow-up loan analysis	3	9
.75	Monthly monitoring	97	72
	TOTAL		117
TIME USAGE OF THE CREDIT OFFICER			
		Time spent with Clients	117
		Meetings and Administration	30
		Preparation of Reports	4
		Downtime	15
		Total Work Hours per Month	166

The output and portfolio data indicators from 1993 indicate that the average FONDOEMPRESA credit officer disbursed 72 loans during the year, or 6 loans per month, and maintained an average portfolio of 71 loans. However, the productivity analysis of FONDOEMPRESA indicates that, under current working conditions, the credit officers should be able to manage a portfolio of 108 clients,

52% more than the 71 clients they managed in 1993. If the 14 credit officers were to function at their full potential, disbursing loans with the same conditions as in 1993, FONDOEMPRESA would be able to manage a portfolio of P/1,020,600 even without making any changes to lending operations.

4.2.2 Analysis of Management and Support Staff Caseload

The same type of analysis can be conducted on management and support staff position. Once an institution has designed lending operations to maximize the productive capacity of the lending officers it is equally important that management and support staff be organized as efficiently as possible. The table below calculates the portfolio:total staff ratio that would result if the credit officers maintained the maximum potential portfolio. Managing a P/1,020,600 portfolio with 22 staff members, FONDOEMPRESA would have a portfolio:total staff ratio of P/46,391, that is, 90% higher than the current P/27,818.

STAFF CASELOAD		
POSITION	NUMBER	PORTFOLIO
Credit Officers	14	P/1,020,600
Trainers	n/a	
Support Staff	5	
Mid-Level Management	2	
Management	1	
Total	22	P/46,391

The financial analysis provides indicators of overall financial performance. The operational efficiency analysis provides additional information about the efficiency of operational and administrative systems. The final part of the analysis will measure the impact of these systems and services on the clients.

5. TARGET GROUP ORIENTATION

The concept of "target group orientation" is useful as a means of characterizing the program services from the perspective of the client group. In the long run, the strength of a competitive financial institution depends on its ability to provide a sustainable financial service that in turn contributes to sustainable business activities. The institution must attend to its own needs, but it is ultimately only as strong as the business ventures it finances. Thus the main challenge of a financial institution is to balance its own needs with those of the client, and this challenge comes to bear directly on the design and pricing of financial services.

The target group orientation of a credit program can be characterized by analyzing the financial products offered by the institution. A series of indicators are presented in this chapter that portray different characteristics of the loan product from the perspective of the target group. The evaluator must consider all of the indicators and then decide which of these illustrate the most significant aspects of the loan product from the clients' perspective.

5.1 GENERAL INDICATORS FOR TARGET GROUP ORIENTATION

From the clients' perspective, the financial services provided by the institution must satisfy three basic conditions. First, the product must be delivered on terms that correspond to the clients' financing requirements. Secondly, creditworthy clients must have easy and permanent access to credit. And finally, the credit service must be affordable.

Type and Range of Products Corresponds to Client Demand

The most significant factors here are the lending method, type of loan instrument, and the loan conditions.

Services are Easily Accessible over the Long Term

This depends first on the degree of effort required of the client to acquire a loan. The dependability of long term access is linked to the institution's policies concerning follow-up loans.

The Credit Service is Affordable

Total transaction costs incurred by the client must be lower than the transaction costs associated with alternative sources of financing.

5.2 DISTRIBUTION OF PORTFOLIO BY GENDER AND ECONOMIC ACTIVITY

It is important to characterize the clientele by the gender of the entrepreneur, and by the nature of their economic activities. The analyst must consider local factors to determine appropriate classifications of clients. At a minimum, clients should be classified by commercial, service and production activities. Cross-tabulations by gender and economic activity are especially useful. In addition, clients should be classified separately by their location in rural or urban areas. Data for FONDOEMPRESA are presented in the table below.

CLASSIFICATION OF PORTFOLIO		Number of Loans	Balance of Loans
GENDER	Female %	60	40
	Male %	40	60
ECONOMIC ACTIVITY	Production %	25	40
	Commerce %	65	50
	Service %	10	10
LOCATION	Urban %	100	100
	Rural %	0	0

5.3 ANALYSIS OF THE FINANCIAL PRODUCT

5.3.1 Description of Lending Method

The lending method of an institution reflects two fundamental design choices. Loans are either extended to individuals or to groups. And lending methods can be characterized as minimalist or integrated.

Individual Loans

Individual loans are usually extended through a modified version of the loan origination procedures employed by formal sector banks. Loan guarantees are sometimes required, but should not be excessive or cumbersome to execute. Credit analysis is conducted with standard financial statements but focusses on the cashflow of the borrower as an economic unit, sometimes including multiple activities as well as the household. In order to carry out this analysis with accuracy, the credit officer needs to establish a one-on-one relationship with the borrower during the loan origination process. Individual loans are potentially the most convenient for the client. However, it is important to examine the overall effect of the stricter conditions and procedures that often accompany this type of

lending.

Group Loans

Group lending methods are designed to minimize the organization's need for information and guarantees by transferring certain functions to a group of borrowers. The terms of group loans are usually fixed and not adapted to the needs of individual borrowers, making this approach more appropriate to a homogeneous clientele. Participation in the group also involves certain inconveniences and transaction costs that may render the financial product too cumbersome for some classes of clients.

Minimalist Lending Methods

Institutions that seek to provide only credit services employ a "minimalist" method. The basic objective of such an approach is to provide credit to the clients through procedures that are designed to collect only enough information to originate and administrate good loans. Clients benefit from the reduced costs of such an approach. However, the effectiveness of the minimalist methodologies must be measured against the needs of the target group. If the target group only needs credit, then the minimalist approach is appropriate and cost effective. If credit alone is not sufficient to develop the clients' businesses, then the minimalist approach will likely undermine the financial position of the clients and the integrity of the portfolio over time.

Integrated Lending Methodologies

Institutions may encourage or even require loan applicants to participate in business training or technical assistance programs. This approach is based on the assumption that the clients require additional assistance in order to manage their loans effectively, and that an appropriate mixture of services would strengthen the borrower and thus benefit both the client and institution. This approach should be evaluated according to three basic criteria: the costs entailed by the client; indication that the impact of the non-credit services are worth the cost to the institution and the client; and, the quality and cost-effectiveness of the services.

5.3.2 Type of Credit Instrument: Fixed Asset vs Working Capital Loans

Some lending programs focus on either working capital or fixed asset loans as a matter of policy. The critical question is whether or not this limitation imposes serious restrictions on the target group. In programs that offer both types of loans, it is important to calculate the distribution of the portfolio, both in terms of the number of active loans as well as total outstanding portfolio in the respective categories.

Many programs begin by offering short-term, working capital loans, effectively limiting their services to commercial enterprises or the working capital needs of small-scale producers. The institution may eventually want to expand its client base in order to diversify the portfolio to minimize risk and to attain more efficient scale of operations. The loan instrument must be flexible enough to attract this broader clientele.

Data for FONDOEMPRESA are presented in the table below:

CLASSIFICATION OF PORTFOLIO BY LENDING METHOD	
Individual loans %	100%
Group loans %	0%
CLASSIFICATION OF PORTFOLIO BY LOAN TYPE	
Fixed Asset Loans %	25%
Working Capital Loans %	75%

5.3.3 Loan Conditions

The following loan conditions characterize the most important aspects of the loan instrument from the clients' perspective:

Loan Size: minimum, maximum and average

This range gives an indication of the institutions clientele. The average loan size demonstrates the focus of the lending operation, which should be compared against the primary requirements of the clients.

Loan Term: minimum, maximum and average

The impact of the loan term is linked to the amount and type of the loan. Working capital loans are typically small and short term. Fixed asset loans tend to be larger and amortized over a longer period. Ultimately, the loan term should be adequate to the business cycle of the client.

- **Average Outstanding Loan**

  The average outstanding loan amount reflects the amount of money that the average client has in his or her possession at any given time. This indicator is calculated by dividing the total outstanding portfolio by the number of active loans. However, this calculation may not reflect the most current lending policies if the existing portfolio consists of old loans or if there have been irregular disbursement patterns. In this case, the average outstanding balance that will result from current lending policies can be calculated by calculating the outstanding principal balance of an average loan at the midpoint of the amortization schedule. For example, the average balance of loans amortized evenly over a constant loan term will be slightly more than half of the original loan amount.

- **Average monthly [periodic] Payment**

This indicator captures the combined effect of the average loan amount, loan term and the interest rate. By itself, the average loan amount is not a sufficient indicator of the target group, or the effect of the loan on the target group, since the usefulness of the loan depends on the period of time over which it is amortized. The average monthly payment is a more accurate indicator of the impact of the debt burden because it reflects the negative cash flow of the average client. The periodic payment can be measured against the profit margins of the clients, when the data are available, to determine whether the loan instrument is appropriate.

LOAN CONDITIONS	All Clients	Female	Male
Average Loan Amount	P/1,350	P/950	P/1,950
Maximum	P/2,500	P/1,500	P/2,500
Minimum	P/150	P/150	P/500
Average Loan Term	10 months	9	12
Maximum	16 months	14	16
Minimum	3 months	3	3
Average Outstanding Loan	P/680	P/480	980
Average Monthly Payment (at 4% monthly interest)	P/166.44	P/127.77	P/207.78

5.3.4 Cost of Credit

The client incurs both direct and indirect expenses associated with a loan. Direct expenses are interest and fees, including fees paid for services required of the client as a condition for financing (such as fees for mandatory training courses and fees incurred in presenting official documents). Indirect transaction costs result from incidental expenses as well as the opportunity costs of time spent in the loan origination process. The client may also incur opportunity costs if forced to make a savings deposit as a condition of the loan.

_. **Interest Rates: nominal, effective and real**

The ***nominal interest rate*** is the rate normally quoted by the institution. However, since the true cost to the client depends as well on the way the interest is calculated and the principal is amortized, the nominal rate alone does not reflect the total costs associated with the loan.

The ***effective interest rate*** captures all direct costs associated with the loan and thus is a more accurate indicator of the true cost of credit. The effective interest rate is the rate the client would pay on the outstanding principal balance of his or her loan if all direct costs were included in the interest rate used to amortize the loan. The effective interest rate can be derived by calculating the internal rate of return (IRR) on an average client's net cashflow. For example, an "average" FONDOEMPRESA client borrows P/1,350 for 10 months at a 4% monthly interest rate. Monthly payments are (P/166.44). However, the client must pay a 3% origination fee thereby reducing the net amount of the loan to P/1,309.50. The IRR on a cash flow that begins with a present value of P/1,309.50 followed by 10 equal outflows of (P/166.44) is 4.62%, which is the monthly effective interest rate.

The real effective interest ra[5] adjusts the effective interest rate for inflation, allowing a more meaningful comparison of institutions in different countries. For example, FONDOEMPRESA loans carry a 4.62% monthly effective interest rate. With annual inflation of 15%, the monthly inflation rate is 1.17%[6].

The monthly real effective interest rate is thus 3.41%, derived from the following formula:

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[5] ***The formula that produces the real interest from the effective interest rate is:***

$$r = \frac{i-P}{l+p}$$ ***where r = real rate; i = nominal rate P = inflación rate***

[6] ***The monthly inflation rate may be derived from the annual inflation rate with the following formula:***
$P^m = (\sqrt[12]{1 + P}) - 1$ ***where: P^m = monthly inflation rate; P = annual inflation rate***

$$\frac{0,0462-0,0117}{1,0117} = 0,0341$$

- **Fees**

  Any fees or out-of-pocket transaction costs paid by the client, whether to process the /loan, pay for obligatory services or procure official documents effectively raise the cost of the credit service. This cost is expressed most accurately in the effective interest rate.

- **Forced Savings**

  Institutions that require the client to deposit savings into an account prior to receiving a loan impose indirect or opportunity costs on the client. This practice effectively reduces the value of the loan to the client by the amount of the savings deposit, even though the client continues to pay interest on the contracted amount of the loan. A simple and adequate method for capturing the effect of this condition is to subtract the amount of the savings deposit from the present value of the loan amount when calculating the effective interest rate with the IRR formula. If the institution pays the client interest on the savings deposit, the interest should also be included in the client's string of benefits in the IRR calculation.

5.3.5 Guarantee Requirements

Guarantee requirements can entail significant opportunity and transaction costs for the borrower. When collateral is required to secure a loan, the value of the collateral should be examined to determine whether it is appropriate to the amount of the loan.

5.3.6 Opportunity Costs

The client also incurs other opportunity costs in the time spent meeting all of the loan approval

requirements. These include the amount of time between the loan request and disbursement, the number of visits the client makes to the office and the total hours the client must dedicate to the process. The magnitude of the effort required should be noted. When appropriate, anecdotal evidence can be presented to support the quantitative indicators.

Finally, the percentage of clients that receive second and third loans is an important indicator of client satisfaction with the financial product. The analyst must also take into account the policies of the institution regarding follow-up loans.

5.4 INTERPRETATION OF THE DATA

The results of the target group orientation analysis for FONDOEMPRESA are presented in the following table.

DIRECT AND OPPORTUNITY COSTS OF CREDIT		
Interest Rates	Monthly nominal	4%
	Monthly effective	4.62%
	Monthly effective real	3.41%
Fees (as % of avg. loan amount)		3%
Obligatory Savings (as % of avg. loan amount)		n/a
Collateral (as % of loan amount)		n/a
Elapsed time between application and disbursement		1 month
Total hours incurred by client		30 hours
Clients receiving follow-up loans (%)		40%

FONDOEMPRESA only offers individual loans to microentrepreneurs. At the end of Year 3, 25% of outstanding loans were invested in fixed assets and 75% in working capital loans. 40% of the portfolio was invested in production enterprises, 50% in commerce and 10% in services. The same classifications of disbursements for Year 3 show that 25% of FONDOEMPRESA loans were disbursed to the production sector, 65% in commerce and 10% in services, indicating that average production loans tend to be higher than commercial loans.

FONDOEMPRESA makes loans of between P/150 and P/2,500 with loan terms ranging from 3 to 16 months. The average loan is P/1,350 for 10 months. Amortized in equal monthly installments at a 4% monthly interest rate, the monthly payment for FONDOEMPRESA average client is P/166.44. Clients are also required to pay a flat fee equal to 3% of the principal amount of the loan, which raises the monthly effective interest rate to 4.62%. With 1.17% monthly inflation (15% annual) in the country, FONDOEMPRESA clients are paying a monthly effective real interest rate of 3.41%.

FONDOEMPRESA encourages but does not oblige clients to participate in the savings program. Loans must be guaranteed by a co-signer who is not a client. The average client must spend about 30 hours in meeting all of the requirements of the loan origination process and typically receives the loan within 1 month of the time of the application.

6. INTERPRETING THE RESULTS

The analysis of financial performance, operational efficiency and target group orientation produces a variety of indicators that each measure a particular aspect of an institution and its operations. The interpretation of these indicators involves an iterative process of analyzing different groups of data until clear patterns emerge. The first task is to derive a clear "picture" of the institution in its present state, using the indicators to characterize key aspects of the institution's performance. The analyst must then proceed to analyze administrative and operational procedures in order to isolate causes of inefficiency. This part of the analysis provides the information necessary to design a program of support.

In the case of FONDOEMPRESA, for example, the financial analysis showed that the institution has very low financial costs due to subsidized sources of capital and produces a gross financial margin of 31.8%. Nevertheless, the operating cost ratio is 39.9%, resulting in a net operating margin of (8.1%), a deficit that FONDOEMPRESA covers with donations. In addition, the institution is decapitalizing. The reasons for this are likely numerous and inter-related. Loan loss provisions and extraordinary write-offs alone added 6% to the operating cost ratio in Year 3. The productivity analysis showed that the FONDOEMPRESA should be able to maintain a portfolio 50% higher than the current level, which suggests that the high operational costs are at least partially due to inefficient operational procedures. Clients are paying a 3.41% monthly effective real rate of interest and spending 30 hours to secure a loan. Despite the clients' efforts, FONDOEMPRESA is yielding only 37.9% per year on its portfolio. Clearly, lending operations are inefficient and too costly for the institution as well as the client. It may also be possible to increase the financial efficiency of FONDOEMPRESA by diversifying the portfolio, raising the interest rate or restructuring assets and liabilities. The task of the analyst is to identify the changes to policies and procedures that will enable the institution to correct the deficiencies reflected in the performance indicators.

The following six areas represent the basic management and operational "infra-structure" of a

financial institution. A thorough investigation of these six areas will likely uncover the factors that influence the performance of the institution.

6.1 CREDIT TECHNOLOGY

The technology employed to originate and monitor loans determines the number of active loans that a credit officer can manage at one time. In other terms, the credit technology sets limits for the basic productive capacity of the institution. Every policy and procedure should be assessed in order to streamline the process of loan portfolio management. More efficient operational systems also reduce the cost to the client.

6.2 CREDIT TERMS

The terms on which money is lent determine the income generating capacity of the portfolio. If a credit officer is able to originate a fixed number of loans per month (given by the credit technology), then the average size of the outstanding portfolio and its income generating capacity are determined by the average size of the loan, the loan term and the interest rate. The financial analysis will indicate whether the interest charged by the institution is sufficient to cover costs. Lending policies should also be examined to determine whether the portfolio is adequately diversified. Diversification of loan size and term is necessary to maintain the average portfolio at a level where it can generate sufficient income. The portfolio should also be diversified in order to minimize risk and loan loss expenses.

6.3 ADMINISTRATIVE STRUCTURE

The administrative structure effects the performance of an institution in terms of cost and efficiency. Management and support staff create fixed overhead costs. After maximizing the productivity of the credit officer, the institution can only achieve more efficient economies of scale by reducing the ratio of management and support staff to credit officers. The analysis should

measure the productivity of management and support staff with a model similar to the one applied to the tasks of the credit officers. Trend analysis will indicate whether the personnel structure is increasing or decreasing in efficiency as the institution grows.

It is also important to study the distribution of authority and responsibility within the institution. The distribution of decision-making authority can either facilitate or encumber the execution of tasks; the results can be seen in the overall performance of the institution. The analyst should diagram decision-making processes carefully, noting all steps required to take specific actions that are key to the flow credit operations.

6.4 MANAGEMENT INFORMATION SYSTEMS

Financial institutions must be able to manage information effectively; almost every operational or management problem can be traced to the lack or inefficient use of information. Substantial improvements in financial performance and operational efficiency will almost always require an up-grading of the management information system (MIS).

Financial institutions must manage three basic types of information. Like all organizations, a financial institution must be able to set clear operational objectives within an overall operating plan, usually on an annual basis. A financial institution must also be able to manage its finances. And finally, peculiar to a financial institution, it must be able to manage portfolios of loans and deposits.

The information involved in all three of these management functions must move between operational and administrative personnel and between the operations and management departments and the board of directors. The information "systems" are inter-related and involve almost every person in the organization. The evaluator should "map" the three basic information systems using a technique similar to the one presented below. The map should provide the evaluator with enough data to assess the organization's capacity to manage its information.

MIS MAPPING FRAMEWORK

Position	Report	Decision	Supervision
Board of Directors			
Managing Director			
Mid-level Manager			
Credit Officer			
Secretary			

Position

The clearest way to map an information system is to focus on the role of each individual involved in the organization. The information map will consist of three pieces of information for each position:

Report

What information does each position receive? Specify the report, how frequently it is received, and the significant pieces of information it contains. The evaluator must eventually assess whether this information is adequate and reliable.

Decision

Secondly, what decision does the person make with this data?

Supervision

And finally, what mechanism insures that each person makes appropriate and timely decisions?

6.4.1 Operational Planning and Management

The information map of an organization's operational planning system should diagram the execution and monitoring of the annual operation plan. Such plans typically consist of institutional goals, strategic objectives and specific outputs. The information map should indicate who is responsible for specific outputs, what indicators and reports are used to measure the organization's performance, and how overall progress is monitored. Once the map is complete, the evaluator can make judgements about whether the mechanisms in place are adequate.

6.4.2 Financial Management and Control

At a basic level, financial transactions must be conducted, registered and supervised through mechanisms that insure a reasonable degree of control. Secondly, the financial statements must be presented in such a way that the information informs management and operational decisions. And finally, financial reports must be distributed and then used to make management and operational decisions.

6.4.3 Portfolio Management

Portfolios can only be managed efficiently if every person involved in the operations and management of the portfolio has timely and accurate information. If the information is inadequate, it is usually due to failure to collect and/or input the data into the information management system, or to a poorly designed portfolio information system that cannot produce sufficient data and reports.

6.5 FINANCIAL MANAGEMENT

In addition to the efficiency of its operational and management systems, the efficiency with which a financial institution manages its capital, liabilities and assets determine overall financial

performance. A review of the simple asset distribution table demonstrated in the chapter on financial analysis is often sufficient to determine whether an institution is managing its assets as efficiently as possible.

The evaluation of an institution's equity and liability structure is more complicated because of the significant difference between the actual accounting costs and the imputed cost of capital applied in the analysis. The financial cost ratio, which represents only actual financial expenses, reflects the cost of an institution's debt. This ratio is often very low due to low leveraging (a low debt:equity ratio) and concessional terms on loans. An institution that ignores the decapitalization of its equity and concessional loans will only be concerned about the financial cost ratio and will only consider the implications of debt and equity when faced with the need to borrow increasingly expensive funds in order to expand its operations. However, when the costs of maintaining the real value of equity and concessional loans are imputed in the financial analysis, the distinction between liabilities and equity is minimized. The analyst will have to balance the results of the theoretical analysis with the actual situation of the institution. In the longterm, the institution will need to cover the expenses expressed as the imputed cost of capital, either in the form of market-rate debt or annual return on equity. In the short term, an institution can "afford" to decapitalize but must pay in cash its interest expenses. These factors should be considered when developing a strategy for mobilizing additional capital for expansion.

Finally, for incipient institutions one of the most critical financial management issues involves identifying the optimal scale of activity. The analyst must derive a clear picture of this "equilibrium point," and the institution must mobilize capital, manage its assets, optimize income and reduce costs in order to achieve it.

6.6 INCENTIVE STRUCTURES

"Incentive structures" is an analytical concept used to describe the net effect of the factors that influence the development of an organization over time. There is no exact science for assessing the relative weight of these factors; the analyst can only take note of the past behavior of the institution and identify the most significant incentives that have guided it.

The incentive structures that guide the development of a specialized financial institution are comprised of factors internal and external to the institution itself. The most obvious external factors include:

- the relationship of the institution to other financial institutions;
- the relationship of the institution to governmental regulatory agencies; and,
- the relationship of the institution to donors.

Each of these external relationships impose conditions on the institution and these should be carefully assessed in terms of the implications for the development of the institution.

Internal factors include :

- the basic goals as defined in the charter of the institution;
- the role and composition of the board of directors;
- the capital structure and profit orientation of the institution;
- the diversification of financial services; and,
- the explicit measures employed to maintain a professional and motivated staff of employees.

The incentive structures of deposit-taking and non deposit-taking institutions (such as NGOs) are distinct, given the different sets of challenges they face in developing the capacity to deliver specialized financial services within the broader goal of establishing themselves as viable financial

institutions. NGOs face the challenge of establishing and maintaining the real value of a solid equity base, and then borrowing additional funds and covering their operational costs with the margin they earn on interest income. Operational costs of the NGOs are likely to be high given that they provide a highly specialized type of credit that is expensive to deliver, and in that they do not benefit from the participation of clients who are also savers or members of the organization. NGOs are generally not regulated and thus financial discipline must be insured from internal control structures. Deposit-taking institutions face the challenge of developing new lending techniques which are more costly, risky and sophisticated than traditional credit instruments. This challenge is rendered more difficult by the parallel challenge of attracting deposits with competitive savings instruments, which results in a more costly and liquid liability structure that demands more prudent and profitable management of assets. Most deposit-taking institutions are or will be regulated and therefore are subject to external control mechanisms. Within these parameters, the deposit-taking institutions and NGOs will develop according to their respective limitations and comparative advantages.