Factors Influencing the Financial Sustainability Of Selected Microfinance Institutions in Namibia

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Abstract

This report applied Ordinary Least Squares to an Analysis of Covariance model consisting of cross-sectional data that captured various features of selected microfinance institutions in Namibia to identify the factors that influenced their financial sustainability.

The report found that in 2005 all the selected microfinance institutions in Namibia were not yet financially sustainable. The the degree of financial unsustainability was lowest for term micro-lenders and was highest for multi-purpose co-operatives involved in the provision of microfinance.

The report also found that donor involvement in providing start-up funds for the loan portfolio is positively associated with financial sustainability. However, this report strongly qualifies this statement by reiterating that the definition of financial sustainability is the ability to cover cost independent of external subsidies from donors or government.

In the attempt to test the relationship between the group lending and financial sustainability, this report highlighted the identity of microfinance institutions as opposed to the theoretically posited relationship that group lending should positively influence financial sustainability.

Finally, this report does not find evidence that a lower per capita income in the microfinance target group will hinder the financial sustainability of the selected microfinance institutions in this report.

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List of Acronyms

ACCOSCA	African Confederation of Co-operative Savings and Credit Associations
ANCOVA	Analysis of Covariance
BoN	Bank of Namibia
CGAP	Consultative Group to Assist the Poorest
CYCI	Commonwealth Youth Credit Initiative
DCD	Division of Co-operative Development
FIDES	International Finance for Social and Economic Development
FOS	Fund for Development Cooperation
GTZ	German Agency for Technical Cooperation
KfW	Kreditanstalt für Wiederaufbau
LIMDEP	Limited Dependent Variables
MAWF	Ministry of Agriculture, Water and Forestry
MPCM	Multi-purpose Co-operative providing Microfinance
MTISC	Ministry of Trade and Industry Steering Committee
MTI	Ministry of Trade and Industry
NACP	National Agricultural Credit Program
NAD	Namibian Dollars
NAMFISA	Namibia Financial Institutions Supervisory Authority
NGO	Non-Governmental Organisation
NHAG	Namibia Housing Action Group
OLS	Ordinary Least Squares
PIN	Personal Identification Number
RISE	Rural Peoples' Institute for Social Empowerment in Namibia
SACCO	Savings and Credit Co-operative
SBCGT	Small Business Credit Guarantee Trust

SCA	Savings and Credit Association
SDFN	Shack Dweller's Federation of Namibia
SEVA	a Sanskrit word meaning service
SME	Small and Medium-Scale Enterprises
WAD	Women's Action for Development
WOCCU	World Council of Credit Unions

1. INTRODUCTION

Microfinance refers to all types of financial intermediation services (savings, credit funds transfer, insurance, pension remittances, etc.) provided to low-income households and enterprises in both urban and rural areas, including employees in the public and private sectors and the self-employed (Robinson, 2003).[1] Effective, long-term provision of these services occurs through microfinance institutions that adhere to the key principles endorsed by the Consultative Group to Assist the Poorest (CGAP) and its 28 member donors, which were further endorsed by the Group of Eight leaders at a Summit on June 10, 2004. The fourth key microfinance principle states that "Microfinance can pay for itself, and must do so if it is to reach very large numbers of poor people (www.cgap.org).

This report focused on this fourth principle by empirically estimating the financial sustainability of selected microfinance institutions in Namibia's formal sector. Financial sustainability is defined as the development of products and delivery systems that meet client needs, at prices that cover all costs of providing these financial services, [independent of external subsidies] (Rosengard, 2001).

The main objective of this report was to identify factors influencing the financial sustainability of microfinance institutions in Namibia. The focus on financial sustainability is attributed to its conformity to the perspective that only independent, financially sustainable microfinance institutions will be able to attain the wide outreach necessary to achieve the highest level of impact on their target population, based on a globally affordable model that does not depend on long-term support, either from donors or the government (Robinson, 2003).

It is hoped that the findings of this report will inform practitioners as they design institutional models and regulators in their efforts to boost the effectiveness of microfinance provision in Namibia. By focusing on achieving institutional, financial sustainability; regulators and practitioners of microfinance in Namibia will contribute towards domestic institution building for financial capacity widening and deepening in locally constituted organisations and funds (Graham Bannock & Partners, 1997).

To achieve our goal this report applied Ordinary Least Squares (OLS) to an Analysis of Covariance (ANCOVA) regression model consisting of a cross-sectional dataset that captured the features of selected microfinance institutions operating in Namibia's formal sector, as opposed to the informal sector, using Limited Dependent Variables (LIMDEP) version 7.0, an econometric software.

The scope of the formal sector microfinance institutions covered in this study included those governed by the Division of Co-operative Development (DCD) in the

[1] This definition is constantly evolving; however the essence of its evolution is that microfinance is simply finance on a smaller scale.

Ministry of Agriculture, Water and Forestry (MAWF), the Namibia Financial Institutions Supervisory Authority (NAMFISA) and the Ministry of Trade and Industry Steering Committee (MTISC).[2] These included:

- Savings and credit co-operatives (SACCOs) and multi-purpose co-operatives providing microfinance (MPCM).[3] These are supported by the Rural Peoples Institute for Social Empowerment in Namibia (RISE), which is backed by funding from the Fund for Development Cooperation (FOS), a Belgian donor agency;[4]

- savings and credit associations (SCAs) supported by the MTISC, which consists of various donor and development project financing agencies, financial institutions and regulatory bodies;[5]

- Micro-lenders, commercial bank branches involved in the provision of microfinance and non-governmental organisations (NGOs) registered with NAMFISA.

Although the authors fully recognise the importance of NGOs directly involved in the provision of microfinance, those that are not registered by either the DCD or NAMFISA are not included in this study because they are governed by their own donor agencies and fall outside the scope of direct government policy.[6] In addition, this report did not include micro insurance schemes, because the nature of their assets and liabilities would need a different model from the one adopted in this report.

Following this introduction, which serves as Section one, the remainder of the report is organised as follows: Section two provides a background to provision of microfinance in a Namibian context. Section three goes on to describe the methodology used to achieve the main objective of this report. This is followed by Section four, which presents the results of an application of the methodology and an associated discussion. Finally, Section five presents the conclusions.

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[2] MTI is involved to the extent that microfinance is a key component of its SME program.

[3] In this report MPCM is defined as a co-operative providing both financial and non-financial services.

[4] Although, the multi-purpose co-operative providing microfinance in Namibia are termed as SCAs; the acronym MPCM was adopted in this report to avoid confusion with the SCAs supported by FIDES.

[5] Although these SCAs are currently not registered by any formal authority, reports from practitioners and comments from the focus group discussion on the draft version of this report, indicate their intent to apply for a banking license under the Bank of Namibia.

[6] The experience of some of these organisations was captured in a study by Roth (2002).

2. BACKGROUND

The microfinance institutions selected in this report can be grouped into five categories (Robinson, 2003):

The first category consists of microfinance institutions that fail in both lending and savings. This category includes many subsidised microfinance institutions that are well supplied with cheap donor or government funds. In his review of the NGO experience in the direct provision of microfinance in Namibia, Roth (2002) highlighted the plight of some of these organisations. In addition, Likwama Women's Group in Caprivi is another example of an institution that falls into this category (NASSP, 2005b).

The second category consists of microfinance institutions that have successful micro credit (savings) programs, but are not permitted to mobilise savings from (disburse loans to) the public. This is usually because they are not regulated and supervised; and if mobilisation of savings is allowed these would be placed at risk because no form of prudential supervision will apply to them (Mushendami, Kaakunga, Amuthenu-Iyambo, Ndalikukole & Steytler, 2004). It can also come about as they do not have the necessary skills to assess, disburse and monitor a loan portfolio. Microfinance institutions in this category include NGOs involved in the provision of microfinance, micro-lenders and state-owned postal savings banks.

One disadvantage of direct provision of microfinance by NGOs is that they will always have higher costs for the amounts they lend relative to other microfinance institutions. Even if their inability to mobilise savings is addressed through regulatory change, they have a wider focus in supporting the health, education and nutrition needs of the microfinance target group i.e. low-income households and micro-enterprises. As they become increasingly involved in microfinance the high costs of non-financial services will result in their lending more to larger clients with less risk, which goes against their stated objectives to reach the poorest of the poor.

NGOs involved in the direct provision of microfinance in Namibia include Women's Action for Development (WAD), the Namibia Housing Action Group (NHAG) and the Shack Dweller's Federation of Namibia (SDFN). At the 3rd Annual Microfinance Stakeholders Forum held in Windhoek in 2004, some of the NGOs such as SDFN were providing microfinance for smoothing consumption needs. Others such as WAD with a membership of 10,000 (including some men) were providing loans for start-up or working capital needs; while others such as NHAG were providing loans for building houses with no attention being paid to sustainability of efforts or tracking of loan repayment rates (DCD, 2004).

The second category also includes micro-lenders. In Namibia, these institutions are private initiatives that provide microfinance (specifically micro credit) and don't rely on government or donor funding. They are scattered in urban centres all over the

country and provide cash loans out of their retained earnings to help salaried individuals to smooth their consumption needs.

This category also includes the Namibia Post Office Savings Bank (NamPost). It is a savings bank that mobilises deposits, but is prohibited from lending these to any borrowers. Due to its wide outreach it has proven to be an important institution in microfinance initiatives in rural areas, and performs a similar function to the postal savings systems in the microfinance sector of other countries in Africa, such as Senegal and South Africa (Rosengard, 2001).

The third category consists of microfinance institutions that are successful in lending, and although permitted to mobilise savings from the public, choose not to do so or are unsuccessful in doing so. One reason they may be reluctant to mobilise savings from the microfinance target group is that they still believe that the poor cannot save, do not save, do not trust financial institutions or prefer non-financial forms of saving (Robinson, 1994b). These perceptions result in assumptions that the lack of demand for microfinance among low-income households will result in the unprofitability of financial operations that venture into this sector. Institutions that fall into this category are the commercial banks.

There are four commercial banks in Namibia. These are Bank Windhoek, First National Bank Namibia, NedBank Namibia and Standard Bank Namibia. Although Bank Windhoek is the only commercial bank with an independent small and medium enterprises (SME) branch,[7] NedBank Namibia is involved in microfinance initiatives through Finance in Education Pty. Ltd., which is a micro-lender that it acquired in 2002. First National Bank Namibia has also begun to develop products that actively downstream into the microfinance sector. In addition, all the commercial banks provide funds to the Michelle McLean Children's Trust, which is an NGO that is registered with NAMFISA as a micro-lender.

The fourth category consists of microfinance institutions that are successful in savings but provide subsidised credit and are weak in lending, which puts the mobilised savings at risk. This is usually so because the resulting spread between interest rates on subsidised loans and rates paid on deposits is too low to cover the costs required for these institutions to mobilise savings and deliver credit effectively. In addition, these microfinance institutions tend to invest the savings they mobilise in government securities or in the inter bank markets that are associated with relatively lower rates than loans. For those that lend, losses are almost entirely attributed to poor loan repayment because subsidised loans reduce the microfinance institution's self interest in maintaining low loan delinquency rates. Microfinance institutions in this category are typically state-owned financial institutions that channel government subsidised credit to rural borrowers.

[7] It calls this branch the emerging, small and medium enterprises (ESME) branch.

The state-owned financial institution that falls into this category is the Agricultural Bank of Namibia (AgriBank). It is the main parastatal that implements Namibia's Agricultural Finance Policy through the National Agricultural Credit Program (NACP) under the MAWF.

The final category consists of microfinance institutions that are successful in both savings and lending. This is usually because they have a large enough interest rate spread to cover all operating costs and risks associated with the sustainable provision of microfinance services. These microfinance institutions design credit and deposit instruments together to meet microfinance demand, and price them to enable institutional profitability. Microfinance institutions in this category consist of commercial microfinance institutions that can provide microfinance on a large-scale. There are currently no institutions in Namibia that fall into this category, but current MPCM and SCA pilot projects in Northern Namibia are aimed at creating these types of institutions.

The objective of the MPCMs is to promote sustainable livelihoods through the establishment of self-sustaining institutions (RMFTT, 2004). Their development began with the establishment of pilot projects in the southern and central regions of the country with the assistance of RISE. The lessons learned from the experiences of these pilot projects have been used in the MPCM pilot projects in the northern regions of the country.

The organisational and support structure of the MPCMs is illustrated in Figure 1 below. RISE provides technical assistance and guidance to the Regional Farmers Co-operative, which oversees the MPCMs. To cover the operating costs of the Regional Farmers Co-operative, 70% of the MPCM's income including that received from interest accrued from savings held at NamPost is extracted. 30% of income received is kept at the MPCM level. Funding and technical assistance is provided to three promoters based within the Training and Monitoring Unit (TMU) and is not included in the overheads and operating expenses for the MPCMs (NASSP, 2005a).

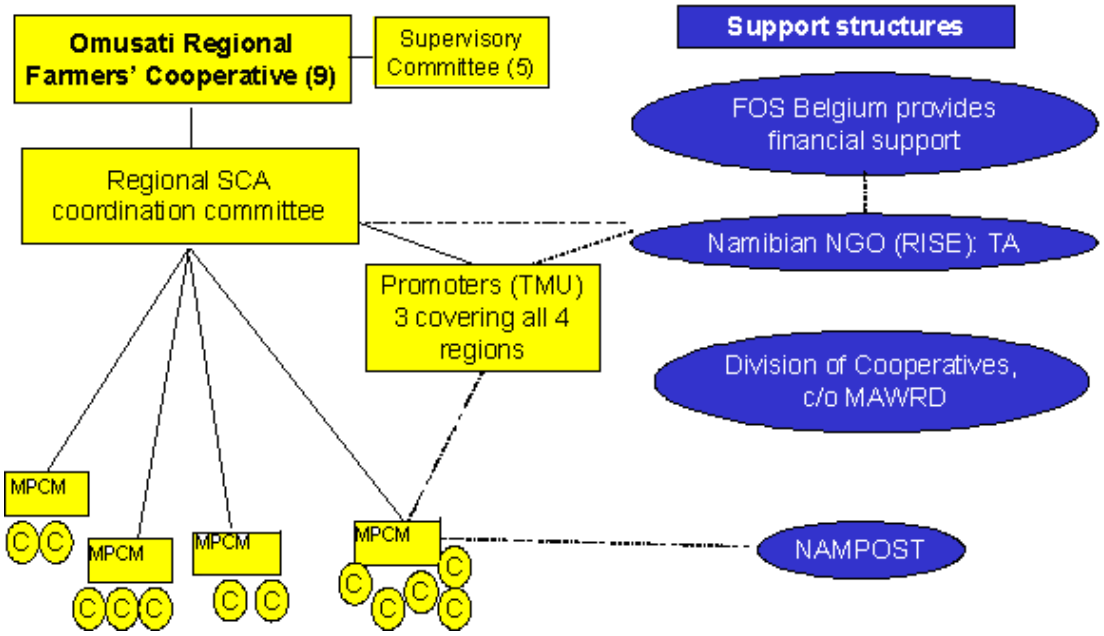


Figure 1: Organisational and Support Structure for Multipurpose Co-operatives involved in the Provision of Microfinance in Northern Namibia

Source: Adapted from NASSP (2005a)

The MTISC established a microfinance scheme in 2001 known as Koshi Yomuti (under the tree). This initiative is a pilot project that had established 57 groups by December, 2004. Koshi Yomuti's organisational and support structure is illustrated in Figure 2 below. The MTISC provides loan funding, technical assistance and grants to cover operational costs to the Koshi Yomuti head offices in Ondangwa and Oshikango, which is then disbursed by loan officers known as Avenelos (NASSP, 2005a).[8]

In addition, the Ministry of Youth, National Youth Service, Sports and Culture in collaboration with the Commonwealth Secretariat established the Commonwealth Youth Credit Initiative (CYCI) in March, 2005.

The CYCI aims to improve the livelihood of youth through employment creation and income generation thereby alleviating poverty among the young people of the Commonwealth, by way of providing microfinance in the form of small loan advances based on identified business ideas, coupled with embedded business support services and training to youth, with the aim of creating and/or expanding income generating activities and creating jobs (Directorate of Youth Development, 2005). The CYCI is still in its pilot phase for a period of 18 months, but aims to establish 30 SCA (essentially MPCMs) by March, 2006.

[8] It is clear that the MPCM and the Koshi Yomuti models for microfinance provision are different. This report does not make any value judgement on the preference of one over the other.

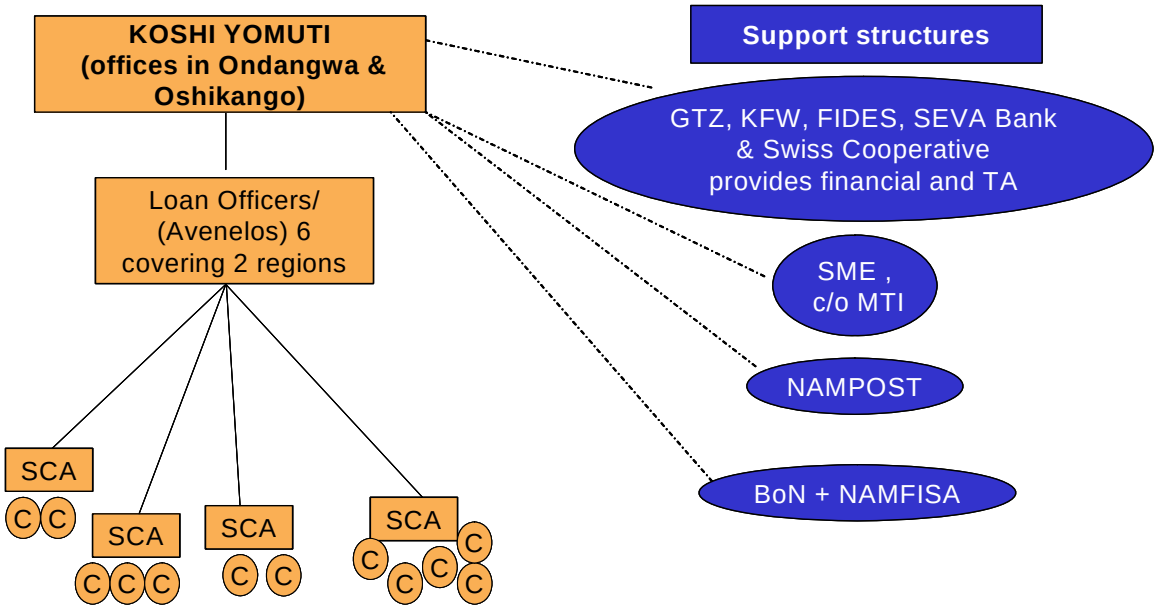


Figure 2: Organisational and Support Structure for Koshi Yomuti

Source: NASSP (2005a)

3. METHODOLOGY

This section presents the methodology that this report adopted to achieve its objective. It begins with a description of the sample, data and procedure, and then goes on to describe the model and variables used to identify the factors influencing the financial sustainability of microfinance institutions in Namibia.

3.1. Sample

The scope of the formal sector microfinance institutions analysed in this report included those registered in the DCD database at the MAWF, those registered in the NAMFISA database, and those supported by the MTISC. This sample included SACCOs, MPCMs, SCAs, micro-lenders and commercial bank branches involved in microfinance provision, and some NGOs. The total sample size is illustrated in Table 2 below.

Table 1: Number of Registered Microfinance Institutions in Namibia by Location of Data as at 2005

Institution	Location of Data	Total Number	Sample
Micro-lenders, NGOs and commercial bank, microfinance branches	NAMFISA	145	95
SACCOs and MPCMs	Division of Co-operative Development	62	47
SCA	NASSP (2005a)	1	1
TOTAL		208	143

Note: The Small Business Credit Guarantee Trust Microfinance Scheme and the Commonwealth Youth Credit Initiative were not operational at the time data collection was conducted for this study.

Source: DCD and NAMFISA database, RISE (2005) and NASSP (2005a).

In 2005, there were 145 micro-lenders, NGOs and commercial bank branches providing microfinance registered in NAMFISA's database. From this total, 45 did not have the information necessary to calculate their financial sustainability; 5 more had not issued any loans, therefore they were categorised as not operational. Therefore, the sample size for micro-lenders in this report reduced to 95.

As mentioned in Section two, the development of SACCOs and MPCMs in Namibia began with the establishment of pilot projects in the southern and central regions of the country, supported by RISE. Of these original pilot projects, 19 are still surviving; 14 of these are MPCMs. In addition to these, as of September 2004

RISE, was supporting 42 MPCMs spread over three regions in Northern Namibia (16 in Omusati, 14 in Oshana and 12 in Oshikoto), with a total membership of 1333 (NASSP, 2005a). In 2005 there were a total of 62 SACCOs and MPCMs registered in the DCD's database, all supported by RISE. From this total, 15 did not have the information necessary to calculate their financial sustainability. Therefore the sample size for the group reduced to 47.

Finally, the sample includes Koshi Yomuti and information on this institution was drawn from NASSP (2005a).

The sample used in this report did not capture hire-purchase and trade finance, which represent forms of micro credit (Honohan, 2004). It also did not include NGOs and NGO organised self-help groups that were not registered by NAMFISA. This includes WAD, NHAG-SDFN, etc.

In addition, the sample used in this report excluded rotating and accumulating savings and credit associations (ROSCAs), burial societies, moneylenders, pawnbrokers and other informal financial institutions (i.e. not registered), AgriBank and NamPost. Furthermore, it did not include CYCI or the SBCGT microfinance schemes because they are still at their initial set up stage.

3.2. Data

The microfinance information and data used in this paper was obtained from the databases of the DCD and NAMFISA as at 2004.[9] Additionally, a draft report commissioned by the MAWF i.e. NASSP (2005a and 2005b), a status report by RISE (2005) and Roth (2002) provided useful information that enabled this report to fill gaps in the data. This in turn enabled an application of the model chosen in this report.

However, not all the information in the databases and the secondary reports was externally audited, therefore, it may not be entirely accurate. As more reliable information becomes available this report expects the picture depicted for microfinance in Namibia to change.

All quantitative data on financial assets and liabilities was measured in real values by normalising, using the Consumer Price Index (1995=100). This allowed the

[9] The DCD database, RISE (2005) and NASSP (2005a and 205b), provides data on RISE supported SACCOs and MPCMs, while the NAMFISA database provides data on micro-lenders, NGOs and commercial bank branches involved in the provision of microfinance. Koshi Yomuti is not currently registered with either RISE or NAMFISA, but had expressed intent at the time this report was written that it will apply for a banking license.

report to control for the effect of inflation. Moreover, it allowed the report to measure all data relevant to the same benchmark year because the DCD database and RISE (2005) reflect 2003 data, while the NAMFISA database and NASSP (2005a and 2005b) reported 2004 data at the time of data collection.

Furthermore, data on cost structures was not available for all microfinance institutions. Therefore approximations were made for the cost structures of micro-lenders using information from a sample of 17 micro-lenders analysed in a report for NAMFISA by ECI Africa (2005). The average cost obtained from term micro-lenders where information was available was assumed to be the same for the other term lenders that did not provide cost information. A similar estimation was done for the other smaller micro-lenders. For the RISE supported institutions, average cost information drawn from the NASSP (2005a) was assumed to be equal for all SACCOs and MPCMs.[10] Cost information for Koshi Yomuti was also drawn from NASSP (2005a).

Default rate data for RISE supported SACCOs and MPCMs was calculated for each institution using information from RISE (2005). NAMFISA cited an estimated default rate for all micro-lenders and NASSP (2005a) also cited an average default rate for all groups. The provision of disaggregated data down to the institutional level from NAMFISA and each group supported by FIDES, would have greatly improved the accuracy of the financial sustainability estimates. As these become available the methodology presented in this report can be reapplied on this more reliable dataset.

3.3. Model

This report adopted an ANCOVA model whose general form is specified as follows:[11]

$$FINSUS = f(REGUL, ORGFORM, FLXREP, DONEQ, GROUP, SAVE, LOANS, PCY) + \varepsilon$$

Equation 1: General Function for ANCOVA model

Where:

FINSUS represents the absolute value of the residual, break even, real interest rate required to attain financial sustainability;

REGUL is a vector of dummy variables representing whether the microfinance institution is supported by RISE, the MTISC or registered with NAMFISA;

[10] According to NASSP (2005a) and comments arising in the focus group presentation of the draft for this report, the cost of promoters of SACCOs and MPCMs are not included in the institutional overheads and expenses.

[11] See Appendix A for a technical discussion of the model and its variables.

ORGFORM is a vector of dummy variables representing whether the institution is incorporated as a limited company, closed corporation, SACCO, SCA, MPCM or special purpose co-operatives i.e. street vendor or teachers' co-operative;

FLXREP is a vector of dummy variables that represent whether loan repayments are made weekly, monthly or every 6 months;[12]

$DONEQ$ is a dummy variable representing whether donors provided start up capital for loans;

GROUP is a dummy variable representing whether the microfinance institution uses a group lending, service delivery strategy in their institutional model;

$SAVE$ is the amount of savings in constant 1995 NAD mobilised by the microfinance institution;

LOANS is the amount of loans in constant 1995 NAD disbursed by the microfinance institution;

PCY is the per capita income of the area where the microfinance institution is located in constant 1995 NAD;

ε is the random error term.

The function this report estimated is specified below as follows:

$$\ln FINSUS = \beta_1 RISE_i + \beta_2 NAMFISA_i + \beta_3 MTISC_i + \beta_4 SAC_i + \beta_5 MULTI_i + \beta_6 SPECIAL_i + \beta_7 CC_i + \beta_8 LTD_i + \beta_9 TRUST_i + \beta_{10} UNKNOWN_i + \beta_{11} WEEKLY_i + \beta_{12} MONTHLY + \beta_{13} TERM_i + \beta_{14} DONEQ_i + \beta_{15} GROUP_i + \beta_{16} \ln SAVE_i + \beta_{17} \ln LOAN_i + \beta_{18} \ln PCY_i + \varepsilon_i$$

Equation 2: Estimated Function for ANCOVA model

Equation (3) did not include an intercept term to avoid perfect multicollinearity because no default categories were specified.

To identify the factors that influenced the financial sustainability of selected microfinance institutions in Namibia, OLS was applied to a cross-sectional dataset based on equation (3) above using LIMDEP version 7.0, an econometric software. The findings of this report are discussed in the next section using the above outline.

[12] MPCMs and SCAs enforce weekly repayment schedules (NASSP, 2005a), while SACCOs and most micro-lenders enforce monthly repayment schedules. A few microlenders enforce term repayment schedules i.e. six months to three years.

4. RESULTS AND DISCUSSION

This section describes the results based on an application of the model described briefly in the previous section and in more detail in Appendix A. This is coupled with an associated discussion.

4.1. Financial Sustainability

This report used the residual, break-even, interest rate to represent financial sustainability. This is defined as the absolute value of the difference between the maximum, nominal interest ceiling allowed by the Usury Act (approximately 30% per year in Namibia) and the break-even interest rate required by the microfinance institution to achieve financial sustainability.

$$FINSUS = \left| r^{\max usury} - r^{*} \right|$$

Equation 3: Definition of Financial Sustainability

Where:

$r^{\max usury}$ represents the maximum nominal interest rate allowed by the usury rate

r^{*} represents the break – even interest rate

The choice of the break-even interest rate in this report was based on the definition of financial sustainability, which envisions that a financially sustainable microfinance institution will need to cover all its costs and risk provisions from the interest income that it generates. To calculate this break-even interest rate the report adopted the method used by Hulme & Mosley (1996). It is described in more detail in Appendix B.

This report found that for the period captured by the dataset all the selected microfinance institutions in this report were financially unsustainable. This is illustrated in Figure 3 below. They were not charging interest rates that were high enough to cover all financial and non-financial costs, and risks of their operations.

It is important to note that the finding of financial unsustainability, across the board for microfinance institutions in Namibia, based on the formula adopted in this report is not surprising, because the interest rates required to break-even usually exceed the ceiling prescribed by Usury Acts in most countries (Hulme & Mosley, 1996). Due to the finding that no microfinance institution in Namibia is currently, independently financially sustainable, this report focused on degrees of financial unsustainability. Therefore, a higher absolute value signified a higher level of unsustainability.

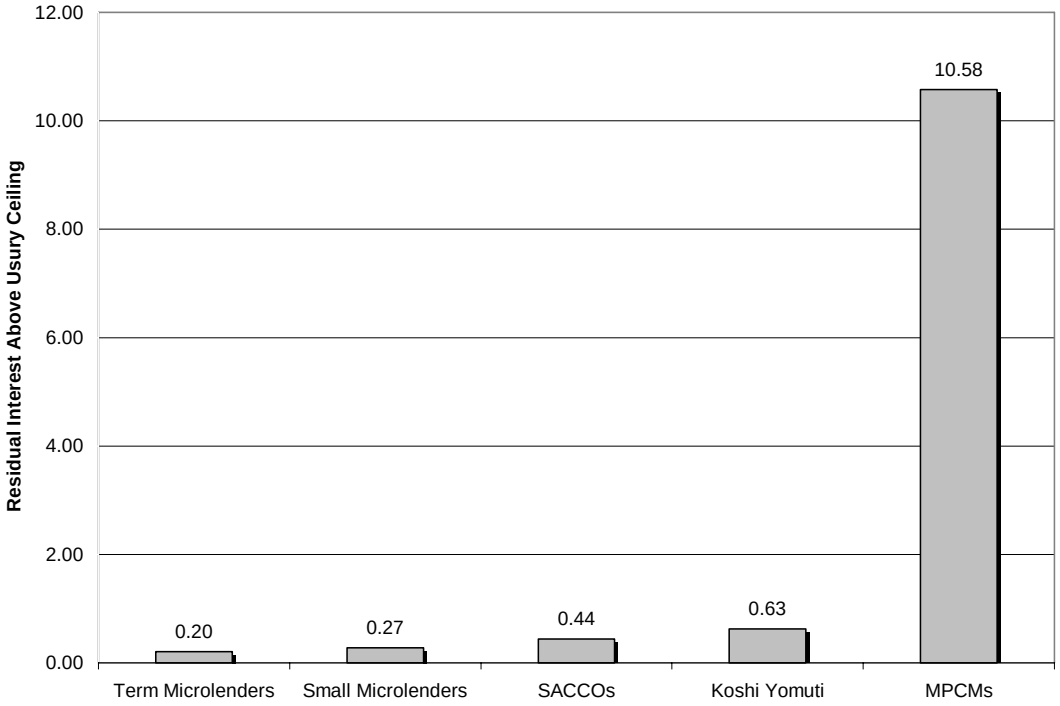


Figure 3: Real Financial Unsustainability of Selected Microfinance Institutions in Namibia by Category

Source: NEPRU calculation based on Appendix A

Figure 3 above shows that term micro-lenders as a category have the lowest degree of financial unsustainability when compared to all the SACCOs and SCAs. However, this could partly be explained by the fact that the SACCOs and SCA category consists of institutions that are still in pilot stages, which is typically associated with high costs and low-income (Honohan, 2004). It is important to emphasise that the high degree of financial unsustainability for MPCMs is because they are currently the only category of microfinance institutions that provide both financial and non-financial services, for which data is available.[13]

To identify the factors that influence financial unsustainability for selected microfinance institutions in Namibia, the methodology described in the previous section was applied to the available data. The results are presented in Table 3 below.

[13] Michelle McLean Trust also provides both financial and non-financial services, but a disaggregated exposition down to institutional level is beyond the scope of this report.

Table 2: Regression Results for ANCOVA Model

Variable	Coefficient	p-values
RISE	-0.46774E+16	0.3437
NAMFISA	-0.7271E+15	0.8554
MTISC	-1.667E+16	0.8265
SAC	-0.1557E+15	0.449
MULTI***	0.14235E+15	0.0752
SPECIAL	-0.1577E+15	0.3995
CC	-0.51085E+15	0.4383
LTD	-0.51085E+15	0.5711
TRUST	-0.51085E+15	0.3480
UNKNOWN	-0.51085E+15	0.3562
WEEKLY	-0.17627E+16	0.2695
MONTHLY	0.1238E+16	0.7020
TERM	0.1238E+16	0.6984
DONEQ***	-1.5377	0.0869
GROUP***	0.50067E+16	0.0739
LSAVE	-0.000437	0.7868
LLOAN	-0.0004549	0.6387
LPCY	-0.0003344	0.6429
F [17, 126] = 21.74; p-value = 0.0000		R^2 = 0.745754
No. of Observations: 143		

Note: * significant at the 1% level, ** significant at the 5% level, *** significant at the 10% level.

4.2. Level of Support

The number of selected microfinance institutions in Namibia's microfinance sector, by supporting agency is illustrated in Figure 4 below.

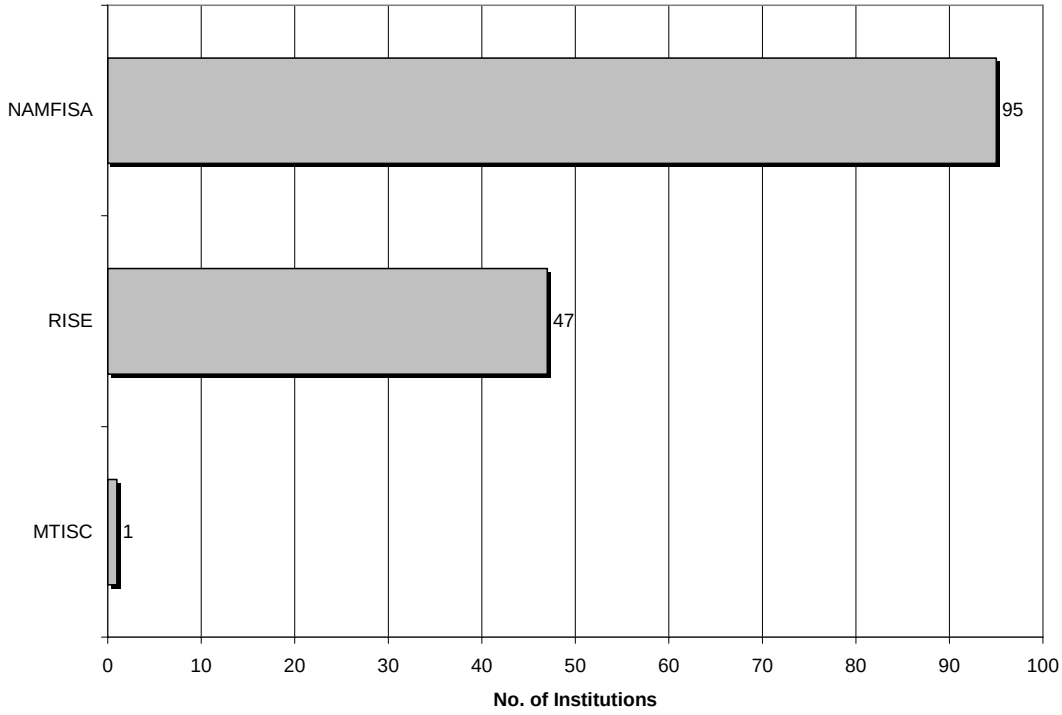


Figure 4: Number of Microfinance Institutions in Namibia by Governing Body

Note: Data on Koshi Yomuti was available at the overall agency level

Source: DCD and NAMFISA databases and NASSP (2005a) and RISE (2005)

While co-operatives are closely monitored and supported by RISE or the MTISC, micro-lenders are independent, private, organisations that are only regulated to the extent that NAMFISA requires them to be registered and comply with the Usury Act. Therefore, the identity of the governing body can serve as a proxy for the level of active direct support to the microfinance institution.

Figure 4 above indicates that most microfinance institutions in Namibia are registered with NAMFISA. This suggests that independent, microfinance institutions dominate those that are directly supported.

Due to the hands off approach adopted by NAMFISA, it is theoretically expected that microfinance institutions governed by this body will have a positive relationship to financial unsustainability, while those supported by RISE or the MTISC will be negatively related to financial unsustainability due to the closer support they receive.

However, the model adopted in this report does not confirm to this theoretical expectation. From Table 3 it can be seen that the model does not identify a clear relationship between differing levels of support, since the signs of the coefficients of the variables capturing support by RISE and MTISC, or registration under NAMFISA, all have a negative sign.

Although, the negative sign could indicate that on average support by RISE or MTISC, or registration under NAMFISA, is negatively (positively) related to financial unsustainability (sustainability); all the variables are statistically insignificant at the 5% or 10% level. Hence, based on the model adopted in this report, there is no evidence that support by RISE or MTISC, or registration under NAMFISA, influences the financial sustainability of the selected microfinance institutions.

4.3. Form of Incorporation

In finance literature, the principal-agent theory argues that the form of institutional incorporation should have an effect on the behaviour of its managers and how they are influenced by external stakeholders (Myers & Majluf, 1984).

The form of incorporation for selected microfinance institutions included in this report is illustrated in Figure 5 below. This figure shows that the most common form of incorporation in the microfinance sector was the MPCM, while the least common was the SACCO (these have open common bonds and exclude teachers or street vendors' co-operatives) or SCA – collectively termed as SAC. In addition, the form of incorporation of a large number of microfinance institutions (mostly micro-lenders) was not known.

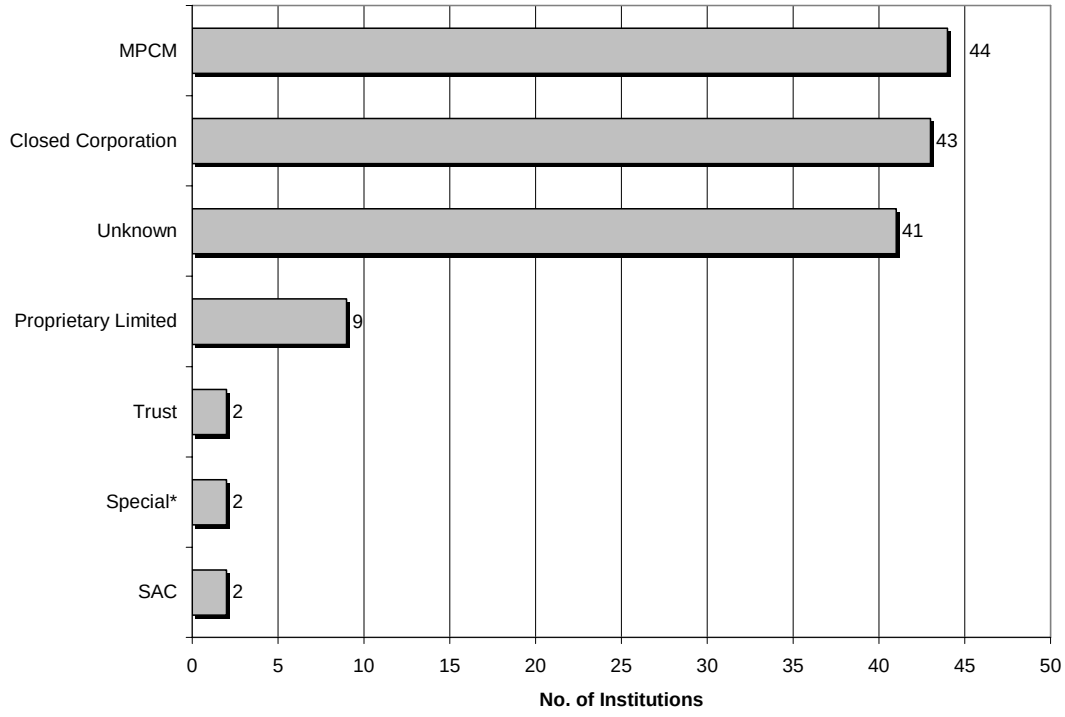


Figure 5: Forms of Incorporation for Microfinance Institutions in Namibia

Note: * consist of teachers or street vendors' co-operatives

Source: DCD and NAMFISA databases and NASSP (2005a) and RISE (2005)

Table 3 shows that SACs and special purpose co-operatives i.e. teachers or street vendors' co-operatives (these have closed common bonds) are negatively (positively) related to financial unsustainability (sustainability). However, based on the model in this report, there is no evidence that being a SAC or special purpose co-operative influences financial sustainability, because the coefficients of the variables capturing these forms of incorporation are insignificant at the 5% or 10% level.

Table 3 also shows that MPCMs are positively (negatively) related to financial unsustainability (sustainability). Based on the model in this report, there is evidence that this relationship is robust because the coefficient of the variable capturing this form of incorporation is significant at the 10% level.

This finding implies that if the cost of providing non-financial services is managed and separated from that of providing financial services, financial sustainability should improve for this category. Government or donor financing can be used to cover the non-financial service provision costs of MPCMs that focus on other areas of the poverty alleviation toolkit, such as the provision of health, nutrition, training, etc., as long as the operational costs of these non-financial services are kept separate from those of microfinance service provision.

In addition, Table 3 also shows that the forms of incorporation common to micro-lenders i.e. closed corporations, trusts and proprietary limited, are negatively (positively) related to financial unsustainability (sustainability). However, based on the model in this report, there is no evidence that the form of incorporation for micro-lenders influences financial sustainability, because the coefficients of the variables capturing the forms of incorporation common to micro-lenders are insignificant at the 5% or 10% level.

4.4. Flexibility of Repayment Schedule

In Namibia, MPCMs and SCAs typically offer loans over a 6 month to 1 year period, but the repayments are weekly (NASSP, 2005a).[14] The micro-lenders provide monthly, non-revolving loans, while a few offer micro credit ranging from 6 months to 3 years. It is important to note that the more flexible repayment schedules for micro-lenders are coupled with strong loan delinquency control methods, such as having direct access to the payroll of their clients or their personal identification number (PIN).

The flexibility of repayment schedules for selected microfinance institutions in Namibia is illustrated in Figure 6 below.

[14] Comments arising in the focus group discussion state that SACCOs collect on loans monthly.

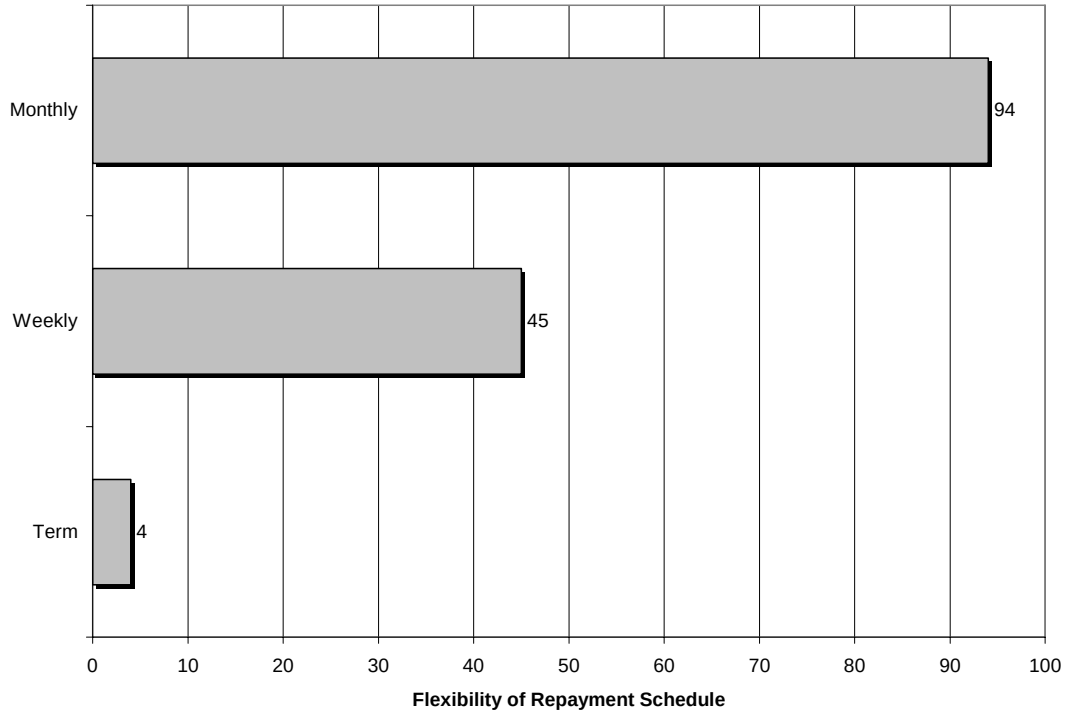


Figure 6: Number of Microfinance Institutions in Namibia by Flexibility of Repayment Schedules

Source: DCD database, NAMFISA database, NASSP (2005a)

The flexibility of the repayment schedule is theoretically expected to influence financial sustainability to the extent that it affects the effective rate of interest, which in turn has an effect on the break-even interest rate. To the extent that a more frequent repayment schedule generates a higher effective interest rate, a weekly payment schedule should be negatively (positively) associated with financial unsustainability (sustainability).

This theoretical expectation highlights the trade-off between aiming to provide more flexible microfinance credit products for customer satisfaction while reducing costs of frequent collection and reducing risk when designing microfinance products from an institutional perspective. It is argued that in the pursuit of lower cost for the microfinance institution through less frequent collection schedules and higher levels of customer satisfaction through more flexible repayment terms, microfinance institutions should not lose sight of the need for stronger loan delinquency control systems to prevent moral hazard from creeping in that may lead to the collapse of the microfinance institution.

Table 3 shows that the coefficient of the variable capturing the weekly repayment schedule has a negative sign, while that of the monthly and term repayment schedules have a positive sign. Although this conforms to the theoretical expectation based on the model adopted in this report, there is no evidence that these relationships are robust because none of the coefficients of the variables

capturing the flexibility of the repayment schedule are significant at the 5% or 10% level.

4.5. Donor Involvement

Donor involvement in providing start-up funds for the loan portfolio of microfinance institutions in Namibia was a feature of the original RISE supported pilot projects for establishing microfinance in Namibia. The funding averaged approximately NAD 9, 800 and was provided to 9 SACCOs and MPCMs that are still existing and registered with the DCD. Although, this approach was abandoned in the more recent pilot projects in northern Namibia, it is interesting to include this variable as a post-mortem analysis.[15]

Table 3 shows that the coefficient sign of the variable capturing provision of donor start-up equity suggests that donor involvement in providing start-up funds for the loan portfolio is negatively (positively) associated with financial unsustainability (sustainability). In addition, based on the model in this report, there is evidence that this relationship is robust because the coefficient of the variable capturing donor support is significant at the 10% level.

This finding implies that donor provision of start-up equity can boost the probability that a microfinance institution will be financially sustainable. However, this report strongly qualifies this statement by reiterating that the definition of financial sustainability is the ability to cover cost independent of external subsidies from donors or government. The formula adopted to calculate financial sustainability in this report does not focus on the sources of funds used to cover costs, and does not differentiate between donor and government funds or self-generated funds.

4.6. Group Lending

In Namibia, only the SACCOs, SCAs and MPCMs are involved in microfinance delivery through groups.

According to theory, group lending is expected to positively influence financial sustainability for microfinance institutions because the peer pressure that group members exert on each other should lead to lower default rates on the number of loans disbursed.

Table 3 shows that group lending positively (negatively) influences the financial unsustainability (sustainability) of microfinance institutions. In addition, there is

[15] Koshi Yomuti is included in this category of donor involvement because it provided the start-up funds for the loan portfolio and that that was still the case when this report was written; although there may be future plans to find strategies to reduce dependence on donor and government funds.

evidence that this relationship is robust because the coefficient of the variable that captures group lending is significant at the 10% level.

Although this differs from the theoretical expectation, it can be explained by the fact that micro-lenders that do not rely on a group lending methodology to deliver microfinance have much lower degrees of financial unsustainability in Namibia compared to SACCOs, SCAs and MPCMs, when taken as a category. Furthermore, loans by micro-lenders in Namibia are made to individuals who are salaried employees. These microfinance institutions have direct access to the payroll of their clients in urban areas, which gives them very strong loan delinquency control over a clientele that is arguably not as risky as those that are in the more marginal areas.

Therefore, in the attempt to test the relationship between the group lending methodology in microfinance service provision and financial sustainability, the model adopted in this report highlights the identity of microfinance institution as opposed to the theoretically posited relationship.

Despite this finding, it is important to note that where an individual delivery strategy is chosen, it should be done on a case by case basis and gradually, because it has proven to be a powerful tool in the more vulnerable target groups, i.e. where group cohesion is not strong – Grameen bank model.

The positive coefficient of the group lending variable could also suggest that group lending strategies can be complemented by the adoption of credit and risk management tools.

4.7. Savings Mobilised

In Namibia, the SACCOs, SCA and MPCMs mobilised savings from their clientele. Over the sample period, only one of the microfinance institutions falling into this category did not mobilise savings. The real amount of savings mobilised by SACCOs, SCA and MPCMs in Namibia is illustrated in Figure 7 below.

The amount of savings mobilised is theoretically expected to influence the financial sustainability of microfinance institutions, to the extent that they increase interest expense and cost of the microfinance institution, or to the extent that they provide credit information that can be used to assess the eligibility of a borrower and reduce the costs of the lending process for the microfinance institution. These effects work in opposite directions.

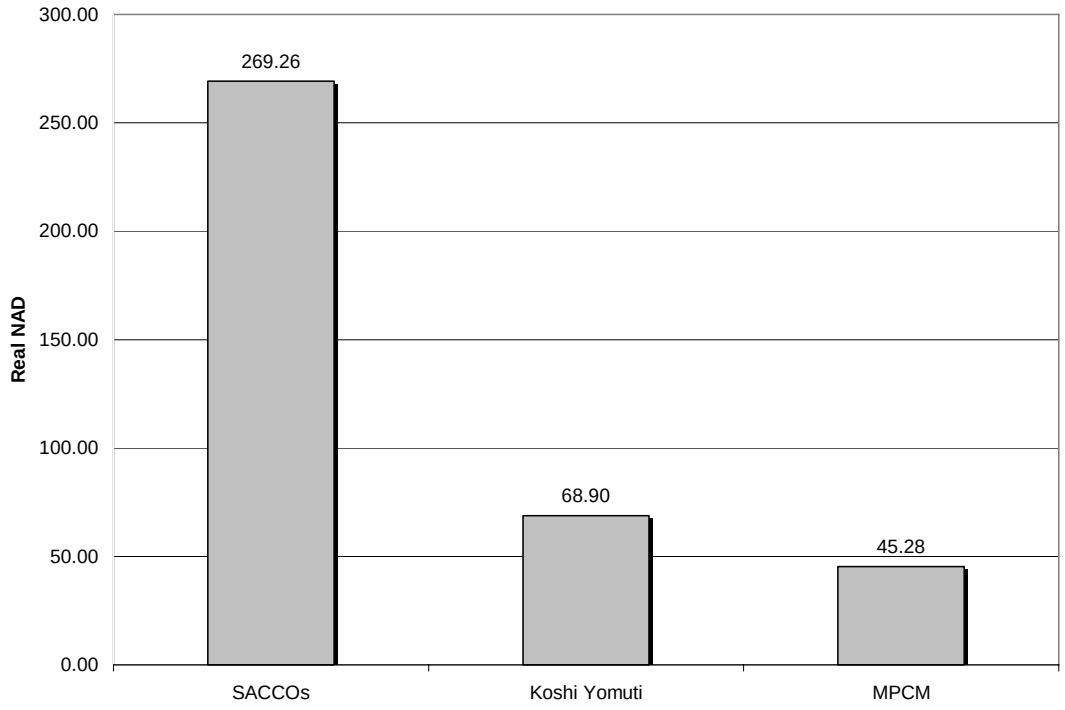


Figure 7: Real Amount of Savings Mobilised by SACCOs, SCAs and MPCMs by Category (1995=100)

Source: DCD Database, NASSP (2005a) & RISE (2005)

The negative sign of the coefficient that captures the savings component shown in Table 3 suggests that savings is negatively (positively) related to financial unsustainability (sustainability). This could suggest that the benefit of savings in reducing the cost of the lending process outweighs the cost of interest expenses for the microfinance institution. However, based on the model in this report, there is no evidence to suggest that the mobilisation of savings influences the financial sustainability of the selected microfinance institutions in Namibia, because the coefficient is not significant at the 5% or 10% level.

4.8. Loans Disbursed

In Namibia, the value of loans disbursed in constant 1995 NAD is quite substantial. This is presented in Figure 8 below. It is important to note that the amounts presented are averages for each category, therefore the more institutions in the category the lower the average real loans disbursed.

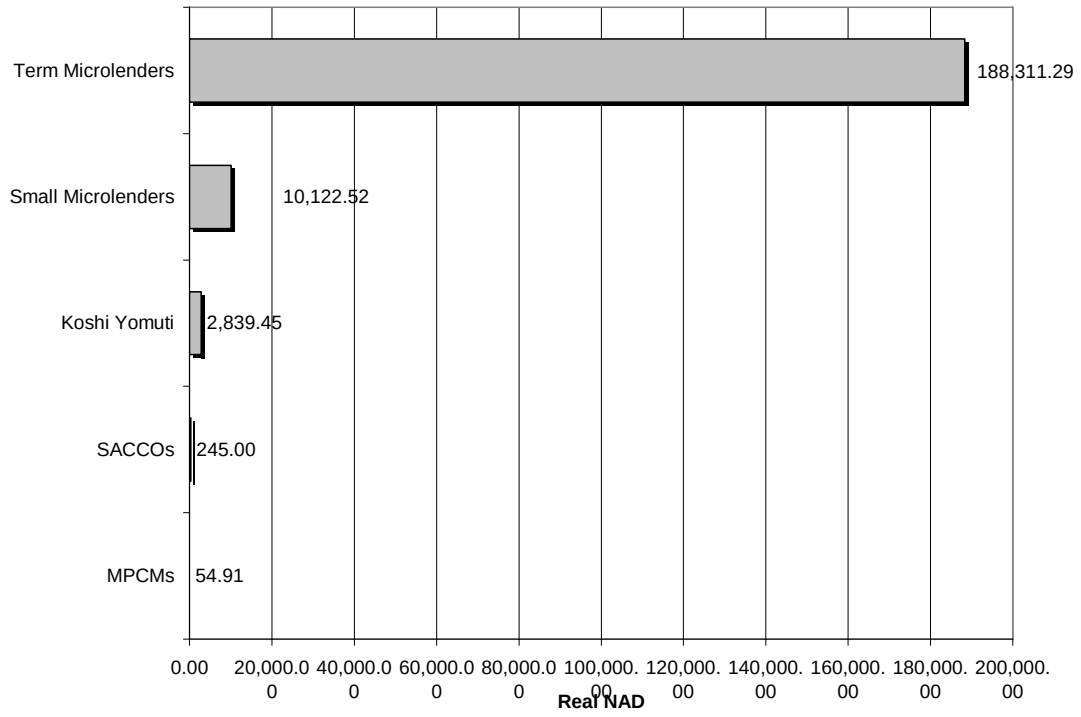


Figure 8: Real Amounts of Loans Disbursed by Microfinance Institutions by Category

Source: RISE (2005), NASSP (2005a), DCD and NAMFISA databases,

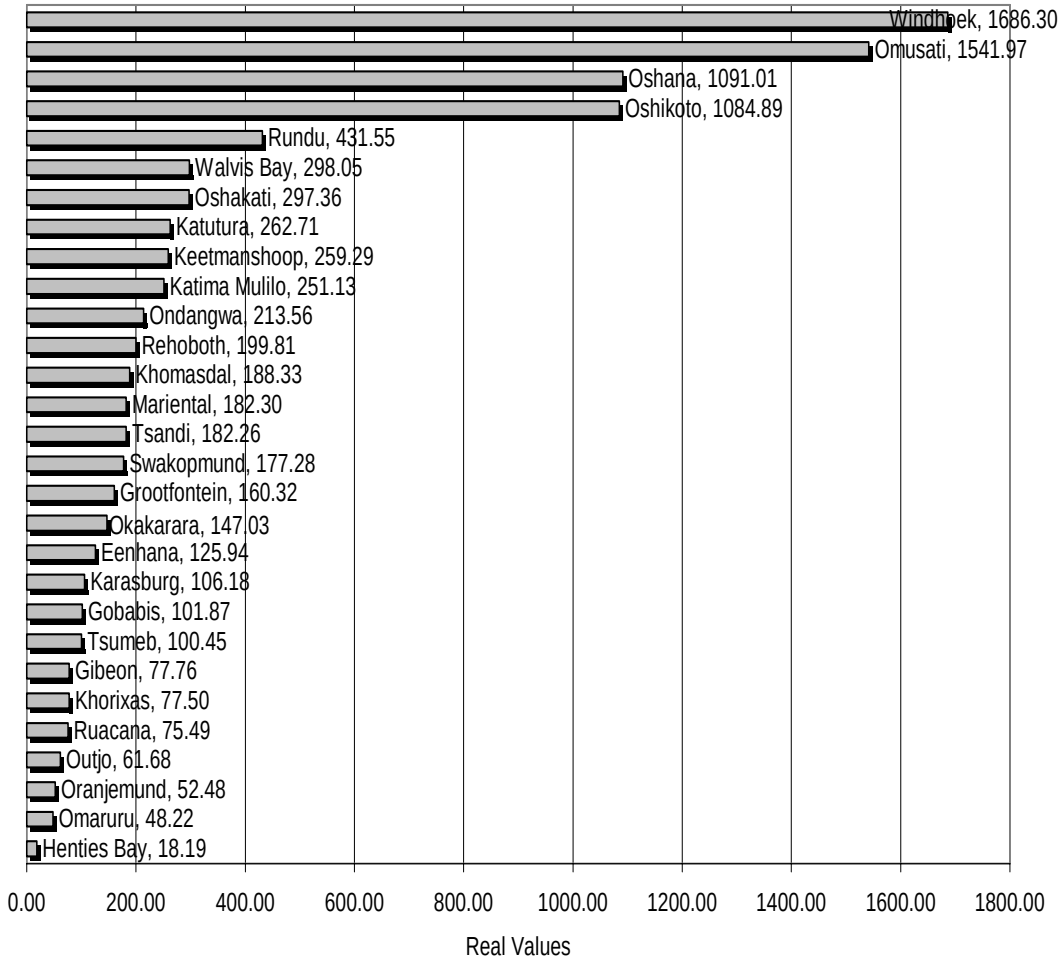
The amount of loans disbursed is theoretically expected to be negatively (positively) related to financial unsustainability (sustainability) because it reduces per unit cost of the lending.

Table 3 shows that the coefficient of the variable that captures the amount of loans disbursed confirmed the expected theoretical relationship. However, based on the model adopted in this report there is no evidence to suggest that this relationship is robust because this variable is not significant at the 5% or 10% level.

4.9. Per Capita Income

Per capita income of a location reflects the welfare and socio-economic profile of its residents. The more income the microfinance clientele has, the higher the probability that a microfinance institution serving this target group will be financially sustainable. According to this theoretical perspective per capita income is expected to be negatively related to the financial unsustainability of microfinance institutions in Namibia.

The relative per capita incomes for the locations of microfinance institutions in Namibia are presented in Figure 9 below.



Source: Authors' own Calculations Based on Central Bureau of Statistics (2003)[16]

Figure 9: Real Per Capita Incomes for Microfinance Institutional Locations in Namibia in 2004

Based on the model in this report the coefficient of the variable that captures the per capita income of the microfinance target group has the expected negative sign. However, based on the model in this report there is no evidence to suggest that this relationship is robust because the per capita income variable is not significant at the 5% or 10% level.

Since microfinance is aimed at serving the marginalised members of a society, this finding implies that there is no evidence that a lower per capita income in the

[16] The formula used to calculate per capita income of each location is

$$\frac{population\ of\ \ location\ in\ 2001}{overall\ \ population\ in\ 2001} \times \mathrm{Re}\,al\ GDP\ in\ 2004$$

microfinance target group will hinder the financial sustainability of the selected microfinance institutions in this report.

5. CONCLUSION

This research report focused on the fourth key principle of microfinance by attempting to identify factors that influence the financial sustainability of selected microfinance institutions in Namibia.

The report found that the microfinance industry has shown significant signs of activity over the past few years. Nonetheless, according to the definition of financial sustainability adopted in this report, it was found that all the selected microfinance institutions in Namibia are not yet financially sustainable.

Out of all microfinance institutions included in this report, the degree of financial unsustainability was lowest for term micro-lenders, and was highest for MPCMs. The high degree of financial unsustainability for the MPCMs may be partly attributed to the fact that they are currently the only category of microfinance institutions included in this report for which data was available, that were providing both financial and non-financial services. In addition, they do not separate the costs of providing non-financial services from that of financial services provision in their reporting to the Registrar of Co-operatives.

The high degree of financial unsustainability for MPCMs is confirmed with evidence based on the model adopted in this report, which indicates that MPCMs are negatively related to financial sustainability. This finding implies that if the cost of providing non-financial services is managed and separated from that of providing financial services, financial sustainability should improve for this category.

This report's finding of financial unsustainability, across the board, for microfinance institutions in Namibia is partly attributed to the fact that the interest rates microfinance institutions require to break-even exceed the ceiling imposed by the Usury Act of 1968. Although, this finding empirically justifies the claim that the Usury Act of 1968 is the regulation that has the most impact on the financial sustainability of microfinance institutions in Namibia, the raising of the ceiling is not a clear policy option.

The Usury Rate option highlights the conflict between efforts to protect borrowers from the adverse social impact of overwhelmingly high interest rates and efforts to increase access to financial services. Due to its important role in protecting the borrowers from overwhelmingly high interest rates, alternative ways to reduce the degrees of financial unsustainability should be explored before the Usury Act is amended. Based on the formula used to calculate financial sustainability in this report, the alternative options available include finding innovative ways to reduce costs, increasing the number or size of loans disbursed (without compromising the loan portfolio), or reducing default rates.

The model implemented in this report also provides evidence that donor involvement in providing start-up funds for the loan portfolio is positively associated with financial

sustainability. However, this report strongly qualifies this statement by reiterating that the definition of financial sustainability is the ability to cover costs independent of external subsidies from donors or government. The formula promoted to calculate financial sustainability in this report does not focus on the sources of funds used to cover costs and does not differentiate between donor and government funds or self-generated funds.

In the attempt to test the relationship between the group lending methodology in microfinance service provision and financial sustainability, the model used in this report highlights the identity of microfinance institution as opposed to the theoretically posited relationship that group lending should positively influence financial sustainability for microfinance institutions. This suggests that to reduce the default rate, group lending strategies can be complemented by the adoption of credit and risk management tools.

Furthermore, the model adopted in this report does not find evidence that a lower per capita income in the microfinance target group will hinder the financial sustainability of the selected microfinance institutions in this report.

Finally, but most importantly, this report identified that improving the reliability of reported information for the selected microfinance institution is a key issue that needs to be addressed by both regulators and practitioners. Apart from structure, ownership and control, another key criterion of good governance is public timely and full reporting of an institution's activities and results (Graham Bannock & Partners, 1997). The collection of more complete information for each institution by the governing bodies will allow them to more accurately and effectively apply the method used in this report to monitor progress towards attaining financial sustainability among microfinance institutions in Namibia.

6. REFERENCES

Armendariz de Aghion, B. & Morduch, J. (2004). The economics of microfinance. Cambridge, MA: MIT Press forthcoming in Honohan, P. (2004). Financial sector policy and the poor: Selected findings and issues. WP 43, Washington D.C.: The World Bank.

Associated Press. (2005). Macy's to sell Rwandan baskets. AP Online.

Beegle, K., Dehejia, R.H. & Gatti, R. (2003). Child labour, income shocks, and access to credit. Policy Research Working Paper 3075. Washington D.C.: World Bank. In Honohan, P. (2004). Financial sector policy and the poor: Selected findings and issues. WP 43, Washington D.C.: The World Bank.

Central Bureau of Statistics. (2003). Population and housing census 2001: National report – Basic analysis with highlights. Namibia: National Planning Commission.

CGAP. (2000a). Micro-finance and risk management: A client perspective. Focus Note 17. http://www.cgap.org /html/p_focus_notes17.html

CGAP. (2000b) Exploring client preferences in microfinance: Some observations from SAFESAVE. Focus Note 18. Washington, D.C.: http://www.cgap.org/docs/FocusNote_18.pdf

Coleman, B.E. (2002). Microfinance in North East Thailand. Journal of Development Economics 60: 105-141.

Curry, P. (1999) Credit unions move into modern age with a human touch. Bankrate.com. http://www.bankrate.com/brm/news/cu/19991020.asp Date accessed October 29, 2005.

DCD. (2004). Microfinance national consultative forum: proposed factors for consideration in drafting prudential rules for microfinance institutions presented at 3rd Annual Microfinance Stakeholders Forum: Establishing sustainable livelihoods.

De Soto, H. (2000). The mystery of capitalism: Why capitalism triumphs in the West and fails everywhere else. New York: Basic Books.

Directorate of Youth Development (2005). Commonwealth Youth Credit Initiative in Namibia: Delivering financial services to the youth in Namibia through the SCA model (pilot phase March 2005 – September 2006). Namibia: Ministry of Youth, National Service, Sports and Culture in collaboration with the Commonwealth Secretariat.

ECI Africa. (2005). Evaluating the cost structure of micro-lenders in Namibia.

Finscope. (2003). Profiling demand for financial services in Botswana, Namibia, Lesotho & Swaziland. Making financial markets work for the poor. South Africa: FinMark Trust.

Goetz, A.M. & Sen Gupta, R. (1996). Who takes the credit? Gender, power and control over loan use in rural credit programs in Bangladesh in Honohan, P. (2004). Financial sector policy and the poor: Selected findings and issues. WP 43, Washington D.C.: The World Bank.

Graham Bannock & Partners. (1997) Credit guarantee schemes for small business lending. London: GB&P.

Grossman, M., Mwatotele, J., Stork, C. & Tobias, P. (2005). SME development and impact assessment 2004. Namibia: Institute for Public Policy Research.

Hitchins, R., Elliott, D. & Gibson, A. (2005). Making business service markets work the rural poor – a review of experience. In Developing service markets in rural areas. Small Enterprise Development: an international journal of microfinance and business development. Vol. 16. Number 2. Hampshire: ITDG.

Holt, S.L. (1994). The village banking methodology: Performance and prospects. In Otero, M. & Rhyne, E. (1994). The new world of micro-enterprise finance: Building healthy financial institutions for the poor. Connecticut: Kumarian.

Honohan, P. (2004). Financial sector policy and the poor: Selected findings and issues. WP 43, Washington D.C.: The World Bank.

Hulme, David & Mosley, P. (1996). Finance against poverty. Vol. 1. London: Routledge.

ICEG. (1999a). New policy initiatives for micro and small enterprises - A policy brief. Sessional Paper 5. Kenya: International Centre for Economic Growth.

ICEG. (1999b). Credit and finance for MSEs: What is the way forward? In Micro-enterprise development. Policy Brief 1. Kenya: International Centre for Economic Growth.

International Labour Organisation & United Nations Industrial Development Organisation. (2004). Summit Issues Paper. African Union.

Levitsky, J. (1993). Small enterprise development programme: Innovations in the financing of small and micro-enterprises in developing countries. Geneva. International Labour Office.

Littlefield, E., Murdoch, J. and Hashemi, S. (2003). Is microfinance an effective strategy to reach the millennium development goals? CGAP Focus Note 24 in Honohan, P. (2004). Financial sector policy and the poor: Selected findings and issues. WP 43, Washington D.C.: The World Bank.

Magill, J. H. (1994). Credit unions: A formal-sector alternative for financing micro-enterprise development in Otero, M. & Rhyne, E. (1994). The new world of micro-enterprise finance: Building healthy financial institutions for the poor. Connecticut: Kumarian.

Mann, C.K., Grindle, M.S. & Shipton, P. (1989). Seeking solutions: Framework and cases for small enterprise development programs. West Hartford, CT: Kumarian Press in Holt, S.L. (1994). The village banking methodology: Performance and prospects. In Otero, M. & Rhyne, E. (1994). The new world of micro-enterprise finance: Building healthy financial institutions for the poor. Connecticut: Kumarian.

Mushendami, P., Kaakunga, E., Amuthenu-Iyambo, M.N.E., Ndalikukole, V. & Steytler, J. (2004). Promoting microfinance activities in Namibia: A regulatory and supervisory perspective. Working Paper 2. Namibia: Bank of Namibia.

Myers, S. & Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics, 13, 187-221.

NASSP. (2005a). Preparation of project proposal for replication of rural microfinance. Draft report or review of existing pilot project. Namibia: Ministry of Agriculture, Water and Rural Development

NASSP. (2005b). Preparation of project proposal for replication of rural microfinance: Feasibility study. Volume II. Namibia: Ministry of Agriculture, Water and Rural Development.

Nelson, C. et al. (1996). Village Banking: The state of the practice. Small Enterprise Education and Promotion Network and the United Nations Development Fund for Women.

Otero, M. & Rhyne, E. (1994). The new world of micro-enterprise finance: Building healthy financial institutions for the poor. Connecticut: Kumarian

Pitt, M. M. & Khandker, S.R. (1998). The impact of group-based credit programs on poor households in Bangladesh: Does the gender of participants matter? Journal of Political Economy 106: 958. in Honohan, P. (2004). Financial sector policy and the poor: Selected findings and issues. WP 43, Washington D.C.: The World Bank.

Pralahad, C.K. (2004).The fortune at the bottom of the pyramid: Enabling dignity and choice through markets. Pennsylvania: Wharton School. In Developing Service Markets in rural areas. Crossfire. Small Enterprise Development: an international journal of microfinance and business development. Vol.16. Number 2. Hampshire: ITDG.

Rahman, A. (1999). Women and micro-credit in rural Bangladesh: An anthropological study of Grameen Bank lending. Colorado: Westview Press in

Honohan, P. (2004). Financial sector policy and the poor: Selected findings and issues. WP 43, Washington D.C.: The World Bank.

RISE. (2005). SCA's (Savings and credit associations) in regions such as Omusati, Oshikoto and Oshana: Status report Jan 2003 – Dec 2003. Unpublished report.

RMFTT. (2004). Rural/microfinance programme in Namibia: Charter for good practice. Namibia: Rural Microfinance Task Team.

Robinson, M. (1994b). Savings mobilisation and micro-enterprise finance: the Indonesian experience in Otero, M. & Rhyne, E. (1994). The new world of micro-enterprise finance: Building healthy financial institutions for the poor. Connecticut: Kumarian.

Robinson, M. (2003). The microfinance revolution: Sustainable finance for the poor. Vol. 1. Washington D.C.: World Bank.

Rosengard, J.K. (August, 2001). Kinks in the links: Financial intermediation for Africa's Poor. African Economic Policy Discussion Paper. 84. Boston: John F. Kennedy School of Government, Harvard University.

Roth, M. (March, 2002). Study on micro-finance service providers in Namibia. Namibia: German Agency for Technical Co-operation and Ministry of Trade and Industry.

SOCEPI. (2004). Evaluation d'impact de la microfinance: le cas du reseau Nyesigiso au Mali. Canada: University of Laval.

Todaro, M. P. (1997). Economic development. 6th Edition. New York: Longman.

Wright, G.A.N., et al. (1999). Vulnerability, risks, assets and empowerment – The impact of microfinance on poverty alleviation. Contribution to World Development Report 2001. Uganda: MicroSave – Africa and Uganda Women's Finance Trust.

Appendix A: Financial Sustainability

Hulme & Mosley (1996) demonstrate the break even condition for a financial institution over a period of time, which they define as a state where net income is at least equal to total expenditure. The formula, the authors use to calculate the break-even condition in the form of an interest rate is:

$$r^* = \frac{(\beta - \alpha) + i + a + \alpha p + (Z - Y)}{1 - p}$$

Equation 4: Definition of the Break-even Interest Rate

Where:

r^* represents the break-even, loan interest rate.

β represents the share of the principal of each loan that has to be paid back per time period by the lender.

α represents the share of the principal of each loan that has to be paid back per time period by the borrower.

i represents the effective interest rate paid per unit of principal on borrowing and savings deposit. [17]

a represents administrative cost per unit of principal.

p represents the expected default rate on loan i.e. expected losses due to non-repayment of principal and interest on a loan.[18]

Z represents non-loan expenditure attributed to training, outreach work, etc.

Y represents non-loan income attributed to training, outreach work, etc.

By assuming that the share of principal that has to be paid back by the borrower and lender each period is the same ($\beta = \alpha$) and that non-loan income is equal to expenditure ($Z = Y$) equation (6) reduces to:

---

[17] $i = \left(1 + \frac{i^*}{m}\right)^{m/t} - 1$

[18] Although a rough estimate of the average default rate for SACCOs founded by RISE based on Roth (2002) is >63% [>70 (North) and >56% (South)]. This report assumes a 50% default rate [(0.5 x 100) + (0.5 x 0)] because no robust documented information is currently available,

$$r^* = \frac{i + a + \alpha p}{1 - p}$$

Equation 5: Formula for Break-Even Interest Rate

This reduced form equation does not incorporate slow-burning returns, gradual build-up of amount borrowed and the use of borrowed resources for risk reduction, or other non-measurable benefits (Honohan, 2004). In addition, it assumes that the return on the amount borrowed (excess over interest costs) is fully reinvested every month by the microfinance institution during the months of the program participation, and also that there is no borrowing by non-members. Finally, it does not differentiate the provision of financial from non-financial services by microfinance institutions.

An Example:

If a microfinance institution charges 34% on micro loans taken over six months, the effective interest rate (i) on these loans will be:

$$i = \left[1 + \left(\frac{i^*}{m}\right)\right]^{mt} - 1$$

$$= \left[1 + \left(\frac{0.34}{2}\right)\right]^{2x1} - 1$$

$$= 0.3689$$

$$i = \underline{\underline{36.89\%}}$$

If i = 36.89 %; a =0.694262; α = 100% and p = 5%. Then the break-even interest rate for this microfinance institution derived from the Equation (4) above is:

$$r^* = \frac{0.3689 + 0.694262 + (1 \times 0.05)}{1 - 0.05}$$

$$r^* = 1.236847$$

$$r^* = 124\%$$

This report calculated the financial sustainability of each microfinance institution in the sample using equation (7). Therefore, for the institution in the example above:

$$FINSUS = 30\% - 124\% = -84\%$$

Appendix B: Descriptive Statistics for Variables in ANCOVA model

Variable	Definition	Mean	Standard Deviation
Dependent Variable			
FINSUS	Natural log of residual real interest rate required to break-even	-0.42163	1.5859
REGUL Variables			
RISE	Dummy equals one if microfinance institution is supported by RISE	0.32638	0.47052
NAMFISA	Dummy equals one if microfinance institution is registered by NAMFISA	0.667	0.473049
MTISC	Dummy equals one if microfinance institution is supported by the MTISC	0.00694	0.0833
ORGFORM Variables			
SAC	Dummy equals one if microfinance institution is registered as a savings and credit co-operative (and is not a special purpose co-op) or is identified as a savings and credit association	0.0138	0.1174
MULTI	Dummy equals one if microfinance institution is registered as a multi-purpose co-operative	0.3055	0.46225
SPECIAL	Dummy equals one if microfinance institution is registered as a special-purpose co-operative i.e. street vendors or teachers only.	0.01388	0.1174
CC	Dummy equals one if microfinance institution is registered as a closed corporation	0.2986	0.45924
LTD	Dummy equals one if microfinance institution is registered as a proprietary limited	0.0625	0.2429
TRUST	Dummy equals one if microfinance institution is registered as a trust	0.01388	0.1174
UNKNOWN	Dummy equals one if form of registration of microfinance institution is unknown.	0.29167	0.45611

FLXREP Variables			
WEEKLY	Dummy equals one if loans to the microfinance institution are repaid weekly.	0.3125	0.4651
MONTHLY	Dummy equals one if loans to the microfinance institution are repaid monthly.	0.6597	0.47545
TERM	Dummy equals one if loans to the microfinance institution are repaid in 6 months to 3 years.	0.0277	0.1649
Other Variables			
DONEQ	Dummy equals one if donors provided start-up capital to fund the loan portfolio of microfinance institution	0.625	0.2429
GROUP	Dummy equals one if a group strategy is incorporated into the microfinance institutional model	0.3333	0.473
LSAVE	Natural log of savings mobilised by microfinance institutions in constant 1995 NAD	3.1652	1.535
LLOAN	Natural log of loans disbursed by microfinance institutions in constant 1995 NAD	6.50729	2.6936
LPCY	Natural log of real per capita income of a microfinance institution's location in constant 1995 NAD	6.2482	1.2563
Number of Observations		143	