Univerzita Karlova v Praze
Fakulta sociálních věd

Institut ekonomických studií

Bakalářská práce

2009 **Barbora Svárovská**

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Investment opportunities in microfinance and their attractiveness for global market players

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Poděkování

Na tomto místě bych ráda poděkovala svému konzultantovi, Doc. Ing. Karlu Jandovi M.A., Dr., Ph.D., za vedení mé práce, připomínky a čas, který mi věnoval. Zároveň děkuji panu Doc. Mgr. Jiřímu Málkovi, Ph.D. za užitečné poznámky k mé empirické studii.

Prohlašuji, že jsem bakalářskou práci vypracovala samostatně a použila pouze uvedené prameny a literaturu.

V Praze dne 22. května 2009

…...

Barbora Svárovská

Abstract

This thesis treats the topic of microfinance institutions, which are foremost known for providing small size loans to poor or low-income entrepreneurs in developing countries that lack the access to credit and other financial services from formal financial institutions, and it aims to introduce investment options for both institutional or individual investors from developed countries in the sector of microfinance institutions and to analyze the attractiveness of such an investment strategy. After reviewing characteristics of the sector and types of funding sources of microfinance institutions, current trends and the gradual commercialization of the sector are examined. Then we focus on investment opportunities in microfinance and specialized microfinance investment vehicles. The final part of the thesis has for its aim to analyze risk and return characteristics of selected European-based microfinance investment funds with respect to global as well as emerging markets stock and fixed income indices in order to find out whether microfinance assets are correlated with the respective markets. The analysis finds no correlation of returns of microfinance investment funds with those of selected indices and we can therefore argue that microfinance represents a good investment opportunity for a portfolio diversification and its addition to a broader portfolio of assets may help to reduce the overall risk. At the same time, investment in microfinance has the potential to provide an investor with adequate risk-adjusted returns and may be therefore attractive not only for investors with a particular interest in the socially responsible aspect of microfinance.

Abstrakt

Tato bakalářská práce se zabývá tématem mikrofinančních institucí, které jsou známé především pro poskytování drobných půjček chudým nebo nízkopříjmovým samostatně výdělečný osobám v rozvojových zemích, které nemají přístup k půjčkám ani jiným finančním službám poskytovaným tradičními bankovními ústavy. Cílem práce je čtenáři představit investiční možnosti ve sféře mikrofinancí pro institucionální i individuální investory z vyspělých zemí a analyzovat jejich atraktivitu. Po nástinu charakteristik sektoru a zdrojů financování mikrofinančních institucí následuje diskuse současných trendů a postupné komercializace sektoru. Po té se v práci zaměřujeme na přehled specializovaných mikrofinančních investičních instrumentů. Poslední část práce má za cíl analyzovat profil výnosu a rizika vybraných evropských mikrofinančních investičních fondů oproti indexům pokrývajícím globální akciové a dluhopisové trhy i trhy rozvíjecích se zemí, abychom zjistili, zda jsou aktiva těchto fondů korelována s vývojem na příslušných trzích. Výsledkem analýzy je zjištění, že výnosy mikrofinančních investičních fondů nejsou korelována s výnosy příslušných indexů a můžeme se tedy domnívat, že mikrofinance jsou dobrým nástrojem jak účinně diverzifikovat portfolio a začlenění mikrofinančních aktiv do širšího portfolia by mohlo přispět ke snížení jeho celkového rizika. Zároveň jsme dospěli k závěru, že investice do mikrofinancí mají potenciál přinést investorovi adekvátní výnosy očištěné o systematické riziko a mohou tak být atraktivní nejen pro investory, kteří přikládají velký význam sociálnímu prospěchu takové investice.

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List of Acronyms

AFI	Alternative Financial Institution
CAGR	Compound Annual Growth Rate
CAPM	Capital Asset Pricing Model
CGAP	Consultative Group to Assist the Poor
DFI	Development Finance Institution
EM	Emerging Markets
EMBI+	J.P. Morgan Emerging Market Bond Index Plus
IFI	International Financial Institution
MFI	Microfinance Institution
MIX	Microfinance Information Exchange
MSCI	Morgan Stanley Capital International
NBFI	Non-bank Financial Institutions
NGO	Non-governmental Organization
HNWI	High Net Worth Individual
OLS	Ordinary Least Squares
SICAV	Société d'Investissement à Capital Variable
SRI	Socially Responsible Investors

Introduction

The access to credit and saving facilities is without doubt extremely important for poor population in developing countries and has a direct impact on the quality of life as it enables poor households to effectively manage their cash flows, to save or invest for the future as well as to cope with unexpected occurrences. The reality of developing countries shows that a large part of poor population lacks the access to formal financial services. Microfinance institutions, which are above all known for providing small size loans to small entrepreneurs, propose an alternative system of banking that focuses on poor or low-income clients. The modern microfinance movement emerged already in the 1970s, while it became the most known to public after Muhammad Yunus and the *Grameen Bank* in Bangladesh were jointly awarded the Nobel Peace Prize in 2006 for *"their efforts to create economic and social development from below."* Globally, as their main contribution we can take the fact that they led the way and proved that poor can be bankable.

Over the time, many microfinance institutions have demonstrated a financial sustainability. Nevertheless, microfinance institutions that wish to expand their activities and achieve greater outreach need additional financial resources to do so. Despite the fact that the role of donors and multilateral development agencies in funding of microfinance institutions is very important we start to see institutional or individual investors entering the sector either as direct debt or equity investors or by means of specialized microfinance investment vehicles. In order to be able to continue its mission of poverty alleviation in developing countries by providing loans and other financial services to the poorest clients, microfinance institutions would need additional financial resources to "flow from the north to the south".

The aim of this thesis will be firstly to examine investment options in microfinance throughout microfinance investment funds that have been set up since the mid 1990s although the most of today's largest funds have begun their activity only after 2000. Secondly, we shall analyze the attractiveness of this kind of untypical and still extremely marginal investment for foreign investors from developed countries. We shall empirically verify whether an investment in shares of microfinance investment funds represent an attractive opportunity for a diversification of broader portfolio of global assets. For that reason we shall consider the risk and return characteristics of selected microfinance investment funds over a defined study period. Firstly, in order to find out to what extent microfinance assets are exposed to global markets we shall observe the correlation of returns of microfinance investment funds' portfolios with respect to returns that have been observed on global financial markets (as proxied by four chosen market indices with different characteristics representing global as well as emerging stock and fixed income markets). Secondly, we shall focus on the rate of return and examine whether microfinance investment fund outperform the market.

In the first part of the paper we shall briefly present microfinance as well as alternative means of capital for poor entrepreneurs. We will examine reasons why traditional banks step aside from low-income customers that therefore struggle to access credit, and how microfinance approaches overcome these difficulties.

The second chapter will provide the reader with an overview of different types of microfinance institutions in terms of their legal status. Secondly, we shall discuss various forms of financial resources of microfinance institution with all their benefits and limitations.

The third part of the paper will be devoted to current trends in the universe of microfinance institutions and the gradual commercialization of the sector will be tackled. With this respect we see more and more microfinance institutions originally founded as non-governmental organizations that transform into regulated financial intermediaries. We shall address diverse incitations to and positive impacts of a such change as well as inherent doubts about future development of the sector and the fear of divergence of microfinance from its original social and development mission.

In the section four we will review the structure of investors that provide microfinance institutions with capital to maintain and expand their activities. In greater detail we shall especially examine microfinance investment vehicles that serve as an intermediary between microfinance institutions and final investor and channel about half of all funds flowing to the sectors.

Upon these assumptions, in the fifth part, which will represent the core of the paper, we will carry out a case study of selected microfinance investment funds where we will treat their risk and return characteristics against given world and emerging markets equity and fixed income indices. The aim of our analysis will be to find out whether microfinance (on the example of studied microfinance funds) is correlated to international financial markets, i.e. whether investing in microfinance can be attractive for the portfolio diversification.

1 General Overview of Microfinance

1.1 Microcredit and Services Beyond Microcredit

Microfinance is foremost known for providing microloans to small entrepreneurs in developing countries who lack the access to credit from formal financial institutions. The provision of microloans is characterized by small amounts that are lent, group lending mechanism, regular repayment schedules and the short-term nature of loans. High administrative cost of this kind of banking are compensated for by rather high annual rates of interest. MFIs' interest rates can range from 18 to 60 percent, depending on the conditions in each MFI’s service area (Grameen Foundation: www.grameenfoundation.org).

Access to credit, however, can be critical as microfinance institutions' customers are in vast majority the poorest or low-income microentrepreneurs[1] who would not otherwise be served by commercial banks because they are considered high risks due to the lack of collateral and/or credit history. They seek credit in order to set up or manage their own business that may range from making handcrafts, tortilla-making business to running small neighborhood shops. In addition, according to Bauer, Chytilová and Morduch (2008), the structure of microcredit loan contracts helps to accumulate capital to people with self-discipline problems who lack suitable saving devices that foster regular deposits and that limit withdrawals. Even though the credit provided is not meant to cover daily financial needs of poor households (from developed markets' point of view microloan is an investment loan instead of a consumer loan), poor households running their own business often do not distinguish much in this respect. According to Cull, Demirgüç-Kunt and Morduch (2008) microloans are especially important with respect to their ability to expand households' abilities to cope with emergencies, manage cash flows, and invest for the future – basic financial capabilities that most of us take for granted but that are especially critical for low-income households operating on tight margins.

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[1] Cull, Demirgüç-Kunt and Morduch (2008) distinguish between the poorest and low-income customers that are poor but substantially better off than the poorest.

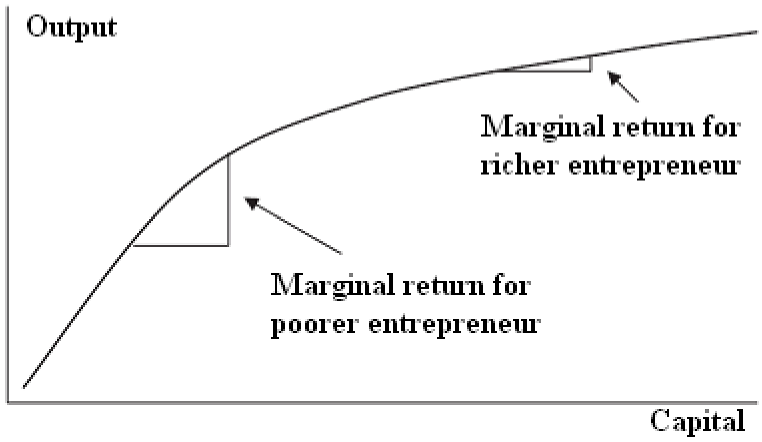
Microfinance is not a panacea for a wide-scale poverty eradication, but it is perceived as a tool for economic development and aiding the poor. Its uniqueness could be found in its role in the promotion of self-employment as well as gender empowerment (as the main focus of microfinance institutions is on women customers). Cull, Demirgüç-Kunt and Morduch (2008) see microfinance as a vision of poverty reduction that centers on self-help rather than direct income redistribution. We could argue to what extent the microfinance programs have been successful in their mission of poverty elimination (many case studies and research projects have profoundly addressed this issue), nevertheless all agree that the microfinance itself, and only the microfinance is not a general instrument how to reach economic growth on a national level and poverty reduction.

The microfinance movement has evolved since 1970s when first MFIs were set up and today's microfinance involves also other services beyond microcredit such as microsavings, insurance, remittances as well as training and advisory programs.

1.2 Pitfalls of Serving Poor Clients

The economic theory and the principle of diminishing marginal returns to capital derived from the assumption of the concavity of the production function suggest that low-income entrepreneurs should earn higher returns on additional capital than it is the case for rich entrepreneurs that have already made some investments (see figure 1.1). It suggests that poor people would be able to pay higher interest rates on their loans, which would result in higher returns for financial providers. And yet commercial banks do not turn their focus from the more rich clients towards small badly-off entrepreneurs. Why?

Figure 1.1. The Principle of Diminishing Marginal Returns to Capital



Source: Armendáriz de Aghion and Morduch, 2005

The formal financial sector fails to provide credit to low-income clients despite diminishing marginal returns of capital firstly due to the nature of the target group and the associated high degree of risk and secondly due to the nature of the demand (i.e. poor clients wish to borrow rather small amounts in order to be able to safely repay while as their get better off they may wish to borrow more to expand they business further). We shall underline the major obstacles that discourage local commercial banks from poor clients.

Financial markets in general (also in developed economies) are imperfect and are not in line with the assumption of the economic theory of perfect and costless information and suffer from the presence of the asymmetry of information that may lead to problems of adverse selection and moral hazard.

With respect to the adverse selection problem we consider lending institutions that always consider the profit they earn on loans and their riskiness. Nevertheless, they lack necessary information about the nature of borrowers and their projects (in developing countries credit institutions do not dispose neither of the credit history of a borrower or a statement of income they could rely on). Therefore, they are not able to distinguish between safe and risky costumers. Lending institutions would therefore like to charge higher interest rates in order to compensate for possible losses from unpaid loans. By doing so, however, they discourage safe clients while risky borrowers will be willing to pay higher rates of interest. The interest rate charged therefore may itself affect the riskiness of loans[2].

[2] For the problem of adverse selection on financial markets see for example Stiglitz and Weiss (1981).

Secondly, agency problems due to the asymmetry of information and the risk of moral hazard are present between clients and the lending institution (principal), which does not have reliable information neither about the credit quality of a borrower when the microloan is accorded, nor about the effort he/she exercises so that his/her business is successful. The ex post moral hazard is associated with the inability of the lender to monitor borrower's real profits in case he demands for a postponement of payments or is directly reluctant to repay. The enforcement of loan reimbursement could be even more troublesome taking into account weak legal institutions that may prevail.

Both adverse selection and moral hazard could be solved if borrowers could credibly offer collateral to secure their loans (Armendáriz de Aghion and Morduch, 2005), which is however not possible for many microbusinesses that do not have many assets. The effort of acquiring necessary information in order to decide to who the credit should be accorded could be extremely costly and when we take into account the nature of loans involved in microfinance (in sense of the small size of loans) we see that it is not efficient to undertake such a research as high administrative costs are involved per dollar earned on interests. Additional transaction costs are due to the geographic distribution of clients living in rural areas, which makes the administration of loans difficult and economies of scale hardly possible.

1.3 Alternative Mechanisms of Serving the Poor

The financial sector in developing countries could be characterized by the coexistence of an important informal sector and formal financial institutions (commercial banks, development banks, saving banks) that, however, fail to serve the most impoverished social classes and class them as un-bankable. The formal sector also consists of government sponsored institutions such as rural banks, state development and agricultural banks that often represent governments' initiative to reach to poor especially in rural areas and sectors that commercial banks normally do not serve. Nevertheless they are often ineffective in reaching the poorest and are characterized by cost-inefficiencies and continued losses, which are covered by series of subsidy. They may be susceptible to political interference too.

The most typical source of capital for common villagers is a loan from their neighbors, friends or members of family that in general does not require any interest rate from the loan nor any collateral. On the other hand in case all villagers suffer from a bad harvest, for example, they cannot be sure to be able to borrow in such a manner. Under circumstances when poor people missing the collateral are not eligible for a loan provided by traditional banks there exists other informal ways that include individuals such as moneylenders as well as groups of individuals organized in saving associations (such as ROSCAs[3] - rotating savings and credit associations). Interest rates charged by moneylenders (loan-sharks) sometimes reach incredible levels that are highly above the local formal sector interest rates. Beatriz Armendáriz de Aghion and Jonathan Morduch (2005) quote in their book studies of several authors reporting that annualized interest rates of moneylenders in a village close to Amritsar in the Punjab region of India, for example, reached from 134 to 159 percent (Singh, 1968); in Thailand typical informal sector annualized rates were of 60 percent (Siamwalla et al., 1990); while in Ghana, Malawi, Nigeria, and Tanzania, Steel et al. (1997) find moneylender interest rates at least 50 percentage points higher than formal sector rates. Such high interest rate are often a reason (or one of reasons) that cause that poor clients take new debts specifically to be able to repay the previous one. Moneylenders' practices are therefore perceived as highly exploitative. According to Armendáriz de Aghion and Morduch (2005) this exploitation is possible because moneylenders have local monopoly power, which is "protected" as potential competitors lack the necessary information and connections to break into local markets. There are also some limitations with respect to the capacity of moneylenders who borrow their own capital instead of third party deposits and therefore resources of the informal capital sector in general may be limited and do not substitute typical financial intermediaries.

On the frontier of the two types of financial sectors we find another form of group-based banking – the credit unions or credit cooperatives that could be classified as a part of the semi-formal financial sector as they are formally registered under the law and attached to the formal sector but in general are subject to different (less prudent) regulations than traditional commercial banks.

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[3] Armendáriz de Aghion and Morduch (2005) define ROSCAs (rotating savings and credit associations) as a group of individuals (usually neighbors and friends) who agree to regularly contribute money to a common "pot" that is allocated to one member of the group each period. At monthly intervals the group meets to collect dues and allocate the proceeds, with past recipients excluded from getting the pot again, until every member has had a turn.

1.4 The Birth of Microfinance

Roots of microfinance or some of its special and important features date at least back to the birth of German rural cooperatives in about the 1850s, which is commonly associated with the name of Friedrich Wilhelm Raiffeisen. The credit cooperative movement then spread almost all over the world and reached its enormous popularity especially in the early 1990s. Credit unions based on the principle of shared ownership of its members generate funds from owners'/members' deposits to whom they also provide loans. The group lending mechanism as well as the community-based enforcement mechanisms are the most significant features of credit cooperatives that are present also in microfinance. Nevertheless, the modern microfinance movement emerged in the early 1970s based on two independent pioneering initiatives in Latin America and Bangladesh.

The most known is of course the project of Muhammad Yunus, Bangladeshi professor at the University of Chittagong, who started his microlending class project in 1976 firstly lending the rural poor money from his own pocket. He distributed an equivalent of USD 26 among 42 villagers who before borrowed money from local moneylenders at rates as high as 10% a week. The vision of Mr. Yunus and the *Grameen Bank Project*[4] was to:

· extend banking facilities to poor men and women;

· eliminate the exploitation of the poor by moneylenders;

· create opportunities for self-employment for the vast multitude of unemployed people in rural Bangladesh;

· bring the disadvantaged, mostly the women from the poorest households, within the fold of an organizational format, which they can understand and manage by themselves

· and reverse the age-old vicious circle of "low income, low saving & low investment", into virtuous circle of "low income, injection of credit, investment, more income, more savings, more investment, more income" (History of Grameen Bank: www.grameen-info.org).

The effort what started firstly as a university project was transformed in 1983 into an independent bank. In 2006 Muhammad Yunus and the *Grameen Bank* were

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[4] In Bangla language “grameen” means “rural” or “village”.

jointly awarded the Nobel Peace Prize for *"their efforts to create economic and social development from below. Lasting peace can not be achieved unless large population groups find ways in which to break out of poverty. Micro-credit is one such means. Development from below also serves to advance democracy and human rights."* (2006 Prize Laureates: nobelpeaceprize.org).

If we define microfinance solely as a provision of loans and other services to poor and unbanked, then credit unions, ROSCAs as well as moneylenders should be included into the spectrum of microfinance institutions. Nevertheless, in terms of lending techniques microfinance institutions represent an alternative to the above sectors in reaching poor microentrepreneurs and are believed to be able to reduce incapacities and inefficiencies of both the formal and informal sectors in developing countries. For the purpose of this paper, we shall associate microfinance with credit non-governmental organizations (NGOs) that have been set up since the 1970s and with the development that followed.[5]

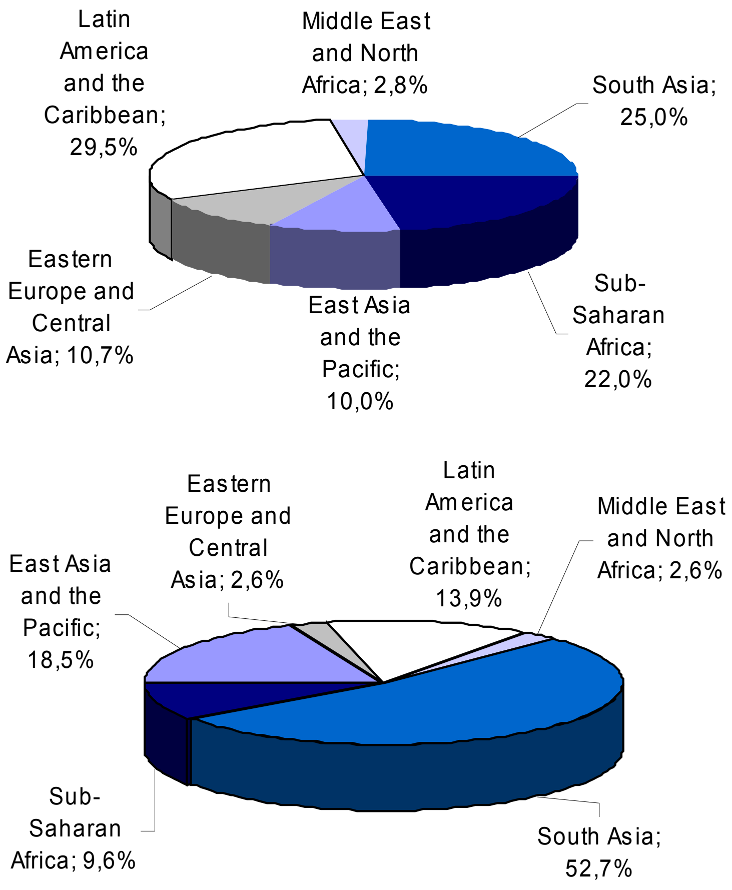
Nowadays, there are several types of microfinance institutions (MFIs) that differ in their primary objectives and modes of functioning, while financial resources and the role of subsidies represent other differential elements of MFIs. Recently updated survey of the *Microfinance Information Exchange (MIX)*, a non profit organization that seeks to gather and provide objective data and analysis on microfinance providers, on the number of MFIs and their borrowers worldwide reported the total of MFIs reaching 2420 institutions as of December 2008, representing more than 99 million borrowers in 117 countries.[6] Nevertheless, this number seems to be underestimated since MFIs are not obliged to report their data to the MIX and do it on a voluntarily basis. Most MFIs in the sample are concentrated in Latin America and the Caribbean and in South Asia, while most borrowers are concentrated in South Asia, and East Asia/Pacific region. It is interesting to note that microfinance is not a domain of developing countries only, and presently we find microfinance institutions serving working poor and small businesses throughout France (e.g. *l'Association pour le Droit à l'Initiative Economique - Adie*) or

5 According to some authors credit cooperatives (or credit unions) effectively are microfinance institutions, and play an increasingly active role in the microfinance market today (see for example Armendáriz de Aghion and Morduch, 2005). However, we chose not to take credit unions into account for the purpose of this paper as later on we shall be interested in the inflow of capital to MFIs and in commercial investment possibilities in MFIs, which is actually not in line with the capital structure of credit unions by their definition.

6 Data from: Gonzalez, A. (2008)

for example in Queens city in New York (served by the *Grameen Bank America* - an arm of Bangladeshi *Grameen Bank*). A lot of microfinance institutions operate in Eastern European countries and other former Soviet Union countries supporting the transition from communism to capitalism.

Figure 1.2. Regional Breakdown of MFIs (up) and Their Borrowers (down)



Source: own calculation on data from Gonzalez, 2008

1.5 Microfinance Innovations

1.5.1 Replacement of Collateral by Social Capital

The group lending concept is probably the most critical innovation of microfinance taking advantage of borrowers' close ties within their community. This mechanism seems to have helped to overcome problems when serving the poor associated with the lack of collateral and therefore the risk of high delinquency rates. Group lending refers specifically to arrangements by individuals without collateral who get together and form groups with the aim of obtaining loans from a lender. The special feature is that the loans are made individually to group members, but all in the group face consequences if any member runs into serious repayment difficulties. (Armendáriz de Aghion and Morduch, 2005). As long as all loans are being repaid, other members of the group can be granted new loans. Borrowers therefore act as guarantors for each other, which engenders the desirable system of the self-monitoring of the group associated with the "peer pressure" to repay. In addition, within the original model of Grameen Bank (where loans are provided to a group of 40 villages that are further divided in groups of five) largely adopted by other institutions installments with interests are repaid at weekly meetings of the group with the loan officer. As everybody gets to know who regularly repays and who not, there are also certain social incentives for group members to maintain good discipline of reimbursements.

High loan repayment rates that are typical for microcredits are closely associated with the use of group lending contracts and engendered peer and social monitoring and pressure. Microfinance proved that poor people do repay their loans and can be creditworthy. Rates of repayment often point to about 98% of loans repaid. The opposite logic of this indicator is shown in table below.

Table 1.1. Loan Loss Rate[7]

	2005	2006	2007
All MFIs	0,9%	0,9%	1,0%
Sub-Saharan Africa	1,4%	1,7%	1,5%
East & South Asia and the Pacific	0,6%	0,7%	0,9%
Eastern Europe and Central Asia	0,4%	0,5%	0,3%
Latin America and the Caribbean	1,2%	1,3%	1,7%
Middle East and North Africa	0,3%	0,2%	0,5%

Notes: Data concerning the sample of 890 MFIs worldwide.
Source: MIX, 2009: Trend Lines 2005 - 2007 MFI Benchmark

7 Loan Loss Rate is defined as the difference of adjusted write-offs and the value of loans recovered divided by adjusted average gross loan portfolio.

1.5.2 Additional Innovations

Microlending techniques that help to compensate for the absence of the collateral go beyond the group lending. Microloans that are meant to help poor entrepreneurs to build their business are typically small size with the possibility of their extension once the borrower demonstrates good repayment morale. Nevertheless, the average loan size may considerably differ from region to region. In 2007 the average loan size (computed as MFIs' adjusted gross loan portfolio over adjusted number of active borrowers) reached in 2007 USD 653, while it was only USD 175 in Asia and USD 2030 in the Eastern Europe and Central Asia[8]. Additional features that lower the risk of microcredit are short maturities (as short as three months) and high frequency of installments - often weekly or bi-weekly but there are also cases when credit is repaid daily (usually in case borrowers are for example merchants that buy and sell their products on a daily basis).

Additionally, microfinance institutions focus especially on women borrowers that prove to have higher repayment morale. The side effect, which is nevertheless extremely important with respect to the poverty reduction, is that women have shown to use profits from their businesses to send their children to school, improve their families' living conditions and nutrition, and expand their businesses (Grameen Foundation: www.grameenfoundation.org). The *Grameen Bank* that represents the traditional model of microfinance has steadily reported high numbers of women clients with respect to overall client base (97% of female members in 2008) whilst the survey carried out by the MIX covering the sample of 890 MFIs reveals that on average the percentage of women borrowers stays around still high 65% (as of December 2007).

Lastly, MFIs in general focus on proving small loans to entrepreneurs concerned by “non-farm business” as it seems to be less vulnerable to the systemic risks, such as drought and floods and others, as well as crop prices fluctuations and its revenues are more stable. Additionally, the commitment of borrowers to deposit a percentage of the loan at a bank as well as direct and stable contact of loan officers with microborrowers provide the potential to reach high rates of repayment.

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[8] Data acquired from MIX, 2009, concerning the sample of 890 MFIs worldwide.

2 Capital Structure

2.1 *MFIs' Institutional Status and Available Forms of Funding*

2.1.1 What Are Microfinance Institutions?

Microfinance institutions (MFIs) constitute one type of alternative financial institutions (AFIs) whose crucial objective is social rather than financial, i.e. to serve underprivileged customers. Among other AFIs are financial cooperatives/mutuals, low-capital rural banks, state agricultural and development banks and postal saving banks[9]. All of these financial institution focus to some degree on extending financial services downward from the economic level of the traditional clients of commercial banks (Christen, Rosenberg and Jayadeva, 2004). We refer to these institutions as institutions who have a double bottom line, i.e. they seek social or development objective in addition to financial objective.[10] In general, what sets the most MFIs apart from other AFIs is its mission of serving poor and the near-poor,[11] and not only low-income clients or the under-banked.

The term microfinance institution (MFI) comprehend several different institutions with various legal statutes associated with different ultimate objectives, business models and preponderant systems of financing. As for it concerns major objectives of particular MFIs, we distinguish between non-profit and for-profit organizations according their ability to distribute accrued profits (if applicable). While a non-profit organization is not eligible to carry the profit off the company by distributing it to its investors and has to reinvest it, pro-profit entities may dispose of after-tax profits whatever way they wish to.

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9 See Christen, Rosenberg and Jayadeva, 2004, for detailed classification.

10 Double bottom line is a business term used in socially responsible enterprise and investment. While all businesses have a conventional bottom line to measure their fiscal performance - financial profit or loss - enterprises which seek a second bottom line look to measure their performance in terms of positive social impact.

11 For the purpose of global aggregation and comparison of poverty worldwide, the World Bank uses as the international poverty lines set at USD 1.25 and USD 2 per day (in 2005 Purchasing Power Parity terms) and defines extreme poverty and median poverty as living on less than USD 1.25 and USD 2 per day respectively.

The microfinance movement gathered its force especially in the 1980s when a lot of new MFIs were established worldwide. Most of the MFIs started as NGOs while some of them transformed themselves into formal regulated entities. Taking into account the institutional type of MFIs, we can divide existing organizations in several categories.

1. Non-governmental organizations (NGOs) have non-profit status and a particular social mission, i.e. in case of NGO MFIs it is poverty alleviation in developing countries by means of providing loans to the poorest clients. They do not have real owners and their funding is provided by donors as grants (of both debt and equity), or by concessionary loans bearing no or a below-market rate of interest. At the same time they are often spared from the weight of inconvenient regulation and taxes. They are credit-focused and in most of the cases do not take deposits as local laws does not admit it.
2. Non-bank financial institutions (NBFIs) that include both for-profits and non-profit organizations are specially regulated in return for being allowed to assume additional roles, including, for some, taking deposits (Cull, Demirgüç-Kunt and Morduch, 2008).
3. Commercial bank MFIs are likely to be pro-profit and rely to a larger extent on commercial funds (both debt and equity funding) and deposits. This category consist of both microfinance banks with microfinance as their main activity as well as of number of commercial banks who established specialized departments within the bank to focus on poorer clients.
4. Credit unions or credit cooperatives based on the principle of shared ownership of its members who have each one vote in the decision-making process. Credit unions generate funds in particular from owners'/members' deposits to whom they also provide loans. While in general credit unions cover operating cost by own capital, they may, however, take advantage of external funding via commercial loans, for example.

In the table 2.1 we can find that the majority of MFIs is represented by non-governmental organizations (NGOs) and non-bank financial institutions (NBFI) that are mostly also non-profit. The two groups account for 71% of all MFIs.

Table 2.1. Distribution of Microfinance Institutions by Institutional Type

Institution type	no. of institutions	% of institutions
Bank	65	7%
NGO	346	39%
NBFI	284	32%
Credit union	123	14%
Rural bank	71	8%
Total	889 observations	

Source: MIX, 2009: Trend Lines 2005 - 2007 MFI Benchmark

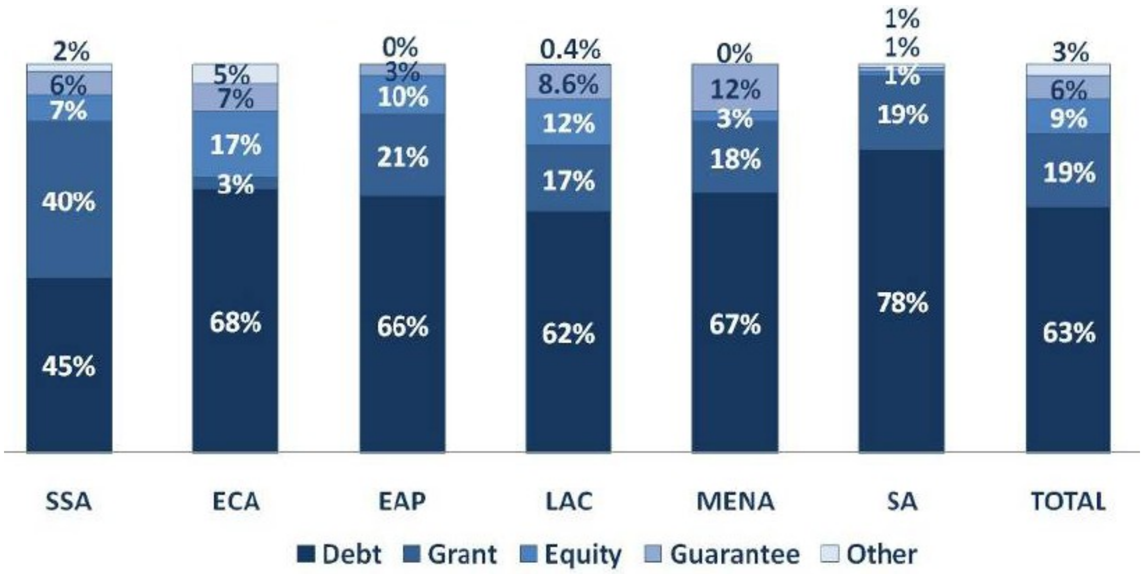
2.1.2 Forms of Funding

To cover their costs and activity expansion both for-profit and NGO microfinance organizations may dispose of own sources of capital from retained earnings if profit is generated. Even though some MFIs proved to be profitable this is not the case of the majority of microfinance institutions. External forms of funding play therefore an important role. MFIs' external funding may take different forms - from donations, grants and non-commercial loans to deposits and private capital. The extent to which individual MFIs take advantage of particular types of funding varies and it is to a large extent derived from their institutional status. External funds then may vary in terms of the use they are destined for as well as the entity they come from. They could be aimed either to cover initial start-up or ongoing running costs or as own sources of capital for on-lending activities. These funds may come either from local government or other national entities as well as from international investors. In this part we shall discuss rather what forms the funding of MFIs may take disregarding the origin of investor (local or international, public or private) and we shall focus in greater detail on foreign investment in microfinance in the chapter four.

In general, we divide funding of microfinance institutions into three groups by their nature. It concerns debt financing, which include direct loans to MFIs, all debt-related instruments such as the collateralized debt obligations (CDO) or bond issuance, and deposit collection. According to the nature of creditor loans are provided at both commercial or below the market conditions. As for the real situation in the sector Reille and Foster (2008) state that for many leading MFIs the supply of credit is abundant and growing. Since the competition from the investors' side has increased over last years we see also some trends of moving down the market from the best-preforming MFIs to medium-sized institutions. Nevertheless their adsorption capacity is limited and they would need rather equity investments. Debt funding brings along the foreign exchange risk as the majority of loans provided does not come from the local market and hard currency financing prevails (according to Marc de Sousa-Shields and Cheryl Frankiewicz (2004) over 85 percent of lending and investments are in hard currency). Credit providers are reluctant to offer local currency loans to MFIs (even though the situations has been slowly changing) and to take the risk of exchange rate fluctuations on themselves as the hedging strategies are costly and often hard to implement. The foreign currency risk is therefore often shifted onto the borrowing institution. A greater emphasis on savings collected from the local market and insurance services would undoubtedly decrease this risk with respect to sequentially lower share of foreign currency denominated funds in MFIs' funding structure.

Despite all, debt remains the main funding instrument as shown in the figure 2.1 while the remaining two main forms of funding (equity and guarantee) lag behind.

Figure 2.1. Share of Total Committed Funding[12] by Instrument in a Regional Breakdown



Notes: Survey of 54 donors and investors; Sub-Saharan Africa (SSA), Eastern Europe and Central Asia (ECA), East Asia and the Pacific (EAP), Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SA)
Source: CGAP, 2008a

Equity stakes in microfinance institutions (in case of non-NGO commercial companies) are owned especially by large multinational development agencies and non-profit organizations who pursue this investment as a part of their official mission. Commercial investors have been so far rather reluctant in equity investment in microfinance for several reasons, from which the lack of knowledge about the sector, uncertainty and high risk lied to the lack of liquidity of assets are the most important ones.

Deutsche Bank research on microfinance (2007) reported that issuing equity is the mostly costly source of finance for MFIs (except of grant equity and donations). On the other hand, it serves as a long-term funding source compared to debt-related instruments that are rather medium-term and imply exchange rate risks when foreign investors are involved.

[12] Committed funding stands for funds set aside for microfinance in all active projects, whether or not disbursed.

2.2 Subsidies and Donations as Traditional Sources of Funds

The first microfinance institutions in developing and transition economies were able to provide loans to the poorest customers especially by virtue of subsidies they took advantage of. Subsidies may come from various subjects ranging from governments, bilateral or multilateral foreign aid and development agencies to charities, private foundations or concerned individuals. They may also take different forms. Firstly, we distinguish direct subsidies as funds to cover start-up costs, staff training or technical assistance. Secondly, MFIs are provided by indirect or implied subsidies that consist of, for example, so called "soft loans" from donors that enable the MFI to profit from cheaper capital than it would be available through traditional channels. The difference between the market interest rate and the interest rate provided by a donor makes the subsidy. Other forms of implied subsidies are loan guarantees, tax holidays, "soft" (or donated) equity or the assumption of the risk of the exchange rate fluctuations in the case of hard currency debt while providing local currency loans.

On an example of the well-known Grameen Bank Beatriz Armendáriz de Aghion and Jonathan Morduch (2005) had shown that it is common that also a bank that reports to be profitable (the Grameen Bank reported between 1985 and 1996 profits of USD 1.5 million converted into 1996 dollars)[13] takes advantage of subsidies, in case of the Grameen Bank the total of direct and implicit subsidies from various sources reached, according to Armendáriz de Aghion and Morduch, about USD 144 million for the same period. Following table extracted from a recent work of Cull, Demirgüç-Kunt and Morduch (2008) analyzing data set including 346 of the world's leading microfinance institutions covering nearly 18 million active borrowers gives as an idea about the volume of subsidies per borrower (in purchasing power parity equivalents) according to the MFIs' institutional type.

Table 2.2. Subsidy per Borrower (in USD)[14]

Non-governmental organizations			Non-bank financial institutions			Banks		
25th pctile	Median	75th pctile	25th pctile	Median	75th pctile	25th pctile	Median	75th pctile
72	233	659	0	32	747	0	0	136

Source: Cull, Demirgüç-Kunt and Morduch, 2008

[13] Armendáriz de Aghion and Morduch, 2005

[14] Subsidy per borrower are defined as donations from prior years, donations to subsidize financial services, an in-kind subsidy adjustment and an adjustment for subsidies to the cost of funds.

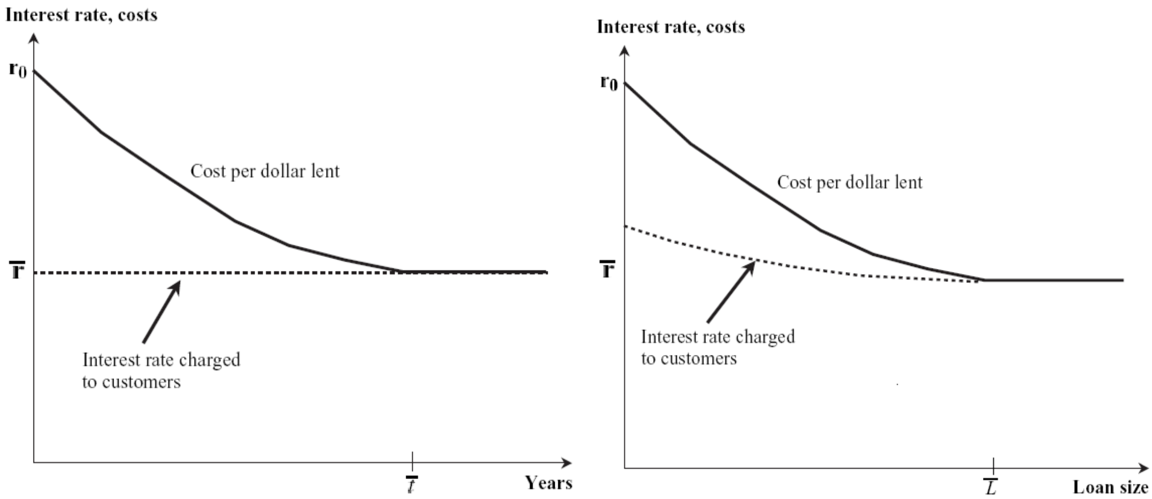
Views on subsidies, their duration and the extent as well as their impact and efficiency vary. While, in general, all approve short-term subsidies for a start-up of a new MFI as fixed costs are high and economies come only with increased scale, opinions on ongoing funding of MFIs via subsidies diverge. How an MFI gets more mature and reaches a higher level of self-efficiency, the capital may be obtained from local or foreign markets. None the less, the reality shows that subsidies remain an ongoing part of doing microfinance for nearly all programs (Armendáriz de Aghion and Morduch, 2005).

The critique of ongoing subsidizing of MFIs comes especially from the experience of many publicly funded state-owned banks in developing countries. They are associated with bad targeting of the poorest clients, cost-inefficiency and low repayment rates. The fact that highly subsidized loans have typically come from state-owned banks (and the fact that the loans are so cheap) make them seem more like grants than loans, and repayment rates fall sharply as a consequence. And because state-owned lending institutions are seldom expected to earn profits, there are few incentives for bank workers and their managers to seek efficiency gains (Armendáriz de Aghion and Morduch, 2005). The same applies for MFIs and besides the lack of incentives to enforce loan repayments and to came up with new innovations that would result in more efficient services, the problem of squeezing out of other competitors may arise as subsidized microlenders can afford to keep their interest rates low and possibly below those of other lenders on the market. This limits the overall credit supply and creates distortions on the market.

Subsidy advocates underline especially the feasible impact of subsidies on the outreach of MFIs as loans are made available to the most poorest. Indeed, a recent study by Cull, Demirgüç-Kunt and Morduch (2008) made on the sample of 346 world leading MFIs reveals that non-profits (that are the greatest beneficiaries of subsidies) generally target poorer households than for-profits.

At the same time there exists middle-way opinions on subsidies. Armendáriz de Aghion and Morduch (2005) call them "smart subsidies": carefully designed interventions that seek to minimize negative impacts of subsidized loans like distortions, mistargeting, and inefficiencies while maximizing the social and economic impact of lending activities. One of the strategies solving the high initial costs problem suggests to charge costumer the same level of interest rate $\bar{r}$ from the very beginning and subsidize the interest rate differential between $\bar{r}$ and r_0 (the interest rate that would cover all costs) until the period $\bar{t}$ (figure 2.2 on the left side). Second strategy tackles the problem of small-sized loans that are costlier to handle than servicing larger loans. However, in order to target the most poor (who are interested mostly in small size loans) subsidies are offered to cover a part of the extra costs that decreases proportionally with the loan size (figure 2.2 right-hand side).

Figure 2.2. Subsidies for Startup Costs (left) and Subsidies to Cover Costs of Very Small Transactions (right)



Source: Armendáriz de Aghion and Morduch, 2005

2.3 Local Market Funding

In order to expand lending activities many microfinance institutions seek other more steady sources of funds rather than always having to rely on donors. At the same time, it is doubtful that foundations and governmental institutions will be able keep pace with expanding MFIs and will proportionally increase their capital inflow. With growing competition among MFIs they might transfer their funds to those that to the best extent pursue their poverty alleviation mission. Nowadays, however, since more microfinance institutions are getting more mature, stable and bigger, there exist other attractive ways of obtaining capital for the MFIs. Consequently, in recent years, the role of non-profit lenders and investors in microfinance institutions has declined as broader sources of funding have been accessed, including client deposits of bank-related microlenders, refinancings via interbank deposits and commercial loans, and raising funds in capital markets (Krauss and Walter, 2008).

Firstly, the change of legal status from an NGO to a standard regulated financial institution opens door to the deposit collection since in some countries only regulated financial institutions are permitted to take deposits from the public. The possibility to take deposits represents additional, inexpensive and stable form of capital to cover MFI's funding needs. Von Stauffenberg states than as of December 2003, the average cost of funds for deposit-taking MFIs was only 6.7%, compared to 10.1% for the others (Krauss and Walter, 2008, citing von Stauffenberg, 2004). Yet, many MFIs do not or to a small extent take profit from the deposit collection. Already cited analysis by Cull, Demirgüç-Kunt and Morduch (2008) showed that while for microfinance banks deposits represents substantial 71% of total fundings, in total, the share of savings on total funds constitutes slight 27% (see the table 2.3) suggesting that there is still room for further expansion in this domain. The disfavor of deposit collection is mainly due to either the NGO status of an MFI preventing from deposit collection or the historical background of the microfinance movement and its sole focus on the microlending business that is in its substance different from the savings mobilization. Changing the business strategy is therefore accompanied with increased costs coupled with the establishment of deposit-taking points and employees training.

From a microfinance client's point of view, micro-savings as an extension of microlending program represent a beneficial and highly appreciated service. While the provision of credit may help to the poor to set up their own business, additional financial services otherwise unavailable such as micro-saving are convenient in the measure that they provide low-income depositors with market returns as well as the security for their savings. Consequently they enable to build up larger amounts of funds to be able to protect themselves against bad harvest or periods off the season, for example.

Table 3.3. Shares of Total Funding by Institutional Type
(Means / standard deviations in brackets)

	Shares of Total Funding					Median Non-Commercial Funding Ratio
Institution Type	Donations	Non-Commercial Borrowing	Equity	Commercial Borrowing	Deposits	
Bank (24 obs)	0.02 [0.09]	0.01 [0.037]	0.13 [0.16]	0.13 [0.19]	0.71 [0.30]	0.11
Credit Union (30 obs)	0.11 [0.22]	0.03 [0.11]	0.16 [0.15]	0.06 [0.10]	0.64 [0.29]	0.21
NBFI (88 obs)	0.23 [0.30]	0.11 [0.20]	0.18 [0.24]	0.28 [0.30]	0.21 [0.29]	0.45
NGO (134 obs)	0.39 [0.34]	0.16 [0.25]	0.08 [0.20]	0.26 [0.29]	0.10 [0.18]	0.74
Total (289 obs)	0.26 [0.33]	0.11 [0.21]	0.13 [0.20]	0.23 [0.27]	0.27 [0.34]	0.43

Source: Cull, Demirgüç-Kunt and Morduch, 2008

Secondly, local market funding options comprehenf local bank commercial loans. Nevertheless according to Brad Swanson (2007) from the Developing World Markets, a fund manager and investment bank highly involved in microfinance, the major institutional players at domestic capital markets in emerging countries are averse to or legally constrained from significant investment in microfinance.

Microfinance practitioners and experts involved agree that in terms of MFIs' funding and their cost-effectiveness two elements would be highly desirable for the long-term prospects: firstly, greater involvement of MFIs in deposit collection and secondly, more developed local capital markets and improved access of microfinance institution to local market sources by issuing bonds and equity. For now being, however, this is not the case in many developing countries and foreign funding of MFIs' prevails.

3 Commercialization of the Sector

New sources of funding are crucial for maturing and expanding microfinance institutions that want to be able to satisfy present and new client's increased demand for loans. Even though the demand for microfinance services is not equally distributed throughout countries and regions, nevertheless on average the market has not been saturated yet. The rough estimate of the global gap in the target market coverage is 2.5 billion of unserved low-income clients, when the target market was represented by 3 billion potential clients while the number of active clients served by the alternative financial institutions (AFIs), there including also microfinance institutions, was estimated at 500 million as of 2004.[15] Microfinance institutions themselves were reported to have been serving about 94 million borrowers (also as of 2004)[16]. The desire to expand outreach requires additional sources of capital. In order to encourage more private investors (both institutional and individual) to invest in MFIs there has been a pressure on the traditional model of microfinance institutions to progress and in a way come out from the informal or semi-formal environment based on non-profit organizations and donor funding towards more traditional systems of banking.

3.1 Increasing Calls for the Commercialization of Microfinance

According to Christen and Drake (2002) *commercialization* is used to refer to the movement of microfinance out of the heavily donor-dependent arena of subsidized operations into one in which microfinance institutions "manage on a business basis" as part of the regulated financial system. NGO-managed MFIs that do their business well and aspire to reach greater scale could be restrained by the lack of funds. Private institutions, microfinance investment funds but also development agencies interested in microfinance investment are ready to place their funds into true commercial entities since already the institutional and management model provide more security of placement (even thought investment in microfinance is still largely perceived to be high risk).

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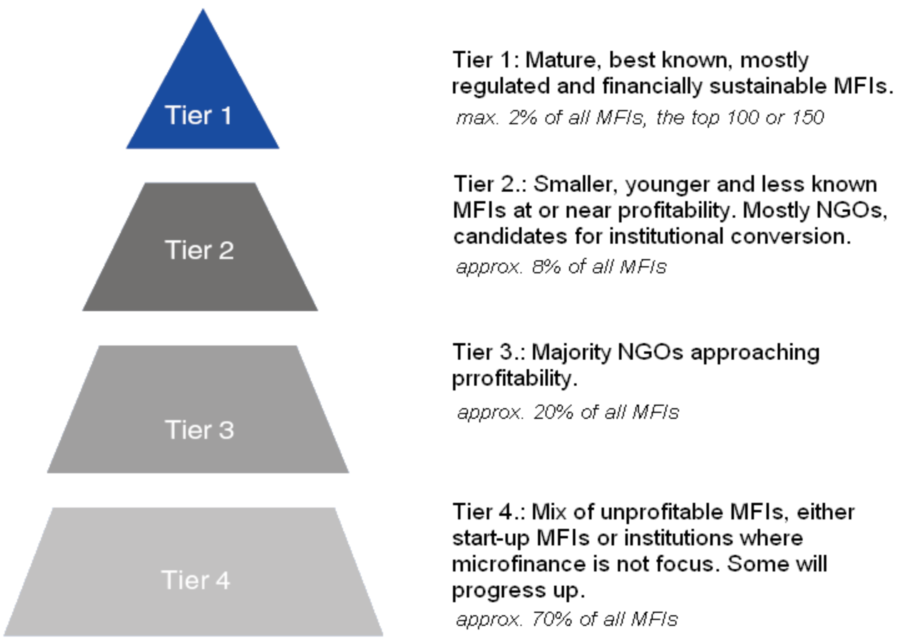
15 Estimates by Christen, Rosenberg, and Jayadeva, 2004.

16 Estimates by Gonzalez and Rosenberg, 2006.

Practically the commercialization of the sector may entail both NGOs' transformation or an entry of local banks on the market, followed by an enhanced focus on profit generation, wider offer of financial products and application of new technologies (credit or debit cards, ATM networks, online banking) and other innovations. On the other hand, it has been observed that more commercial MFIs focus rather on urban areas with a great concentration of poor people (yet, the most impoverished are still rural areas residents). This feature indirectly implies lower application of group lending techniques to which microfinance success is especially due to.

The rapid transformation of the microfinance industry over the past decade has created a considerable gap between the most performing commercialized MFIs and other less known mostly NGO MFIs. Meehan (2004) proposes a pyramid-form breakdown of existing specialized MFIs focusing solely on the microfinance sector into four tiers according to their degree of commercialization (figure 3.1).

Figure 3.1. Breakdown of Specialized MFIs

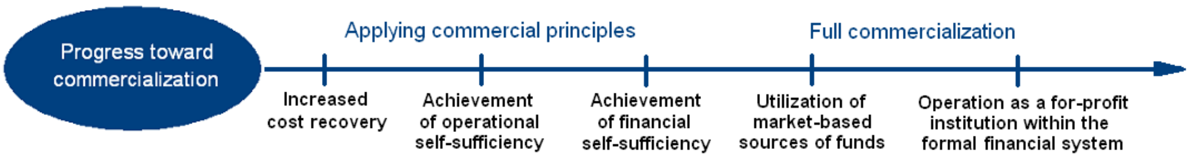


Source: adapted from Meehan, 2004

The first-tier MFIs are those that we usually read about in popular articles. They has been successful in their activities, they are the most known and in general do not lack funding from both local and international banks or financial intermediaries. Second-tier MFIs are likely to sooner or later attain financial sustainability and therefore will become more attractive for larger commercial investors as well. The gap rises in the middle of the pyramid dividing the third and fourth-tier MFIs that are mostly NGO-managed with rather weak financial fundamentals from the rest.

Microfinance industry commercialize in several ways, however the most prevalent is the transformation of NGO MFIs into regulated financial institutions. Such a transformation to which we refer as "upscaling" involves an NGO changing its business strategy and implementing common market-based principles in order to gradually approach more commercial and competitive environment of conventional regulated financial entities. The figure 3.2 suggests the way towards the commercialization of an originally NGO-managed MFI and its transformation into a for-profit institution integrated within the formal financial system.

Figure 3.2. Path towards Commercialization



Source: Ledgerwood & White, 2006 from Charitonenko, 2003

Secondly, the microfinance sector records traditional mostly local commercial banks involved in the microfinance. "Downscaling" commercial banks either develop new specialized departments that serve poorer clients or incorporate its microfinance activity in existing larger units within the bank with a focus on retail and SME banking. In other cases, they may find more convenient to establish a new subsidiary company. Other, even though a rather marginal way of microfinance commercialization comprises newly established banks targeting the poorest clients that abstractedly speaking skip the NGO phase and become directly a regulated bank. And lastly, the literature mentions also cases of a merger of two existing non-bank financial institutions in order to access each other's branch network and products and profit from the increased scale[17]. We shall focus in detail only on the first two approaches, i.e. the microfinance „upscaling" and transformation of non-governmental organization and the „downscaling" of commercial banks entering the sector. Consequently, we see new regulated microfinance institutions with two different backgrounds and distinct strengths and weaknesses in the sector.

[17] See Ledgerwood and White, 2002, p.xxvii for the foundation of XacBank in Mongolia.

3.2 Microfinance Upscaling

The transformation of a non-governmental microfinance institution into a regulated financial intermediary or a bank virtually denotes a mixture of transactions in which all or a part of the original NGO's microfinance activities are transferred to a newly established company. The transformation brings numerous benefits to continued functioning of a particular MFI. Nevertheless, since the transformation implies the establishment of ownership and governance structures there are some important issues in this respect to be considered before launching the transformation. Furthermore, the transformation entails high transaction cost.

3.2.1 Why Transform?

NGO microfinance institutions may consider transformation for several reasons, from which the most important ones, which shall be subject of our further interest, are (1) the ability to offer additional services and products such as saving accounts, insurance or transfer services[18] and (2) the potentially increased access to capital markets. Both introducing new services interesting for low-income customers as well as increased funding from commercial investors and via deposits enables MFIs to expand outreach more quickly. Among other incentives to legal status change we find the wish to limit politicization in case when donor funding coming from government bodies is counterbalanced by government intervention in setting priorities. Sometimes transformation may be driven by legislative changes that either require an NGO to transform[19] or, on the other hand, may furnish new possibilities for further development. Kate Lauer (2008) from the Consultative Group to Assist the Poor states that another motivation to transform may be an effort to gain legitimacy in the eyes of investors, commercial lenders, and other financial institutions and policy makers. While in other few cases, NGO MFIs have transformed specifically to enable employees or clients to become owners (Lauer, 2008).

[18] In most cases, engaging in these activities would necessitate being licensed and prudentially regulated and supervised by a financial regulator, such as the central bank or the ministry of finance. In contrast, in most countries, credit-only institutions either are not regulated or are subject to only minimal nonprudential regulations. (Lauer, 2008).

[19] Kate Lauer (2008) from the CGAP carried out a survey summarizing all originally NGO MFIs that had transformed into a for-profit company, often a regulated financial institution since 1992 through December 2007. According to the study there has been at least 84 transformations in more than 30 countries. Seven out of 11 transformations completed in 2007 were required by new legislation.

Reducing poverty does not pass only by providing credit and additional financial products that become available are highly appreciated by poorer households. It concerns especially saving accounts, which significance has been already discussed. Both in-country and international transfer services are also important as many families depend on money another family member earns abroad or in a city in case of rural families. Insurance plays a key role especially in rural areas susceptible to an alternation of good and bad harvest. Globally, an improved access of MFIs to commercial funding is likely to enlarge the portfolio of services and their quality thanks to additional financial resources.

Transformation from an NGO-managed MFI into a regulated financial institution in many cases opens the door to commercial capital in both forms - debt and equity - that can be accessed in an easier way. This possibility frees an MFI from a mere dependence on donations and government subsidies, provides greater stability of funding and adds more certainty as for it concerns future operation. In addition, with the present global recession it is likely that the absolute volume of funds granted by donors will decrease while demand from developing countries is still surging. Recent article in *The Economist* discussing the impact of the subprime crisis on the microfinance sector disclosed that "funding from development institutions like the IFC [International Finance Corporation, the World Bank's private arm] is likely to be stable, but aid budgets are being cut and other sources of funding are threatened, too".[20] At the same time, donors may shift their preference from subsidizing mature MFIs towards other projects that are only in their start-up phase for example or directly to other activity sectors.

The table 3.1 summarizes forms of funds perceived by MFIs with different institutional backgrounds and at different stage of development that corresponds to the four-tier breakdown discussed earlier. It demonstrates that regulated financial institutions find much wider range of external financial resources coming especially from the private sector.[21] Internal financing becomes more important for MFIs from the first and second tier that are likely to be sustainable and therefore refinancing through retained profits becomes available to a greater extent. Although retained earnings represent initially only a slow way of how to expend the outreach. Savings mobilization

[20] The Economist. (2009). *Microfinance and the credit crunch: Sub-par but not subprime.* London and Tokyo: The Economist, March 19th 2009.

[21] Private investment does not necessarily mean commercial investment, i.e. seeking maximal profit. Among private investors to microfinance we include also social responsible investors - rather investment funds than particulars - that seek the double bottom line.

could, on the other hand, constitute substantial part of funds. The volume of funds coming form taking deposit has been for a long time underestimated, however, recent studies often call for greater involvement of MFIs in local market savings.

Table 3.1. Financing by Stage of Development and Legal Status[22]

	Tier 4	Tier 3	Tier 2		Tier 1	
	Start-up	Break-Even	Profitable		Commercial Return	
Type of Financing	NGO	NGO	NGO	FI	NGO	FI
Public Financing (Donors, Foundations)						
Grants	X	X	X	X	X	X
Below-Market Loans	X	X	X	X	X	X
Guarantees/ Quasi-Equity		X	X	X	X	X
Internal						
Compulsory Savings	X	X	X	X	X	X
Voluntary Savings				X		X
Retained Earnings			X	X	X	X
Private						
Debt						
Commercial Loans			X	X	X	X
Guarantee Funds			X	X	X	X
Bonds				X		X
Securitization				X		X
Inter-bank Borrowings						X
Quasi-Equity		X	X	X	X	X
Equity						
Socially Responsible Equity				X		X
Commercial Equity				X		X

Source: Meehan, 2004

Change of the legal status and the fact that a newly formed organization becomes a subject of control and regulation substantially widens the possibility to use debt to finance business activities. Apart from commercial loans that may be available also for an NGO MFI (even though rather to a lesser extent), a licensed MFIs can tap the market and take advantage from a variety of investment structures common on established markets such as bonds issuance or securitization of a debt portfolio. The non-NGO status of a transformed MFI provides a potential to leverage its equity[23], i.e. use its equity to access debt from external parties (Ledgerwood and White, 2006) more than in case of an unregulated MFI. The extent to which an organization can be leveraged is set by the Basel Accords of capital adequacy standards for financial institutions put forth by the Basel Committee on Banking Supervision (BCBS) with the

22 FI stands for financial institution and refers to any kind of licensed or legally recognized structure.

23 Leverage (or gearing) is borrowing money to supplement existing funds for investment in such a way that the potential positive or negative outcome is magnified and/or enhanced.

goal of minimizing the underlying risks that financial institutions face. The so called Basel II requirement establishes the minimum capital requirements of internationally operating financial institutions equal to at least 8% of its risk-weighted assets[24]. In practice, it means that if a financial institutions had USD 1 million in equity, it could support total assets of at least USD 12 million (implying at least USD 11 million in debt and other liabilities), depending on the risk classification of its assets. In many countries, however, regulatory bodies impose higher capital adequacy standards for MFIs to compensate for the perceived higher level of risk of microfinance activities. (Ledgerwood and White, 2006). The leverage permitted could be therefore usually lower than as in the case of established commercial banks, but still higher than for an NGO.

Regulated and licensed MFIs become more appealing for private equity investors. The reality is that most of the capital in form of equity stakes comes from the group of socially responsible investors that seek the double bottom line. Nevertheless, increasingly also commercial investors entry the sector as equity holders. Increased equity then translates in a possibility of increased company leverage. Not all NGOs, however, have intentions to become a for-profit organization or are reluctant to an entry of external investors with whom they would have to share control over the new company. The inflow of new capital in these cases does not compensate for the loss of independence in decision-taking. Lauer (2008) points out that this is most common with international NGOs that have transformed their local projects or locally established NGOs into local companies.

3.2.2 Ownership Structure

The transformation of ownerless NGO MFIs into formal financial intermediaries or banks entails important impact on the ownership that is being established and the corporate governance. The institutional transformation involves new investors acquiring equity stakes in the new company. And it is the new ownership structure that raises the principal concern of former NGO's founders, board members, donors or employees - that is to align investors' business vision with the social mission of the MFI. The transforming NGO therefore needs to carefully select its investors and negotiate the best conditions that would ensure a smooth transfer of microfinance

[24] See the Basel Committee on Banking Supervision (http://www.bis.org/bcbs/index.htm)

activity with no change in MFI's ultimate objective of promoting social change.

Between 1992 and 2007 there has been at least 84 MFI's institutional transformations in more than 30 countries[25], yet there has not been a single strategy of transformation undertaken by transforming organizations. Transformations vary in external conditions (e.g. local law and regulation) MFIs face as well as in the actual way the transfer of all assets and liabilities, client lists or employees is conducted. While a predominant model for commercializing microfinance [involves] an NGO that creates a regulated institution and transfers its portfolio in exchange for shares and a board position (Otero, 2002), different scenarios include establishing an entirely new company, acquiring an existing regulated financial institution, or reorganizing the former NGO. Sequentially the loan portfolio may be transferred, but there were also cases (e.g. *Peruvian MiBanco* in 1998) where only client lists were transferred while present loans remained to a former NGO until they were repaid and new loans were then accorded by the transformed company. By the same means the transfer of employees and branches may be only partial and/or gradual.

Various subjects become shareholders of the new company and their choice represents a critical step of NGO's board and management preparing the transformation. In case of unaffiliated outside investors various aspects are strategically considered. Interested investors may include local entities who are familiar with local business environment and invest in the local currency mitigating therefore the exchange rate risk exposure. Or conversely, it may concern international bodies that bring more of a global perspective and international connections, many of which may have “deep pockets” [i.e. extensive financial wealth or resources] so valued by regulators (Ledgerwood and White, 2006). While developing a business plan and a funding strategy the former NGO also needs to make clear if it seeks rather minority investors and wants to keep the majority control over the new company (if possible) or the converse. Having the majority shareholdership and therefore the influence over the board decisions is desirable for an NGO since it ensures the continued social mission. On the other hand, it may be discouraging for investors who might not be able to enforce their propositions. Ledgerwood and White (2006) recall that equity funds [acquiring equity stakes in transformed MFIs] have generally come in as minority investors but they have tended to prefer to invest in MFIs with relatively diverse shareholding structures where no one shareholder is a clear majority owner. Outside investors apart from local institutions

[25] For the whole list see Lauer, 2008.

comprehend public investors (international financial institutions – IFIs) and private investors that may be further divided into socially responsible investors seeking the double bottom line and purely commercial investors whose bottom line is the financial profit or loss. We shall, however, discuss different groups of foreign investors in microfinance in the next section.

Lauer (2008) states that apart from unaffiliated outside investors new owners may include the former NGO itself or its founders, board members and management, or employees of the former NGO that often hold the same position in the new company (yet, it is not a rule). Former NGO clients may as well become shareholders. In general, an NGO MFI transfers its assets to the new company in exchange for shares, debt or both. NGO's maximal percentage ownership of a for-profit company are in many countries fixed by law. The remaining value of transferred assets that is not compensated for in shares could be structured as debt, which represents for the founder NGO a stable flow of interests and down-payments in the post-transformation period. NGO's activities after the transformation are relevant to other investors and co-shareholders of the new company putting their capital at risk, who want to ensure that the NGO will be able to meet future capital calls. In addition, an NGO's inherent lack of owners means there are doubts about who is accountable (Ledgerwood and White, 2006). NGO's future income generation is therefore of investor's interest and its plans for the future might be quoted in the agreement. In fact, many NGOs in the post-transformation period provided business development or other nonfinancial support services for microentrepreneurs and the poor (Lauer, 2008). Some NGOs may transfer only part of the microlending business and after the transformation may remain in the sector, and perhaps extend its activity to new regions that has not been served before. Anyhow, the newly created ownership structure is rather unconventional from the traditional ownership structure point of view (even though very frequent in the microfinance sector) with regard to the fact that a non-profit NGO holds an equity stake in a for-profit entity (which may not be permitted in all countries).

Shareholders of the new company may consist of former NGO's board members and managers who can thereby be awarded for the effort put forth not only in the initial stages of NGO's existence. There are at least two problems associated with this issue. Firstly, the stake participation of NGO's managers and founders in the new company is decided before its creation and needs to be negotiated within all investors. Nevertheless, the NGO's interests are often represented by the board and management themselves, who are therefore in a conflict of interest. Such situation could be bypassed by other investors who grant shares in the transformed company to founding NGO's board members and managers. In fact, various donors have been involved in providing direct funding for the purchase of shares in the transformed institutions by employees (Lauer, 2008). Another conflict of interest may, however be present in the case when NGO's board members and/or managers that are likely to be also on the board of the new company representing the NGO's interests, them themselves become shareholders of the new company. Thereupon, they may be in the conflict of their own and NGO's interest.

Transferred employees can as well become shareholders (by a purchase of stocks or when stocks are donated as a bonus) in the company of their present employer through so called Employee Stock Ownership Programs (ESOPs) that are common employee motivation programs in developed countries as well. Investors perceive the same concern about the ability of all shareholders to meet future capital calls when the former NGO becomes a co-stakeholder as well as in the case when employees (but also managers and NGO's founders) participate on the ownership.

3.2.3 Two Disunited Approaches to the Transformation of NGO MFIs in For-profit Entities

What sets transformed MFIs apart from regular financial providers is its social mission. The depth of outreach is essential in its mission of alleviating poverty as otherwise credit and other services are unavailable for the poorest clients. The impact of microfinance is in general difficult to asses, however, the average loan size statistics has been widely used as a proxy for the depth of outreach. The logic behind this indicator resides in the fact that the poorest clients wish to borrow rather small amounts in order to be able to safely repay while as they get better off they may wish to borrow more to expand their business further. Therefore, the lower the MFI's average loan size, the greater the outreach. Handling big number of small-sized loans, however, reflects in increased transaction costs for MFIs. On the other hand, financial sustainability is central as it ensures the provision of MFI's services on a sustained basis as well as further expansion down the market. We see that the microfinance institutions face multiple objectives in their activities. In this perspective, the current microfinance movement has been marked by the existence of two different approaches to further development of operating NGO microfinance organizations.

The “institutionalist approach” takes into account first of all the financial health of microfinance providers. Economists concerned with microfinance as well as microfinance practitioners have mostly agreed that the financial sustainability of microfinance institutions without the need to rely of donor funding is necessary in order to provide their services to clients in a steady and lasting manner. A survey of over 144 MFIs published in the CGAP 2004 Annual Report indicated that scarce donor funding has been the principal factor in limiting growth (Krauss and Walter, 2008). Therefore, they advocate the transformation of donor-driven non-governmental MFIs into formal financial institutions that require application of market-based instruments in the decision-making process in order to reach efficiency and financial sustainability. Consequently, viable MFIs would be able to further expand the outreach. This win-win proposition, i.e. that microfinance institutions that follow the principles of good banking will also be those that alleviate the most poverty, is according to Morduch (2000) based on key tenet that poor households demand access to credit, not „cheap” credit. Thus, programs can charge high interest rates without compromising outreach. (Morduch, 2000).

The question of profit redistribution raises another disagreement among microfinance practitioners. On one side, the fact that NGO MFIs may not redistribute profits may translate into decreased efficiency of the non-profits as they are not stipulated to minimize costs. On the other hand, the restraint to distribute company's benefits limits the opportunistic behavior of MFIs directors and management, which therefore contribute to greater credibility of MFIs in the eyes of donors.

In addition, the transformation into licensed and regulated financial institution results also in a more effective system of governance. The principal-agent problem in the context of asymmetry of information is present in an NGO MFI on two levels - on one hand, between clients and the lending MFI as it was discussed earlier, but also between leaders of the MFI and its funders who can never be completely sure that funds they brought will be placed to the best of one's efforts to satisfy donor's interests, i.e. to promote social change. Whereas interests of the MFI's directors (agents) may differ from those of their donors (e.g. objective of growth of the institution at the expense of reaching down the market, the aim to increase of their own remuneration, etc.). The institutional transformation into a regulated financial institution brings along variety of control mechanisms, internal (internal controls and audit, reporting requirements, hierarchy) and external (regulatory requirements and legal aspects, market competition), that are otherwise minimized in non-profit organizations and yet they are so important in maintaining good governance.

Opponents of the commercial approach to microfinance fear the most the “mission drift” associated with the transformation of MFIs into private entities. Since NGO's control over the newly transformed joint-stock MFI decreases with an entry of other investors in a company that require their part on the decision taking, they are convinced that the original mission of serving the poorest clients will be overshadowed by the objective of sustainability (profitability). They see commercialization as the introduction of a profit motive in microfinance, and as a process intrinsically debasing the quality of services in order to maximize financial returns (Christen and Drake, 2002). The trade-off between MFI's financial sustainability or profitability and the degree of outreach in reaching the poorest is widely believed, however how great this trade-off is remains a subject of a debate. Advocates of the so called “welfare” approach wish to preserve the NGO status of present microfinance institutions as it is nowadays in most of the cases, with the objective to the future to expand their outreach by acquiring more funds or donations as the microfinance phenomenon becomes more popular and the MFI's social impacts becomes more evident.

3.3 Microfinance Downscaling

Despite of what was mentioned earlier in the first chapter about obstacles that commercial banks perceive when serving poor clients and that actually for long time had prevented them to enter this market, the situation (especially in some regions such as Latin America or Southeast Asia) has changed and also larger commercial bankers got attracted by high loan repayment rates in the sector that offer returns above their cost of funds. Local market commercial banks and other regulated financial institutions increasingly enter the microfinance industry via a process called „downscaling”, i.e. an involvement of regulated financial intermediaries in the provision of microfinance services to low-income entrepreneurs. Downscaling institutions range from large private multipurpose commercial banks or rather small commercial banks, to state banks, finance companies and regulated non-bank institutions.

In general, these institutions see microfinance as a market opportunity offering solid profit margins and further growth prospects taking into account the number of people without the access to formal financial services throughout regions. In addition, microfinance represent a possibility of portfolio diversifications for banks and institutions facing increased competition in their traditional markets as well the opportunities of cross-selling. Other driving forces of bank's decision to move down the market may be a sense of social responsibility or rather the vision of microfinance as an appreciated public relation tool for banks that make a publicity out of their involvement in the microcredit program highlighting the eye-taking “lending to poor” motto.

Since entry conditions vary substantially (on the level of regulatory environment, potential market size and competition or due to other market factors) the downscaler approach is highly diverse as well. In general, the literature distinguishes two main categories – direct provision of financial services to the poor and the indirect approach based on cooperation with existing microcredit institutions.[26] Some commercial banks choose to incorporate their microcredit program either into their SME department while others establish separate subsidiaries that can profit from the infrastructure and portfolio of the mother bank, while having its own staff understanding the rural and low income customers. Among the most known examples of downscaling banks we find the Indonesian state-owned commercial bank *Bank Rakyat Indonesia* or the Brazilian *Banco Do Nordeste* (also a state bank) that both chose to establish an internal unit within the bank, or on the other hand the *Banco de Crédito* in Peru, which set up a financial microfinance subsidiary.[27]

There are several positive features the larger commercial banks possess in order to be successful, such as the physical infrastructure and branch networks allowing to reach a large number of customers and offer them a variety of financial products, own sources of funds not requiring to rely on donor resources, stable control mechanisms and clear ownership structure.

Among difficulties perceived when entering the microfinance market we find external (or market) factors especially high operating costs but also increased competition among microfinance providers and the vulnerability of smaller banks and finance companies with respect to the economic decline in their respective countries, which both may result in a withdrawal from the market. Internal factors include

[26] For further details on microfinance downscaler strategies see Isern and Porteous, 2005.

[27] See Delfiner, Miguel and Peron, Silvana. 2007. *„Commercial Banks and Microfinance,“* Central Bank of Argentina. On: http://mpra.ub.uni-muenchen.de/10229/1/MPRA_paper_10229.pdf

especially the difficulty assimilating microloans into a wider corporate bank culture. The experience shows that when microcredit programs become a part of a greater unit within the bank the same approach is applied as to other financial products, which may not be desirable as microfinance involve different type of clients and requires different credit methodologies. Moreover, the microfinance business is labor-intensive and requires qualified personnel used to work with lower-income social groups. Technical assistance, staff training and enthusiastic management play a crucial role.

According to Liza Valenzuela, a microfinance specialist who has tracked the evolution of the microfinance sector and carried out surveys among commercial banks addressing low income clients, found out that the experience of these new entrants in microfinance has been mixed; a few commercial actors are succeeding, others are struggling, while some have simply given up (Valenzuela, 2002). In terms of the impact of new entrants on the microfinance sector she has found that while some of the best practices of the microcredit have been integrated into downscaling banks' products (especially the short-term nature of loans) the individual lending concept dominates this fragment of the microfinance sector. In terms of outreach (measured by the number of active loans), she has found out that in general banks are reaching more established microenterprises and clients that are slightly better off than the average NGO client, nevertheless they are also able to reach lower market segments (Valenzuela, 2002).

4 Foreign Investment in Microfinance

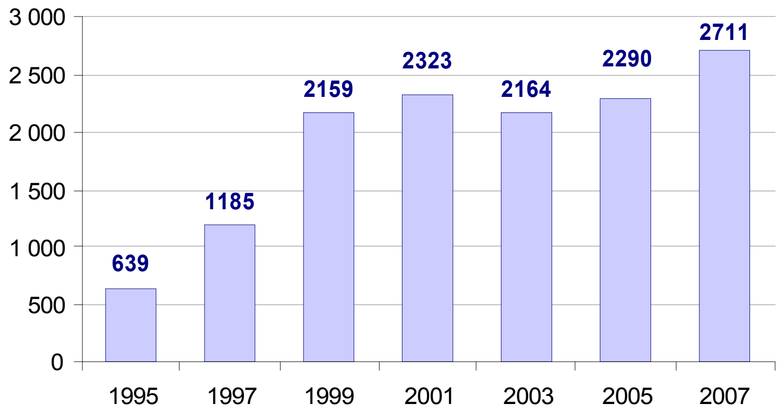
4.1 Market Trends

Since MFIs operate in more or less developed countries their chance to obtain larger volumes of funds on the local market (beyond local bank loans and saving mobilization) is somehow limited taking into account that capital markets are too thin and not well developed in most developing countries (of course there are exceptions). According to Ledgerwood and White (2006) this is particularly evident in the limited sources of medium and long-term financing found in many developing countries. In this manner, some MFIs are highly interested in foreign financing in order to broaden their funding structure. On the other side, mostly bigger western investors get increasingly allured by the microfinance institutions in their search for new investment opportunities and new fields of the banking activity.

At large, the foreign funding of microfinance has been provided by a broad range of donors and investors with diverse institutional characteristics, business models, instruments, return expectations, risk appetites, and conceptions about the ultimate goal of microfinance (CGAP: http://www.cgap.org). We distinguish two type of cross boarder funding: the first one coming for donors that consist of bilateral aid and development agencies, multilateral development banks and UN agencies, foundations and charitable trusts or international NGOs. On the other hand, there has been a group of investors in microfinance industry bringing along a more competitive approach. Since the approach of donors providing grants and funding at subsidized conditions has already been briefly discussed, we will now rather focus on the investors' funding of microfinance.

Investment in microfinance is especially attractive for a growing segment of Socially Responsible Investors (SRIs) who seek investment opportunities that offer positive financial returns while pursuing some social or environmental mission. These investment opportunities focus on thematic investing associated with issues like climate change, pollution, green investments, renewable energy, health or social standards. The variety of SRIs ranks from NGOs and development agencies, professional institutional investors such as international banks, pension funds or insurance companies to religious institutions and High Net Worth Individuals (HNWI). The sector of socially responsible investment is very large and is fast-growing (see figure 4.1). In the U.S., the volume of SRIs reached USD 2.7 trillion in 2007 while total assets under management attained USD 25.1 trillion, which means that about one out of every nine dollars under professional management in the United States was involved in socially responsible investing (Social Investment Forum, 2007). The SRI assets managed by U.S. institutions has increased over the period 2003-2007 by a compound annual growth rate (CAGR) of 5.8% while in Europe SRI assets grew even faster by a CAGR of 27.3% from EUR 501 billion in 2003 to EUR 1.0 trillion in 2006[28].

Figure 4.1. SRI Assets in the U.S. (in USD billions)



Source: own calculations on data from Social Investment Forum, 2007

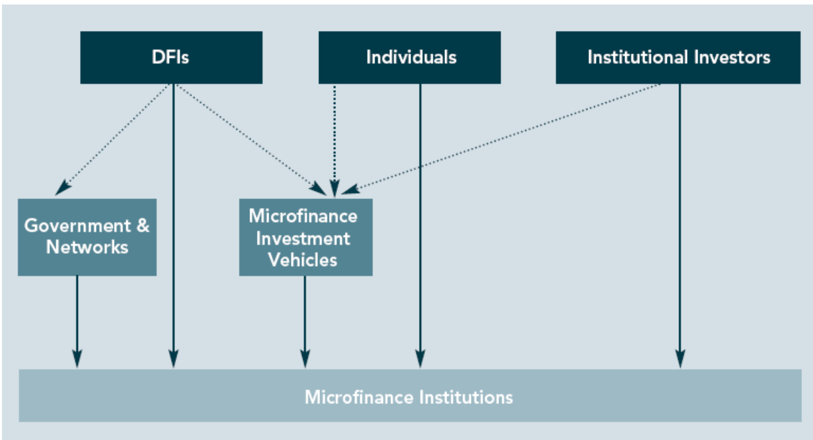
Matt Christensen from the European Social Investment Forum (Eurosif) highlighted that microfinance is only a recent entrant to the SRI world and it still represents a very small percentage of SRI investment – about 0.1% of the expected USD 5 trillion in global SRI investment in 2007 (GGAP, 2008b). Nevertheless, over the past years investment in microfinance has witnessed very strong growth rates. Raimar Dieckmann (2007) from the Deutsche Bank Research estimated foreign investment in microfinance to have more than doubled from USD 1.7 billion in 2004 to around USD 4.4 billion in 2006. While still the majority of the incoming funds stemmed from the group of the SRIs, the interest of purely commercially oriented investors in microfinance with no particular concern in the social impact of the MFIs' activities is growing as well even though it has been so far negligible.

[28] EU figures adapted from Deutsche Bank Research, 2007

4.2 Foreign Investors Break-down

Virtually, we can divide foreign investors in microfinance into three categories: (1) public investors, also referred to as International Financial Institutions (IFIs) or Development Finance Institutions (DFIs); private capital investors, both commercial or not including (2) individual investors and (3) institutional investors. Foreign capital, however, is rarely invested directly to MFIs and according to Xavier Reille and Sarah Forster (2008) approximately half of all microfinance investment from the three investor groups in developed countries is channeled to MFIs through specialized financial intermediaries that are collectively referred to as Microfinance Investment Vehicles (MIVs). See figure 4.2 for the outline of ways foreign capital flows in MFIs. The volume repartition of capital invested by the three investor groups (institutional investors, retail investors and DFIs) via MIVs has been gradually evolving towards lower DFIs' engagement when the share of the three groups of investors in MIVs funding in 2007 accounted for 41%, 30% and 19% respectively.[29]

Figure 4.2. Foreign Investment Microfinance Landscape



Source: Deutsche Bank Research, 2007

4.2.1 Public Investors

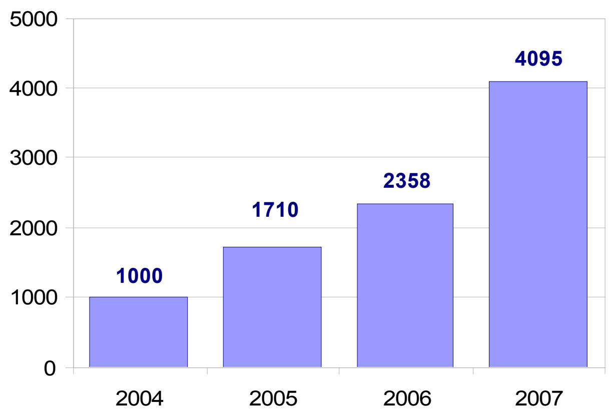
Public investors in microfinance consist of private-sector investment arms of government-owned development institutions. In total about 19 Development Finance Institutions (DFIs) include bilateral or multilateral organizations, such as the European

[29] Figures from the CGAP, 2008c: „*MIV Survey 2008 Main Findings*“

Bank for Reconstruction and Development (EBRD), part of the Wold Bank, or the German development bank KfW. Their involvement in the microfinance sector dates back to the late 1990s and their activities involve all debt-funding, acquisition of equity stakes in MFIs and provision of guarantees. They do not figure as donors, but since promoting sustainable private sector development in developing countries is DFIs' mission, they are willing to accept a higher risk in their investment activities. Their role of MFI's shareholders has increasingly helped to promote the sector and to foster the private investment (even though in certain regions there is still a long way to go in the terms of private funding in the sector). On the other hand, they have not always been quick to respond to the growing appetite of private investors by exiting the most commercially viable markets and according to Reille and Forster (2008) there has rather been competition and, in some cases, crowding out of private investors with DFIs offering lower interest rates and more flexible terms. Nevertheless, over the time their business strategies have evolved and with the commercialization of microfinance and new entries of private investors they adopted a more commercial approach to the industry by changing their primary goals to loan repayments.

CGAP's First Global Survey of Funders' Microfinance Portfolio published in November 2008 showed that DFIs' outstanding microfinance portfolio (covering 16 DFIs) significantly increased for a total of USD 4.1 billion as of December 2007 compared to USD 2.4 billion in 2006, USD 1.7 billion and USD 1 billion in 2005 and 2004 respectively, which represents a compound annual growth rate of almost 60% for 2004 to 2007.

Figure 5.3. Total DFIs Microfinance Outstanding Portfolio[30] (in USD millions)



Source: CGAP, 2008a: "First Global Survey of Funders' Microfinance Portfolio"

[30] Outstanding portfolio = funds disbursed minus repayments.

4.2.2 Private Individual Investors

Foreign funds coming to microfinance from private individuals are channeled to MFIs either through recognized NGOs involved in the sector or by specialized microfinance funds (that fall within the group of MIVs). In some case private individual investors support chosen MFIs or micro-entrepreneurs directly. Private individual investment in microfinance come especially from socially-minded High Net Worth Individuals (HNWI)[31] who are typically successful entrepreneurs looking to make good use of both their money and business skills to help scale-up microfinance (Reille and Forster 2008). Their interest in socially responsible investment in general may be backed-up by following concerns: the sense of responsibility, social investment as an alternative to philanthropy, financial opportunity, looking for sustainable return or risk management. Some of the specialized microfinance funds that target individual investors are: Oikocredit, a Dutch cooperative society established already in 1975; Calvert Foundation in the United States; the Grameen Foundation; mutual funds registered in Europe, such as Dexia Microcredit, responsAbility, and the Triodos Fair Share Fund; or Omidyar-Tufts Microfinance Fund, associated with the founder of eBay Pierre Omidyar.

Socially motivated individuals, not necessarily well-off investors, can now invest in microfinance interest-free or with certain returns also online. Specialized web sites offer to a retail investor to search among candidates for a microloan and choose the most appealing project. An investor transfers the amount chosen to lend that can be as little as USD 20 via PayPal or by credit card payment. Funds collected are passed to a partner MFI that sequentially accords the loan. Throughout the course of the loan an investor receive email updates on the project and repayments. The most known online raising initiative for microfinance is non-profit www.kiva.org launched in October 2005. Since then over 95 MFIs in 44 countries have raised 0% interest debt capital from more than 457,000 social investors via Kiva (www.kiva.org). A more commercial project that offers to investors returns ranging from 0.5 % to 3.0 % p.a. is an online fundraising platform called MicroPlace a business unit of eBay. MicroPlace is the first broker-dealer registered with the Securities and Exchange Commission that specializes in microfinance securities for retail investors in the U.S. (Reille and Forster 2008).

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[31] In the financial markets environment HNWIs are most commonly defined as individuals with more than USD 1 million in liquid financial assets, excluding primary residence. Definitions, nevertheless, may vary by financial institution and region.

Since 2007 a similar initiative exists also in the Czech Republic. A joint-stock company Microfinance a.s. seeks to raise awareness of microfinance in the Czech Republic by running a portal myELEN.com (my Electronic Loan Exchange Network). As of 16 October 2008 myELEN.com cooperated on funding diverse microfinance projects with 4 MFIs and 113 Village Banks reaching it total 680 individual clients. Loans provided throughout myELEN.com collect interest from 2.0 - 8.0 % p.a.[32]

4.2.3 Institutional Investors

Over the last decade institutional investors such as international retail banks, investment banks, pension funds and insurance companies have started to be more engaged in the growing microfinance sector. The business relationship between especially the first-tier microfinance institutions and large international banking houses and institutional funds has become more profound on two levels.

Firstly, the sector provides an investment opportunity for those searching to diversify their investment portfolio. Especially pension and insurance funds represent, according to many microfinance practitioners, a great hope for further growth and outreach expansion of the microfinance sector given the volume of funds they manage. In 2007, pension fund assets in the OECD countries reached USD 17.9 trillion in 2007, of which assets worth USD 10.2 trillion were held by US pension funds.[33] In 2006, for example, one of the larger U.S. pension funds TIAA-CREF created Global Microfinance Investment Program worth of USD 100 million to invest in selected microfinance institutions (MFI's) worldwide, the first investment of its kind made by a major U.S. institutional investor.[34] Institutional investors in microfinance include also investment funds managed by or on behalf of a private institution that invest themselves in microfinance investment vehicles.

Institutional investor's investment portfolio consists of a great variety of assets with different risk/return profiles. Globally, additional risk coming from purchases of a smaller volume of higher-risk assets may be offset by greater volume of low-risk assets in the portfolio. Nevertheless depending on local regulations and

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32 See http://www.myelen.com.

33 Data from: OECD. „Pension Markets in Focus“. Issue 5, December 2008. Available at: http://www.oecd.org/dataoecd/42/19/41770561.pdf

34 See TIAA-CREF at http://www.tiaa-cref.org.

restrictions they may be limited to investing only in government securities or to other well-defined asset classes with an established historical performance review, which is not the case of microfinance for the time being. Yet, according to some microfinance specialists microfinance is evolving into a distinctive asset class[35]. Besides the risk factor, there are other barriers to entry of big institutional players in the sector. The reality is that there are huge transaction costs (related to finding, assessing, managing and divesting or closing out an investment or loan) involved in investment in an emerging markets sector in general, which in case of microfinance miss standard evaluation of securities' performance on the top of it. According to Marc de Sousa-Shields and Cheryl Frankiewicz (2004) larger funds need to invest several millions of dollars in any single investment to merit the costs of analysis and fiduciary compliance. Investment opportunities in microfinance institutions or funds, nevertheless, are rarely profound enough to satisfy needs of larger investment funds in respect to the requested volume of investments. Most MIVs are very small in size when 86% of them have less than USD 20 million under management (Reille and Sananikone, 2007).

Secondly, as the most successful and the fastest growing MFIs become more exposed to world capital markets in their search of funds, recognized international banks are involved in facilitating these transactions introducing standard financial market instruments to the microfinance sector. They act as intermediaries between the wide investment community and securities issuers, i.e. MFIs, and their services may include for example servicing the microfinance fund distribution, arranging and distributing bond offerings or originating and securitizing loans (e.g. collateralized debt obligations). In addition, since the cross-boarder funding of MFIs is mostly effectuated in hard currency while microloans are provided in local currency, the foreign currency risk is involved. International banks may therefore provide hedging instruments and/or other investment banking services not necessarily linked to the foreign exchange market.

[35] See for example Kraus and Walter, 2006; or de Sousa-Shields and Frankiewicz, 2004.

4.3 Microfinance Investment Vehicles

Microfinance investment funds or microfinance investment vehicles (MIVs) are special investment vehicles with a sole (or main) focus on the microfinance sector. MIVs are structures that propose a collective investment in a wide and diversified spectrum of microfinance institution. They play a vital role in microfinance since, as previously mentioned, they channel about half of the funds flowing to the microfinance sector. MIVs comprise a broad spectrum of vehicles that vary in legal structure, founding institution's origin, commercial orientation, investor base and fund's composition. The term of microfinance “fund” is commonly used instead of investment vehicle despite the fact that in legal sense many of them are not necessarily investment funds in the proper sense of the term as it is widely understood in financial markets (e.g. mutual funds).[36] We, as well, shall use those two terms interchangeably if not specified otherwise.

4.3.1 Funds' Characteristics

Many of the first MIVs were set up by Development Finance Institutions (DFIs) and private donors with an objective of extending MFIs' financial resources that would enable to expand their outreach. First microfinance investment funds were established since mid 1990s, nevertheless the most of today's largest funds initiated by private institutions have begun their activity only after 2000. MIVs in fact follow the path towards gradual commercialization that microfinance institutions themselves had begun in late 1980s, which consist of developing transparent fund structures with clear financial and social objectives and professional asset management. Microfinance investment products and funds have been managed either within the sponsoring company by fund management professionals with the traditional financial markets background (e.g. *AXA World Funds Development Debt* sub-fund dedicated to microfinance is managed by a small group of professionals knowledgeable of microfinance) or by separate investment management firms such as the Switzerland-

[36] One of the particular features of mutual funds is that they offer redemption rights, i.e. the investor is entitled at all times to ask for a redemption of his units and a cash payment for his investment. Therefore funds keep part of their assets in cash and liquid assets.

based *BlueOrchard Finance* that co-manages the Dexia Micro-Credit Fund, first private worldwide and fully commercial microfinance investment fund sponsored by *Dexia-BIL Bank* in Luxembourg and the Saint-Honoré Microfinance Fund sponsored by the *Compagnie Financière Edmond de Rothschild Banque.*[37] More commercial approach of some MIVs has proven to be efficient in terms of the growth of a portfolio. In this respect Goodman (2004) brings forward the above mentioned Dexia Micro-Credit Fund established in 1998 whose loan portfolio has grown from less than USD 1 million at the beginning of 2000 to USD 34 million as of December 2003 [38] demonstrating much faster growth pace during its initial years than it was recorded in case of other donor sponsored funds. Private donors and DFI's have, nevertheless, played an important investment role mainly in start-up MIVs (though established by private institutions) especially by assuming risk when investing, for example, in subordinate tranches of debt instruments. DFI's involvement in some of these microfinance funds was translated as a positive indicator encouraging investor confidence and together with MIV's greater commercialization it helped the sector to attract more private investors (especially from the range of social responsible investors and SRI departments of institutional investors). In consequence, DFI's share of MIV's funding has been gradually decreasing (from 36% in 2005 to only 19% in 2007).[39]

Legal structures of MIVs include open-end mutual funds common mainly in the U.S., and its West European parallel the open-end collective investment scheme SICAV[40] (Société d'Investissement à Capital Variable), both offering redemption rights at any time during the course of investment. Furthermore MIVs may be structured finance vehicles especially collateralized debt obligations and special purpose vehicles.

In terms of fund's commercial orientation current microfinance literature distinguishes mostly three categories of funds[41]: (1) Commercial MIVs taking form of investment funds or investment companies providing loans at market conditions and seeking financial returns. These funds target especially financially sustainable (first-tier)

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[37] See http://www.blueorchard.com.

[38] Since 2003 the total volume of fund's assets has growth immensely and as of March 4th 2009 the net asset value of fund's assets reached almost USD 390 million.

[39] Reille and Sananikone, 2007 and CGAP, 2008c; Nevertheless investing in MIVs represent only one of numerous DFI's activities in the microfinance sector and in absolute values their fund's volume has in 2007 almost doubled compared to 2006.

[40] SICAV (Société d'Investissement à Capital Variable) is an open-end investment vehicle with a variable capital equal to the net asset value of the fund. This form of an collective investment fund is common especially in European countries as France, Belgium, Luxembourg, Lichtenstein and Switzerland.

[41] See for example Goodman, 2004.

MFIs and invest mainly in debt instruments.; (2) Quasi-commercial/dual-objective funds that strive to balance development objectives with modest financial returns while maintaining their borrowing conditions below or close to the market. Their target group may include also the second-tier microfinance institutions that are close to become sustainable. The share of equity holdings in MFIs is in general greater than in the first group of funds.; (3) Development funds that provide funds at subsidized below the market conditions. Their main contributors are NGOs, foundations or charity organizations who seek social returns in the first place.

4.3.2 Growth of the Sector

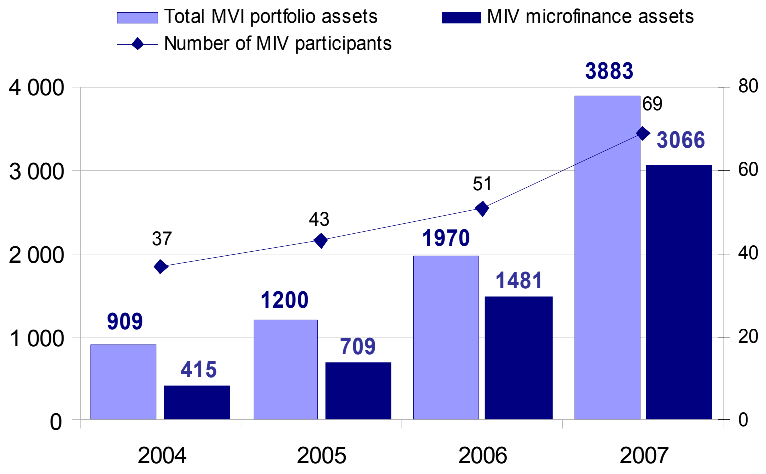
The fact that the microfinance investment sector is emerging could be demonstrated by multiple figures that were acquired from two independent surveys of the MIV universe - the MIV Survey 2008 (despite taking into account 2007 figures) undertaken by Consultative Group to Assist the Poor (CGAP) and the 2007 Microfinance Investment Vehicle Survey carried out by MicroRate, the first microfinance rating agency formally approved by the World Bank, that seeks to provide independent evaluations of performance and risk of particular MFIs and more importantly also microfinance investment vehicles. The number of microfinance investment vehicles has adopted a rapidly increasing trend reaching the number of 91 as of December 31 2007 [42] (figure 4.4). Most of them has, nevertheless, launched their business only after 2000 or even later.

Regional concentration of MIV's investment activities has been quite unbalanced with MIV's traditional areas of interest in Eastern Europe and Central Asia (44.5% of total microfinance portfolio of 58 MIVs included in the *MIV Survey 2008* by CGAP) and Latin America and Caribean (32%). Microfinance investments in the most impoverished continent, Africa, represented rather small part nevertheless they recorded high year-on-year growth rate of 119%[43]. Furthermore, MIV investments remain concentrated in the first-tier MFIs.

[42] CGAP, 2008c: *„MIV Survey 2008 Main Findings“*.

[43] CGAP, 2008c: *„MIV Survey 2008 Main Findings“*.

Figure 4.4. MIVs' Assets (in USD millions) and Number of MIVs[44]



Source: MicroRate, 2008

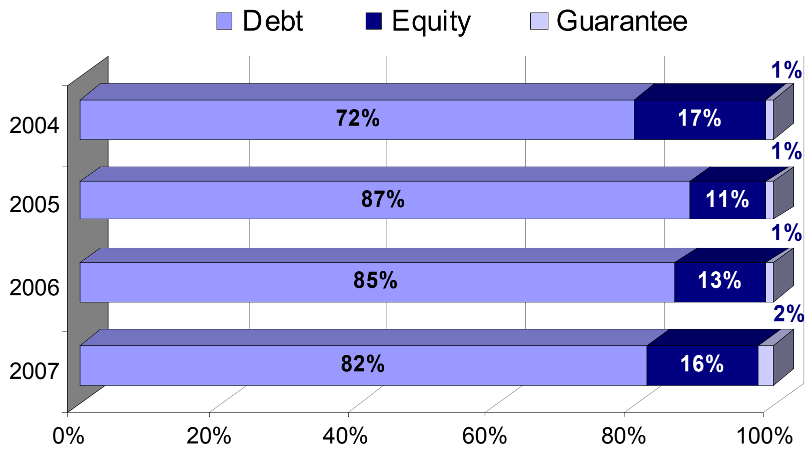
The volume of outstanding assets of 69 MIVs included in the MicroRate survey has increased in 2007 by 97% compared to the year before to USD 3.88 billion. When looking at MIVs assets we need to search for outstanding microfinance assets that may differ from the total asset's volume for three reasons. Part of assets might not have been invested in microfinance as some MIVs are involved in other socially responsible investment opportunities (e.g. free trade). Secondly, part of the funds even though committed to MFIs in the particular year may not have been disbursed yet. Thirdly, rather lower volume of assets might have been retained in liquid assets or cash since new investment opportunities are being assessed. Outstanding microfinance assets have reached USD 3.07 billion in 2007 from 1.48 billion in 2006 recording a growth of 107% and the share of assets allocated in microfinance compared to total fund assets grew from 46% in 2004 to 79% in 2007.

Current trends in the composition of MIV's portfolios are still characterized by the preponderance of fixed income investments over the equity investment while lending institution's guarantees represent on average a marginal part of the portfolio. This trend is even more visible in portfolios of commercial MIVs compared to less return-focused funds willing to take more risk acquiring equity stakes in MFIs. 2007 Microfinance Investment Vehicle Survey by MicroRate revealed that debt investment

[44] Survey of 69 MIVs that may not represent the entire MIV universe. MicroRate's survey took into account those MIVs being independent legal entities for raising and investing funds, independent of the MFIs being funded and having focus on investing in microfinance. Investment vehicles that are supported only by development agencies, government bodies or donors were excluded. Therefore the survey data may not represent the entire universe of MIVs.

reached 82% of total MIV's microfinance investment, nevertheless the equity financing (16% of portfolio) is growing year after year (+148% in 2007 to USD 477 millions from USD 192 millions in equity stakes in 2006). Debt funding is mostly undertaken in USD or EUR, whereas local currency loans remains in the background in order to avoid risks lied to the local currency exchange rate volatility and costs of hedging that are therefore passed on to MFIs.

Figure 4.5. Composition of Microfinance Portfolio (% of Total Outstanding Microfinance Assets)



Source: adapted from MicroRate, 2007

4.3.3 Challenges for the MIV Sector

Microfinance practitioners have found several challenges of the future growth of microfinance investment vehicles. While there is limited or no competition among investors in some markets especially in Africa and parts of Asia, it seems to be pretty high within limited number of mostly first-tier MFIs (i.e. mature, best-known, regulated and financially sustainable MFIs representing slight 2% of all MFIs) that in general do not lack financial sources as the majority of the MIVs' funding flows to this group of top MFIs. According to Reille and Sananikone (2007) there is considerable fragmentation and cost duplication and consolidation would increase efficiency.

For the microfinance investment vehicles universe in general it holds that these structures are perceived as highly risky compared to returns offered. Origins of this vision are numerous but all are connected to the fact that for now the microfinance sector is not perceived as a distinct asses class. Firstly, microfinance funds that are involved also in equity financing invest in most of the cases in privately-placed assets that are not liquid in the short term. The inadequate liquidity of the market discourages standard investors seeking investment opportunities where also sound exit strategies are ensured. The fact that MFIs are not publicly listed nor there exists local secondary markets for the trading of debt instruments issued by MFIs, makes the fund's portfolio valuation a daily basis typical for traditional equity or bond investment funds impossible. The net asset value calculation within the pool of mostly fixed income microfinance investment funds examined in greater detail in the chapter five is carried out once or twice a month. We shall consider that in case of mixed funds the valuation period will not be shorter.

Secondly, microfinance professionals identically agree that there is little transparency regarding MIV performance due to the lack of objective performance data and performance standard. We find a lot of inconsistencies in the system of financial statement reporting and core financial ratios calculation. Goodman (2004) for example discusses the problem of valuation of equity stakes in fund's portfolio when book value, market value and purchase value are misinterpreted.

5 Correlation of Microfinance to International Capital Markets

The fact that for now the foreign private investment in the microfinance sector has been in terms of a market share very marginal is due to the fact that investors may feel uncomfortable with current possibilities. To allow investors to choose the right microfinance investment opportunity according to own preferences (performance, risk and social impact characteristics) and make comparisons among them as it is common when deciding for a standard bond or equity investment, there is, according to a wider microfinance investment community, a need for both deeper evaluation and rating of microfinance institutions[45] and microfinance investment funds. More new private and institutional investors oriented funds enlarging the pool of current microfinance investment instruments would likewise support the flow funds.

In this chapter we shall firstly discuss the survey of present literature concerning the evaluation of the microfinance sector in terms of its degree of risk lied to changes in domestic market conditions (economy performance and local financial markets development) as well as in terms of the correlation of microfinance to world markets. Secondly, we shall undertake our own case study of selected microfinance investment funds where we will treat their risk/return characteristics against given world and emerging markets equity and fixed income indices. We shall conclude by the answer on the question whether microfinance (i.e. studied microfinance investment funds) can be attractive opportunity from the portfolio diversification point of view.

5.1 Literature Survey

Gonzalez (2007) conducted an empirical study on MFIs' asset quality as a proxy for the risk of MFI portfolios that focuses on its resilience national macroeconomic shocks measured by changes in GNI (gross national income) per capita. His data set consists of data on four portfolio risk indicators (portfolio-at-risk over 30 days and over 90 days, loan-loss rate, and the write-off ratio) of 639 MFIs in 88 countries mainly for the period 1999-2005.

45 Rating of microfinance institutions has, nevertheless, progressed immensely over the last years. See for example J.P. Morgan and CGAP for recently published the *"Shedding Light on Microfinance Equity Valuation: Past and Present."* February 2009.

The analysis of Gonzales shows a statistically significant correlation of changes in GNI only with respect to the portfolio-at-risk over 30 days indicator while for the reaming three any significant impact of domestic macroeconomic events on portfolio quality has not been proved. A strong resilience of microfinance institutions to domestic economy has not, however, been confirmed by a recent study by Kraus and Walter (2008).

Kraus and Walter (2008) examine the correlation of microfinance institutions' performance to international as well as to respective local markets with an objective to find out whether an addition of microfinance assets to portfolio represents an attractive opportunity for an investor seeking portfolio diversification. On the set of annual data of 325 leading MFIs covering the period 1998-2006 Kraus and Walter analyzed the absolute market risk of the microfinance sector by regressing MFIs' key performance parameters (return on equity and profit margin used as profitability indicators, change in total assets and in gross loan portfolio indicating changes in the value of assets, and loan portfolio at risk indicator representing the loan portfolio quality) against S&P 500, Morgan Stanley Capital International (MSCI) World and MSCI Emerging Markets equity indexes as proxies for global market risk, and against country's GDP as a domestic market risk proxy. In addition, they proposed a way how to derive a relative market risk of investment in microfinance, i.e. within the emerging market investment opportunities, when exploring the relationship of the key MFIs' performance indicators to parameters of the same volume of emerging market commercial banks and businesses in general.

In terms of absolute market risk interconnection, they found that MFIs are not correlated with global capital markets while in as for the domestic economy correlation they found some significant results. In relative terms, compared to benchmark institutions, MFIs showed to be significantly less correlated to global market risk than other examined emerging market financial institutions and businesses. Kraus and Walter concluded, that “MFIs may have useful diversification value for international portfolio investors able to diversify away from country risk exposures. For emerging market domestic investors, who may have this ability to a much more limited extent, domestic microfinance investments do not seem to provide significant portfolio diversification advantages” (Kraus and Walter, 2008).

Recent work of Galema, Lensink & Spierdijk (2008) investigates whether adding microfinance funds to a portfolio of risky international assets (equity and bond investment) is beneficial and yields diversification gains. The analysis is based on the mean-variance spanning test that relies on the assumption that investment decisions of investors are solely made on the basis of the mean-variance properties of assets. As a proxy for MFI market returns they use annual returns on equity (ROE) and returns on assets (ROA) of MFI's that report their figures to the MIX Market database. MFI's returns covering the period from 1997 to 2007 are analyzed against the MSCI World and MSCI Emerging Markets equity indexes as in case of Kraus and Walter (2008) while JP Morgan Global Broad and JP Morgan Emerging Markets Global Composite indexes were used as benchmarks for the fixed income market.

The analysis suggests that, in general, microfinance may be attractive for investors seeking a better risk-return profile and more specifically that microfinance investment may be valuable as an addition to the debt part of a globally diversified portfolio. In addition, MFIs' were examined also from the regional point of view where investment in MFIs from Latin America yield the most efficient portfolios.

5.2 Empirical Analysis of Funds' Risk and Return Characteristics

5.2.1 Key Questions and Goals

The objective of this case study is to analyze risk characteristics and performance of selected microfinance investment funds against given equity and fixed income indices over a defined study period. The advantage of evaluating directly microfinance investment funds is that we shall base our study on their monthly net asset values and therefore may use much more recent data than it was the case of previous studies mentioned in the literature survey (that used annual data based on MFI's annual financial reports). By doing so, we may already examine some first impacts of the recent turmoils on financial markets.

To asses the strength (in terms of both the risky nature of investment and returns offered) of the microfinance investment funds sector we shall (similarly to the work by Galema, Lensink & Spierdijk, 2008) refer their attributes to the global stock and fixed income markets (represented by the Morgan Stanley Capital International World Index and the Markit iBoxx USD Overall Index respectively) as well as to alternative emerging market asset classes (MSCI Emerging Markets Diversified Financials Index and the J.P. Morgan Emerging Market Bond Index Plus). Precisely, we shall ask whether microfinance investment funds show any significant correlation with global developed markets as well as emerging markets in the first time. If this is not the case we could argue that microfinance funds represent a valuable portfolio diversification opportunity.

Our assumption that underlying assets of microfinance investment funds, i.e. loans to microfinance institutions or equity participations in such institutions, are not (or only marginally) exposed to global markets are backed by two special features of microfinance. Firstly, microfinance institutions implement special risk management techniques uncommon for developed credit markets in order to ensure smooth repayment of loans provided. These features include the provision short-term and small-size loans with high frequency of installments and flexible repayment schedules, the use of dynamic incentives by conditioning a new loan on full repayment of a previous one, the group-lending mechanism and focus on women customers as well as knowledgeable staff understanding rural and low income customers that instantly remain in touch with their clients and know their financial capacities. Therefore, despite the fact that microloans are provided without the collateral requirement the delinquency figures remain very low. Secondly, microfinance customers are in general small entrepreneurs who provide essential services and products to a closer community and operate in the informal economy. Their exposure to the formal domestic economy as well as international markets is therefore limited and should not have impact of their repayment behavior.

Secondly, we shall examine whether the performance of studied microfinance funds surpasses the returns generated by the above mentioned indices or whether they record at least comparable returns. Shall the two previously stated hypothesis be confirmed we may see the microfinance sector as a class of assets that is able to compete for the attention of both socially responsible investors but also commercially oriented institutional asset managers. In consequence, this move could bring more funding to the sector (and deeper down the sector), which would surely be a positive sign for developing countries.

5.2.2 Overview of Studied Microfinance Investment Funds

In order to find out more about the attractiveness of microfinance and microfinance investment vehicles (MIVs) for investors we have conducted a case study of selected microfinance investment funds. Our study consists of eleven microfinance investment funds (and/or their sub-funds, which differ in currency or investment class, nevertheless may have developed in a similar way over the study period) whose performance data are publicly available and are on a monthly basis updated. From the pool of existing MIVs it concerns, therefore, the most developed funds (in terms of the transformation process discussed earlier in the chapter four) with transparent portfolio structure inherent to developed financial markets and with clearly defined financial as well as social objectives. Despite the fact that microfinance investment opportunities are rapidly growing, microfinance funds (MIVs in general) as an investment asset are rather recent. There has been several investment funds whose performance figures were available, thought they could not be included in the survey[46] as they have launched their activity only last year or in 2007 and the time series were too short to give some tangible results. There were other funds that were excluded from the survey because funds' part of total assets dedicated to investment in microfinance was very small, e.g. 10% in case of excluded *AXA World Funds Development Debt*, and therefore the performance of such a fund could not be taken as representative of truly microfinance funds that place much greater part of assets in microfinance. On the other hand, as it was mentioned earlier the microfinance investment vehicles universe comprise 91 MIVs of different investment structures worldwide (as of December 31st 2007). Therefore our studied sample, which consist of microfinance investment funds (in the form of a mutual fund), is not representative of all MIV, nor all MIVs of the same investment structure, nevertheless it in all cases concerns funds that private and rather commercially oriented investors not familiar with the microfinance field may consider.

[46] Bloomberg Financial Service provides data on several other microfinance investment funds, e.g. Wallberg Global Microfinance Fund (Luxembourg) and EMF Microfinance Fund AGmvK (an open-end investment fund incorporated in Liechtenstein) that both launched their activity in October 2008, Developing World Markets Microfinance Fund (June 2008) and Netherlands-based SNS Institutional Microfinance Fund (May 2007), which were eliminated from the study because of their short history.

Data examined are monthly Net Asset Values per share (NAVs)[47] for each fund and sub-fund starting from January 31st 2006 and continuing up until March 31st 2009 that were obtained from the Bloomberg Financial Services. The study period had to be shortened in order to be able to include as many funds as possible. Additional information on fund's investment strategy and objectives, the volume of assets or the geographical allocation of the investment portfolio were acquired from their respective monthly and/or annual reports and from a web-based microfinance information platform the *MIX Market* (http://www.mixmarket.org).

Microfinance investment vehicles that are subject of this study would fall within the group of commercial MIVs that focus mainly on financial objectives while their social and development contribution is a sort of value added that set these funds apart of traditional mutual funds. Following funds were included in the survey:

responsAbility Global Microfinance Fund

The responsAbility Global Microfinance Fund (rAGMF) is a Luxembourg-based open-end fund (Fonds Communs de Placement, partie II[48]) that was launched November 25th 2003. Its assets are managed by the *Credit Suisse Microfinance Fund Management Company*. Fund's currency is primarily USD, but its Euro and Swiss Franc classes were also included. The fund invests in short to medium-term debt securities with fixed or variable coupons that are issued by 186 microfinance institutions in 43 countries (as of March 2009). Up to 10 percent of assets may be placed in the equity of MFIs and in Fair Trade. MFIs in which the fund invests are concentrated mostly in Central Asia (29%) and South America (24.6%). Fund's objective is to achieve returns in excess of money market rates in the fund currency and sales of its shares are authorized in Switzerland, Luxembourg and Liechtenstein.

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47 The Net Asset Value per share for each fund or sub-fund is determined on the relevant valuation date (usually once or twice a month) by dividing the value of the total assets of a fund / sub-fund less the liabilities by the total number of shares.

48 Fonds Communs de Placement (FCP) are very similar to SICAVs, both are common especially for the French-speaking markets. The offered products are of the same nature as those of SICAVs even though FCPs may have access to more specialized and thinner markets and manage some marginal types of assets. Compared to SICAV, FCP does not have separate legal identity and are defined by a set of legally-defined relationships between fund, manager and custodian. In addition, under certain conditions given by law interests of investment in FCPs are tax-free.

responsAbility Microfinance Leaders Fund

The second microfinance-focused fund organized by the *responsAbility Social Investments Ltd*. is the responsAbility Microfinance Leaders Fund. By its legal status it is a SICAV II (Société d'Investissement à Capital Variable). Same as the previous, it invests mainly in debt securities of MFIs worldwide, but the share of assets that may be invested in MFIs' equity stakes rises up to 25 percent. Unlike the rAGMF the responsAbility Microfinance Leaders Fund is aimed exclusively at institutional investors.

Dual Return - Vision Microfinance Fund

Dual Return - Vision Microfinance Fund is a SICAV II with a domicile in Luxembourg managed by *Absolute Portfolio Management GmbH*, Austrian investment company. Fund provides loans to MFIs in emerging and developing countries worldwide, while the about half of the portfolio is invested in two regions - South America and Russia, Caucasus and Central Asian region. The fund invests either directly in debt instruments issued by MFIs with fixed or floating interest rates or indirectly in collateral debt obligations. It may also hold non-listed shares issued by microfinance institutions. Fund aims to achieve return above the respective money markets (fund has USD, EUR and CHF investment class) and is focused mainly on investors from Austria, Germany and Switzerland.

Dexia Micro-Credit Fund - BlueOrchard Debt Sub-Fund

The Dexia Micro Credit Fund (DMCF) is the first private fully commercial microfinance investment fund that was founded in 1998 by *Dexia BIL Bank* in Luxembourg. In terms of fund's volume of assets (nearly USD 390 million as of March 4th 2009) it currently seems to be the largest commercial microfinance investment fund in the world. Dexia Micro-Credit Fund portfolio is managed by Swiss *BlueOrchard Finance* that specializes in managing microfinance assets. DMCF works on a purely commercial basis and invests in debt instruments (loan agreements, bonds, certificates of deposit) by MFIs worldwide of a maximum maturity of three years. The annual objective of DMCF is to reach plus 1-2 % above the 6M Libor rate. As of February 2009 it was active in 29 developing countries and financed 93 institutions. Fund has three currency sub-funds in American dollar, Euro and Swiss Franc. Same as for previous funds, its activity is focus mainly in South America, Russia, Caucasus and Central Asia, and Eastern Europe.

Edmond de Rothschild - Saint- Honore Microfinance

Edmond de Rothschild - Saint Honore Microfinance is also a Luxembourg-based SICAV launched in November 2005 sponsored by the *Compagnie Financière Edmond de Rothschild Banque*. The part of assets that is dedicated to microfinance investment is managed by a microfinance asset management company *BlueOrchard Finance* with a domicile in Switzerland. The fund focuses on high net worth retail investors and other experienced investors. It primarily invests in various debt instruments with a maturity of no more than five years and in a small part in equity participations in microfinance institutions. Fund's assets may also be placed in other local and regional investment funds that invest in microfinance.

Table 5.1 gives an overview of all eleven microfinance investment funds or sub-funds showing the currency of a fund, fund's legal status, MIV's portfolio structure and assets under management as well as total volume of fund's assets allocated solely in microfinance.

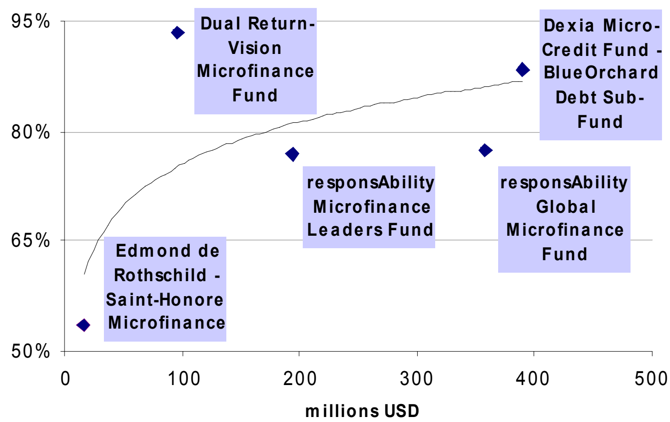
Table 5.1. Overview of Microfinance Investment Funds in the Sample

MIV	Currency / Class	Legal Status	Fund Assets (Net Asset Value)	Fund Assets Allocated to MF Investments	% of Fund Assets Allocated to MF Investments	as of (date)	NAV Calculation	Loans and Debt Securities	Equity	Guarantees	Liquidity and Others	as of (date)
responsAbility Global Microfinance Fund	EUR USD CHF	FCP - Part II	USD 383,761,650	USD 296,986,685	77,4%	27-Feb-09	at the last bank working day each month	71%	6%	0%	23%	31-Mar-09
responsAbility Microfinance Leaders Fund	USD	SICAV - Part II	USD 193,476,049	USD 148,491,386	76,7%	31-Mar-09	at the last bank working day each month	67%	14%	0%	19%	31-Mar-09
Dual Return - Vision Microfinance Fund	USD / Class P EUR / Class P CHF / Class P	SICAV - Part II	USD 95,921,101	USD 89,634,387	93,4%	27-Oct-08	on 10th & 25th of each month	100%	0%	0%	0%	31-Dec-07
Dexia Micro-Credit Fund -BlueOrchard Debt Sub-Fund	EUR CHF USD	SICAV - Part II	USD 389,830,962	USD 344,531,623	88,4%	4-Mar-09	monthly	100%	0%	0%	0%	31-Dec-04
Edmond de Rothschild -Saint - Honore Microfinance	EUR	SICAV - Part II	USD 15,874,783	USD 8,499,916	53,5%	1-Aug-06	on the first Thursday of each month	n/a	n/a	n/a	n/a	n/a

Source: http://www.mixmarket.org, MIVs' monthly or annual reports

The following figure studies the relationship of total assets under management of sample funds and funds' microfinance assets in portfolios as some MIVs are involved in other socially responsible investment opportunities such as free trade. In the study we took into account only funds that hold more than half of their assets in the microfinance sector. The total volume of fund assets (net asset value) in USD millions is on the X-axis while on the Y-axis we find the share of funds' assets allocated in microfinance investment. Sketched trend line suggests the relationship for studied funds between the total asset volume and microfinance involvement. Dual Return, Dexia and both responsAbility funds allocate more than 70% of assets in microfinance, with the Dual Return-Vision Microfinance Fund that placed 93.5% of assets in microfinance (as of October 27th 2008).

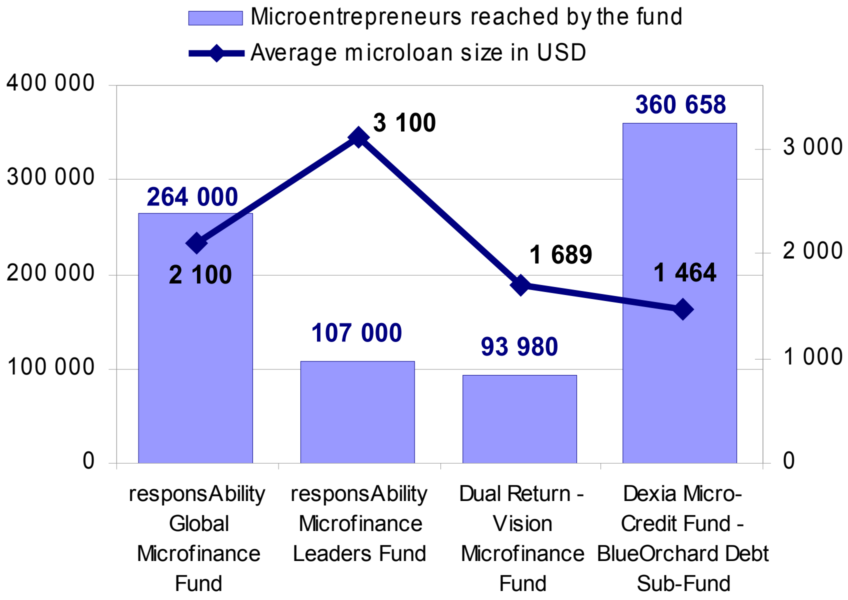
Figure 5.1. Fund Assets and Their Share Allocated in Microfinance



Source: http://www.mixmarket.org, MIVs' monthly or annual reports, own calculations

From the perspective of funds' social impact each fund reports the estimated number of microlenders reached by the fund, i.e. volume of people that were able to obtain a microloan by one of the MFIs in funds' portfolios thanks to the funding that a particular microfinance institution obtained throughout a fund. ResponsAbility Global Microfinance and Dexia Micro-Credit funds are the largest in terms of assets under management as well as microentrepreneurs reached by the fund. Figure 5.2 reveals also the average size of microloans accorded by MFIs in portfolio that is generally between USD 1,500-3,000.

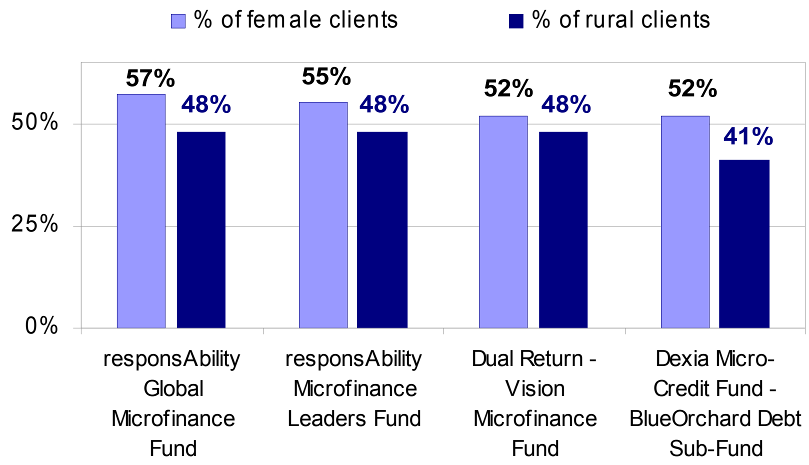
Figure 5.2. Microlenders Reached by Funds and Average Microloan Size



Notes: Figures as of March 2009 for both responsibility funds, April 2009 for the Dual Return-Vision Microfinance Fund, December 2008 for the Dexia Micro-Credit. Data for the Edmond de Rothschild - Saint Honore Microfinance were not available.
Source: MIVs' monthly or annual reports

The orientation of women customer is famous for the microfinance, nevertheless in case of MFIs within portfolios of microfinance funds in the sample the share of women reaches rather low levels around 55%. As it was already evoked in previous chapters, in general more commercial MFIs focus on urban areas with a high concentration of poor people (despite the fact that the most impoverished are rural areas residents). For MFIs that are funded on a commercial basis via examined microfinance funds urban customers slightly prevail, which suggests that MIVs chose to finance more commercial (and sustainable) MFIs when measured by the share of urban/rural clients.

Figure 6.3. The Share of Female and Urban Clients



Notes: Figures as of March 2009 for both responsibility funds, April 2009 for the Dual Return-Vision Microfinance Fund, December 2008 for the Dexia Micro-Credit. Data for the Edmond de Rothschild - Saint Honore Microfinance were not available.
Source: MIVs' monthly or annual reports

5.2.3 Data Collection

Before examining the risk and return characteristics of selected microfinance funds we shall at first examine their performance over the study period from January 2006 until March 2009 firstly against two equity indices as proxies for stock market performance and in the second time against fixed income indices. As a proxy for the overall stock market we have chosen the Morgan Stanley Capital International (MSCI) World Index denominated in USD that is designed to measure equity market performance of developed markets. It seemed interesting to look at the performance of microfinance funds not only in the light of global markets but also compared to securities that share similar characteristics as studied microfinance funds. For that reason we added the MSCI Emerging Markets Diversified Financials Index to the study as a proxy for the financial companies in emerging countries. The regional focus simulates the additional market risk of such securities compared to developed markets related to political and economic issues as well as currency risks. The MSCI EM Diversified Financials Index covers also regions that are the most represented in portfolios of studied microfinance funds (the index includes countries such as India and Pakistan, followed by Mexico and South American countries as Argentina, Brazil, Chile, Colombia, Peru or Venezuela).

Since the majority of microfinance funds' portfolio is composed of debt instruments we found useful to compare their risk and performance features to fixed income benchmarks as well. As a proxy for global fixed income markets we shall use the Markit iBoxx USD Overall Index comprising corporate bond issues and bonds issued by the U.S. government and government-sponsored agencies. The index is used for the fixed income research, asset allocation and performance evaluation. In order to examine microfinance funds' performance in relation to the emerging bond markets we shall work with the J.P. Morgan Emerging Market Bond Index Plus (EMBI+) that is designed to replicate total returns of traded external debt instruments in the emerging markets.

Bloomberg Financial Services was the source for all indices' data. As a risk-free rate we used the 4-week U.S. Treasury Bill rate, whose data were obtained from the U.S. Department of the Treasury on-line Interest Rate Statistics. Investment funds' monthly returns r_{it} and returns of chosen market indices r_{Mt} were calculated using basic returns formulas: $r_{it}=\frac{NAV_t-NAV_{t-1}}{NAV_{t-1}}$ and $r_{Mt}=\frac{index_t-index_{t-1}}{index_{t-1}}$ respectively, where NAV_t is the net asset value of a mutual fund *i* in time *t* and $index_t$ refers to the level of a index in time *t.* Since none of the microfinance funds pays dividends and its returns are reinvested the NAVs did not have to be dividend-adjusted.

5.2.4 Microfinance Investment Fund's Historical Performance

From the table 5.2. with an overview of mean monthly and annual returns of microfinance investment funds and benchmark indices we can see that the most performing fund in terms of average month-on-month return was the Dual Return-Vision Microfinance Fund quoted in US dollars (+0.5% m/m). The mean monthly return of microfinance investment funds were always rather modest but positive and in average (+0.36% m/m) slightly higher than that one of the risk-free asset (+0.26% m/m). Whereas the MSCI World index recorded an average monthly return of -0.99% over the same time period. Nevertheless we may find source of this figure in the financial crisis that has spread over developed financial markets especially in 2008, which resulted in increased uncertainty and falling stock markets. Suddenly negative growth figures for both MSCI indices from 2008 confirm this hypothesis (-42.08% and -58.04% for the MSCI World Index and MSCI EM Diversified Financials Index respectively). This move is visible also from the figure 5.2 where the peak of monthly returns was recorded at around December 2007.

The global financial crisis had negative effects lied to increased risk-aversion on emerging bond markets (as proxied by the J.P. Morgan Emerging Market Bond Index Plus that dropped -9.70%) while global bond markets represented among our benchmarks the most safe investment possibility and profited from increased demand. Markit iBoxx USD Overall Index reached an annual return of 6.53% in 2008, while the average of MIVs in the sample was comparable +5.37%. Annual returns for microfinance funds over the period 2006-2008 slowly increased on a year-on-year basis as these funds got more mature and the microfinance movement gained more interest. On the other hand, it is questionable whether the global financial crisis will not have repercussions on the least developed economies where MFIs act only later on (this year or even later).

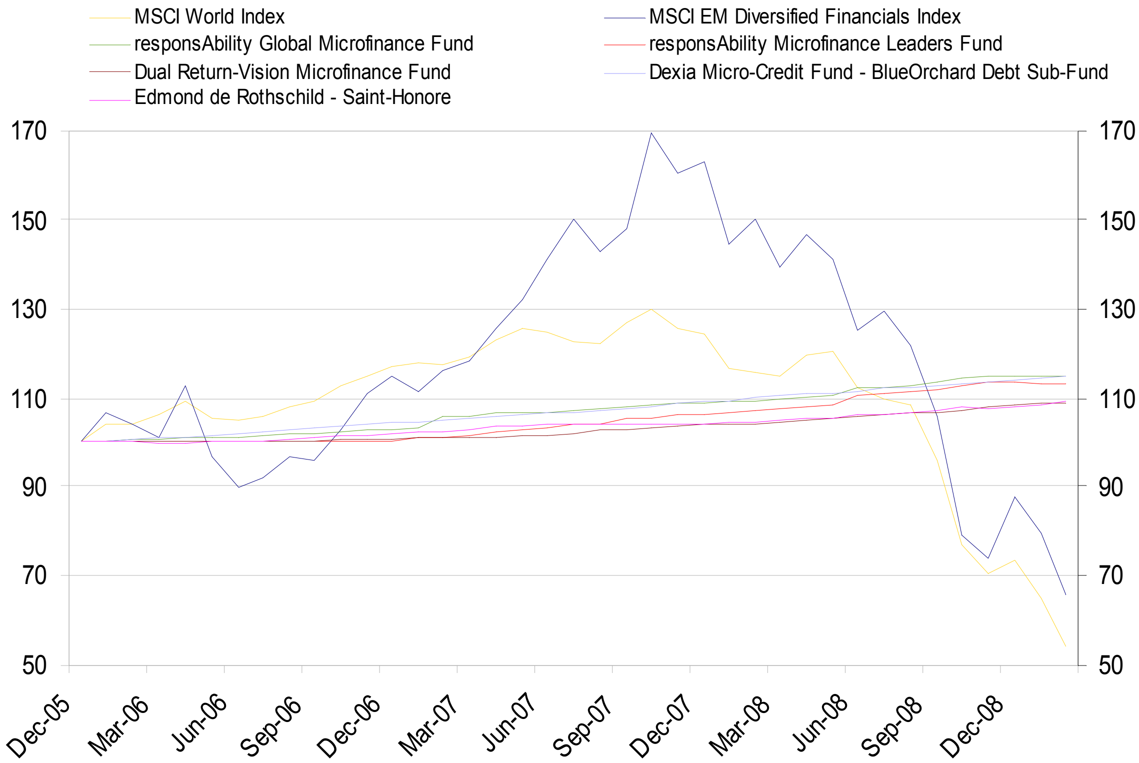
Table 5.2. Mean Monthly and Total p.a. Returns of Microfinance Investment Funds and Benchmark Indices

MIV	Currency / Class	Mean Monthly Return	Total Return p.a.		
			2006	2007	2008
responsAbility Global Microfinance Fund	EUR	0,41%	2,70%	6,31%	6,88%
	USD	0,49%	5,07%	7,70%	6,44%
	CHF	0,27%	1,10%	4,36%	5,11%
responsAbility Microfinance Leaders Fund	USD	0,48%	0,34%	6,03%	7,51%
Dual Return - Vision Microfinance Fund	USD / Class P	0,50%	1,70%	5,51%	4,31%
	EUR / Class P	0,29%	0,45%	3,11%	5,60%
	CHF / Class P	0,15%	-0,57%	1,36%	3,55%
Dexia Micro-Credit Fund - BlueOrchard Debt Sub-Fund	EUR	0,40%	4,21%	4,83%	5,90%
	CHF	0,26%	2,57%	2,94%	4,21%
	USD	0,48%	6,90%	5,89%	5,64%
Edmond de Rothschild - Saint-Honore Microfinance	EUR	0,24%	2,04%	2,27%	3,93%
Mean of selected MIVs		**0,36%**	**2,41%**	**4,57%**	**5,37%**
Benchmark indices					
MSCI World Index		-0,99%	17,95%	7,09%	-42,08%
MSCI Emerging Markets / Diversified Financials Index		-0,40%	12,16%	55,08%	-58,04%
iBoxx USD Overall		0,41%	3,71%	7,54%	6,53%
J.P. Morgan Emerging Bond Index (EMBI+)		0,27%	10,48%	6,45%	-9,70%
Risk-free asset					
4-Week Treasury Bill		0,26%			

Source: own calculations on data from Bloomberg

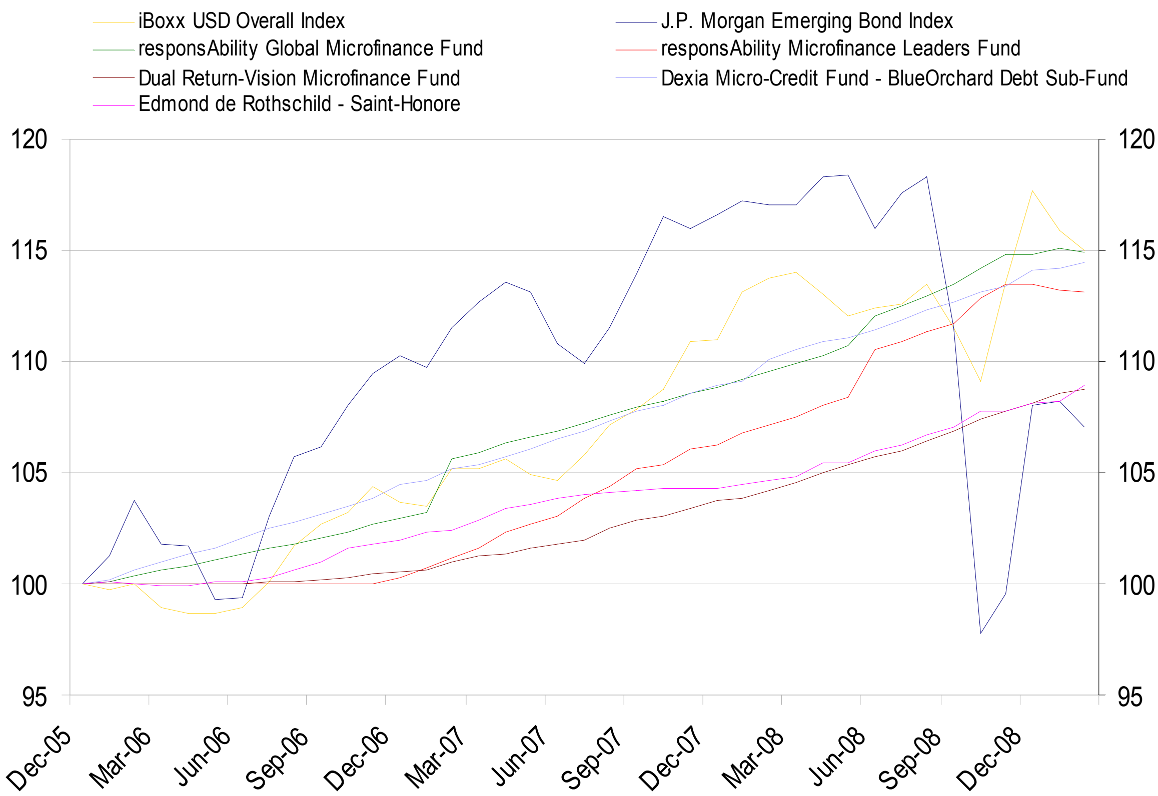
Figure 5.4 reveals the evolution of the funds' monthly net asset values against the MSCI World Index and MSCI Emerging Markets Diversified Financials Index while figure 5.5 explores fund's performance against fixed income indices (Markit iBoxx USD Overall Index and J.P. Morgan Emerging Market Bond Index Plus). All data are rebased to 100 on the graph start date. Both graphs reveal that microfinance investment funds have offered modest but in-time stable returns compared to given benchmarks.

Figure 5.4. Funds' Historical Performance against Equity Indices



Source: own calculations on data from Bloomberg

Figure 5.5. Funds' Historical Performance against Fixed Income Indices



Source: own calculations on data from Bloomberg

5.2.5 Definition of Measures

Pure analysis of historical returns of studied microfinance funds against benchmark indices, however, does not tell us much about the risk of the underlying investment. In order to evaluate both the performance and risk character of microfinance investment funds we shall use three risk measures, the *standard deviation of returns* of a portfolio, the *beta coefficient* and the *R-squared* of a portfolio as well as three performance measures largely adopted in the financial literature - so called *Jensen's alpha*, the *Sharpe ratio* and the *Treynor ratio.*

Risk Measures

Risk of investment or a portfolio of assets can be measures in several ways and each risk measure is unique in the way risk is measured. To asses the total risk of an asset
(i.e. share in a microfinance investment fund) we shall use the *standard deviation of monthly returns* expressed as (1) where r_{it} is the observed return of an asset *i* for time *t*. This statistics measures the volatility of asset's returns and is a standard measure of risk, nevertheless is the most suitable when an asset is held alone i.e. not in a broader portfolio of assets.

(1) $$\sigma_D = \sqrt{\frac{\sum_{t=1}^{T}(D_t - \bar{D})^2}{T-1}}$$

And since our task is to argue whether microfinance investment funds based on the case-study evidence have (or not) a portfolio diversification value for an investor, we need to asses the risk of an asset within a broader portfolio. For that reason we shall use the historical *portfolio beta* and the *portfolio R-squared* measures that are both derived from the Capital Asset Pricing Model (CAPM). The regression analysis of the CAPM model is used in performance analysis of particular equities or mutual funds portfolios against a benchmark portfolio of risky assets that they are usually part of. Both coefficients of the CAPM, α and β, have economic meaning and therefore it is useful to undertake such analysis and find their estimates. Similarly to the CAPM we shall regress the risk-free rate adjusted returns of studied microfinance investment funds against four selected market portfolios (world indices), for which it holds that neither of the MIVs was taken into account when computing the index. Put another way, our aim is not to verify whether the CAPM model holds for microfinance funds (in terms of estimated historical values of its parameters), but we will rather profit from the economic meaning of α and β .

In order to estimate and interpret historical α and β as well as the R-squared of studied microfinance investment funds we shall run an ordinary least squares (OLS) linear regression of a following model: $r_{it} - r_{ft} = \alpha_i + \beta_i \cdot (r_{Mt} - r_{ft}) + \varepsilon_t$ where:

r_{it} = observed return on microfinance investment fund *i* for time *t*

r_{ft} = observed return on a risk-free asset (4-week U.S. Treasury Bill rate) for time *t*

r_{Mt} = observed return on a market portfolio *M* that we use as a benchmark for time *t*

ε_t = error term for time *t.*

The dependent variable $(r_{it} - r_{ft})$ is therefore the risk premium (or excess return) of an asset or portfolio *i* for time *t* while $(r_{Mt} - r_{ft})$, which is the excess return of the market portfolio *M* for time *t*, is the independent variable. Coefficient beta reflects the sensitivity of asset's return to returns of a market portfolio (it is defined as $\beta = cov(r_i, r_M) / \sigma_M^2$) and therefore it reveals how an asset or a portfolio is correlated to the performance of a benchmark index. High beta denotes high volatility of a security, but may bring higher returns while beta < 1 corresponds to a defensive asset whose volatility is on average lower than reference market. Beta is a measure of a systematic (or non-diversifiable) risk of an asset within a broader portfolio and in a well-diversified portfolio it creates almost all of the risk. Beta equal to zero then signifies that a given asset is not correlated to benchmark portfolio and its systematic risk is null and its addition to a broader portfolio of assets may help to reduce the overall risk of a portfolio.

The linear regression's *R-squared* gives an information about the goodness of fit of a model. And while the beta indicates the direction in which portfolio returns are correlated to those of the reference portfolio, the R-squared signifies how tightly these returns are correlated. R-squared of 10% would therefore suggests that only a one tenth of the variability in microfinance fund's returns can be attributed to the moves of the benchmark index. From the portfolio diversification point of view low R-squared may be therefore desirable to limit the exposure of a portfolio to broader financial markets.

Performance Measures

Jensen's Alpha

Jensen's Alpha is a measure used to evaluate the portfolio manager risk-adjusted performance that stems from the above described linear regression. While the CAPM model presumes that even though a given portfolio may sometimes outperform the market, this excess return outbalances loss from some other year and in the long-term we see no positive or negative excess returns. Jensen asked whether it is possible that some securities outperform the market consistently from one year to another. Therefore he added the alpha component to the model in order to be able to test such hypothesis. Jensen's alpha therefore measures the added return of a portfolio against its theoretical expected return implied by the CAPM that compensate an investor for the symmetric risk measured by the beta. Positive alpha is therefore attractive from the investors point of view.

We shall asses the historical value of alpha by regressing the excess returns of microfinance funds' portfolios over the market's excess returns, i.e. the previously evoked linear regression $r_{it}-r_{ft}=\alpha_i+\beta_i\cdot(r_{Mt}-r_{ft})+\varepsilon_t$.

Sharpe Ratio

The Sharpe ratio developed by William F. Sharpe (1966)[49], is a risk-adjusted measure of portfolio's return that uses the mean and standard deviation of a differential return, i.e. the excess return of a portfolio over a given benchmark - originally the risk-free asset; nevertheless there has been many modifications and extensions of the ratio whether actively used in financial markets or discussed on the academic ground. The Sharpe ratio that was originally by its author called the *reward-to-variability ratio,* expresses how much the excess return compensates for the additional risk an investor assumes when holding a riskier asset. Since the Sharpe ratio does not take into account the correlation of a given investment with other assets in an investor's portfolio, it does not adjust for the systematic (undiversifiable) risk, but rather measures portfolio performance with regard to the total risk measured by the portfolio standard deviation of returns. The desirable level of Sharpe ratio has not been fix up and it is rather used to

[49] Sharpe, William F. "Mutual Fund Performance." *Journal of Business*, January 1966, pp. 119-138.

compare mutual funds performance as a fund with a higher Sharpe ratio seems to be more attractive from the perspective of its risk/return profile.

In our analysis we shall use the ex-post Sharpe ratio that uses historical data in order to came up with a performance measure that will be used in a investment decision-making for the future. Therefore, implicitly or explicitly, it is assumed that historic results have at least some predictive ability (Sharpe, 1994). The ex-post Sharpe ratio of a portfolio *p* is calculated by dividing the historic mean value of the differential return of a portfolio over the period T by the standard deviation of the differential return over the same time interval.

Put numerically the Sharpe ratio equals: $S_i = \frac{\bar{D}}{\sigma_D}$

Where: r_{it} = a return of a observed portfolio *i* in time *t*

r_{ft} = a risk-free asset interest rate in time *t*

$\bar{D} = \frac{1}{T}\sum_{t=1}^{T}(r_{it} - r_{ft})$ = a historic mean value of a differential return over the period *T*

$\sigma_D = \sqrt{\frac{\sum_{t=1}^{T}(D_t - \bar{D})^2}{T-1}}$ = the standard deviation of a differential return over the period *T*.

Treynor Ratio

The Treynor ratio developed by Jack L. Treynor (1965)[50] is alongside with the Jensen's alpha another performance measure derived from the capital asset pricing model. The ratio is sometimes called also the *reward-to-volatility ratio* as it measures the portfolio performance (excess return) with respect to portfolio's systematic risk exposure. Equally, it applies that the higher the Treynor ratio the better investment's returns adjusted for systematic risk.

Numerically the Treynor ratio equals: $TR_i = \frac{\bar{D}}{\hat{\beta}_i}$

Where: r_{it} = a return of a observed portfolio *i* in time *t*

r_{ft} = a risk-free rate in time *t*

$\bar{D} = \frac{1}{T}\sum_{t=1}^{T}(r_{it} - r_{ft})$ = a historic mean value of a differential return over the period *T*

$\hat{\beta}_i$ = portfolio systematic risk measured by the ex-post beta from the linear regression.

[50] Treynor, Jack L. „How to rate management of investment funds.“ *Harvard business review*, 1965.

From the formula we can see that tha Treynor measure is very sensitive to the beta in denominator and according to Hubner (2005) it may provide unstable and imprecise performance measures for market neutral funds because of the risk of measurement error. For funds with negative betas, the Treynor Ratio is, in effect, inapplicable as it attributes a negative performance to funds with positive abnormal returns (Hubner, 2005). On that account Hubner (2005) argues that when the beta (systematic risk of funds) is close to zero the Jensen's alpha is a suitable symmetric risk-adjusted performance metric. We shall keep this in mind when assessing our microfinance investment funds.

5.2.6 Findings of the Study

In the following section we shall present the findings of the study. Firstly, we shall discus risk measures results that will be followed by comments on performance ratios.

Risk Measures

Microfinance portfolios in our sample generated reasonable average returns with moderate volatility from January 2006 to March 2009 and during the recent bear market. In terms of the total risk measured by the standard deviation of monthly returns studied microfinance investment funds recorded very low levels of deviation (in average +0.32%) compared to both the MSCI World equity index as well as against the sectoral MSCI EM Diversified Financials that posted +10.62% standard deviation in monthly returns over the same study period. In regard to both fixed income reference indices, while MIV's monthly returns were at about the same levels the standard deviations of monthly returns were significantly lower than 1.38% and 3.26% in case of the Markit iBoxx USD Overall Index and J.P. Morgan EMBI+ respectively. In addition, all funds in the sample have developed in a rather homogeneous matter and we have not witnessed any outlier observation.

Table 5.3. Standard Deviation in Monthly Returns

MIV	Currency / Class	Mean Monthly Return	Standard Deviation in Monthly Returns
responsAbility Global Microfinance Fund	EUR	0,41%	0,40%
	USD	0,49%	0,41%
	CHF	0,27%	0,40%
responsAbility Microfinance Leaders Fund	USD	0,48%	0,43%
Dual Return - Vision Microfinance Fund	USD / Class P	0,50%	0,86%
	EUR / Class P	0,29%	0,18%
	CHF / Class P	0,15%	0,17%
Dexia Micro-Credit Fund - BlueOrchard Debt Sub-Fund	EUR	0,40%	0,15%
	CHF	0,26%	0,15%
	USD	0,48%	0,21%
Edmond de Rothschild - Saint-Honore Microfinance	EUR	0,24%	0,21%
Mean		**0,36%**	**0,32%**
Benchmark Indices			
MSCI World Index		-0,99%	5,35%
MSCI Emerging Markets / Diversified Financials Index		-0,40%	10,62%
iBoxx USD Overall		0,41%	1,38%
J.P. Morgan Emerging Bond Index (EMBI+)		0,27%	3,26%
Risk-Free Asset			
4-Week Treasury Bill		0,26%	0,15%

Source: own calculations on data from Bloomberg

Ordinary least squares estimates of beta are depicted in table 5.4, for graphical visualization see Annex 1. All funds but one (which was not significant at elected significance levels) recorded negative beta (systematic risk) against the MSCI World Index reaching an average of statistically significant betas of -0.024. This result suggest that investment funds in the sample do not show any correlation to world equity markets (and on the contrary move in a slightly antagonistic matter). Studied MIVs neither tracked with the emerging equity markets as represented by the MSCI EM Diversified Financials, nevertheless only four out of eleven funds or sub-funds results for beta were significant at at least 10% level of significance. Our regression model did not seem to hold when fixed income benchmarks were used ending with only one statistically significant observation each time.

Observed R-squared measures of microfinance funds reflecting the tightness of the relationship against benchmarks reached low levels with respect to all indices. In case of the MSCI World in average about 12% of the variability in microfinance fund's returns could be attributed to the moves of the benchmark index. Average R-squared reached even lower levels with respect to emerging equity markets (6.69% for the MSCI EM Diversified Financials) as well as for both bond indices indicating that there is really low correlation in monthly returns of all benchmark indices and microfinance investment funds.

Table 5.4. Portfolio Betas and R-Squared

MIV	Currency / Class	Beta and R-squared							
		MSCI World		MSCI EM Diversified Financials		iBoxx USD Overall		EMBI+	
responsAbility Global Microfinance Fund	EUR	-0,0277 **	11,09%	-0,0086	4,27%	0,0579	3,35%	-0,0164	1,47%
	USD	-0,0281 **	12,83%	-0,0089	5,18%	0,0323	1,17%	-0,0321	6,33%
	CHF	-0,0295 **	12,85%	-0,0091	4,94%	0,0447	2,04%	-0,0228	2,92%
responsAbility Microfinance Leaders Fund	USD	-0,0289 **	15,19%	-0,0172 **	20,76%	0,0127	0,21%	-0,0490 **	16,88%
Dual Return - Vision Microfinance Fund	USD / Class P	0,0283	2,85%	0,0182	4,50%	0,0722	1,28%	0,0309	1,30%
	EUR / Class P	-0,0269 ***	21,09%	-0,0084 *	8,29%	-0,0122	0,30%	-0,0189	4,04%
	CHF / Class P	-0,0268 ***	22,99%	-0,0100 **	12,19%	-0,0084	0,15%	-0,0195	4,62%
Dexia Micro-Credit Fund - BlueOrchard Debt Sub-Fund	EUR	-0,0158 **	12,87%	-0,0042	3,61%	0,0161	0,92%	-0,0084	1,37%
	CHF	-0,0127 *	7,71%	-0,0025	1,15%	0,0195	1,25%	-0,0020	0,08%
	USD	-0,0045	1,10%	0,0016	0,56%	0,0598 **	13,21%	0,0105	2,23%
Edmond de Rothschild - Saint-Honore Microfinance	EUR	-0,0231 ***	17,49%	-0,0078 *	8,11%	-0,0199	0,90%	-0,0215	5,76%
Mean		**-0,0178**	**12,55%**	**-0,0052**	**6,69%**	**0,0250**	**2,25%**	**-0,0136**	**4,27%**
Mean of statistically significant results (at min. 10% level)		**-0,0244**		**-0,0109**					

Note: *Significant at the 10 % level; **Significant at the 5 % level; ***Significant at the 1 % level
Source: own calculations on data from Bloomberg

The study period tracks the development of the financial markets performance over little more than last three years when we had witnessed growing stock prices as well as massive sell-outs due to the global uncertainty caused by the financial crisis. With respect to this fact, we may ask whether the beta coefficient representing the direction of correlation of microfinance funds performance to global and emerging markets had remained approximately equal within both periods. In order to account for these two rather clear trends in the movement of especially benchmark equity indices we shall firstly carry the Chow test for the presence of a structural break in time series. For each fund we divide available performance data set in two periods of 22 and 17 observations where as the split point we take the end of October 2007 when both MSCI World and MSCI EM Diversified Financials indices reached their maximum values (in terms month-on-month returns and within our study period from January 31st 2006 until March 31st 2009). Since reached result of beta estimates are significant only when examining the correlation to world equity markets represented by the MSCI World Index (nine statistically significant estimates at at least 10% level out of 11 funds in the sample), we shall undertake the analysis of the presence of the structural break in MIV's performance data with respect to the MSCI World. We will test the null hypothesis of no structural break in data series,

i.e. H_0: $(r_{it}-r_{ft})^{(1)}=\alpha_i^{(1)}+\beta_i^{(1)}\cdot(r_{Mt}-r_{ft})^{(1)}+\varepsilon_t^{(1)}$

$$(r_{it}-r_{ft})^{(2)}=\alpha_i^{(1)}+\beta_i^{(1)}\cdot(r_{Mt}-r_{ft})^{(2)}+\varepsilon_t^{(2)}$$

against the alternative H_A: $(r_{it}-r_{ft})^{(1)}=\alpha_i^{(1)}+\beta_i^{(1)}\cdot(r_{Mt}-r_{ft})^{(1)}+\varepsilon_t^{(1)}$

$$(r_{it}-r_{ft})^{(2)}=\alpha_i^{(2)}+\beta_i^{(2)}\cdot(r_{Mt}-r_{ft})^{(2)}+\varepsilon_t^{(2)}$$

The Chow test could not exclude the stability of estimates of α and β within the two periods for both responsAbility Global Microfinance and Leaders funds (neither at broader 10% level of significance). All four funds/sub-funds previously proved a negative close-to-zero beta indicating zero correlation to world equity markets (represented by the MSCI World) and may therefore be a valuable tool to diversify the portfolio and lower its overall risk.

On the other hand, the hypothesis of no structural break was rejected (see table 5.5 in bold) for all classes of the Dual Return-Vision Microfinance and Dexia Micro-Credit funds as well as for the Edmond de Rothschild - Saint Honore Microfinance at 5% (or 1%) significance level. The Chow test suggests that either alpha or beta (or both) had changed from one period to another and might have been therefore affected by the rise and fall effect of stock markets. We shall, therefore, run separate linear regressions for each fund for two time periods (first period: January 2006 - October 2007; second period: November 2007 - March 2009) and asses OLS estimates of the model parameters in the first and second period, i.e. $\hat{\alpha}^{(1)}, \hat{\alpha}^{(2)}, \hat{\beta}^{(1)}, \hat{\beta}^{(2)}$, to be able to evaluate the difference in beta and alpha estimates in respective time periods.

Table 5.5. Chow test and Beta and Alpha Estimates against the MSCI World Index in Two Periods

MIV	Currency / Class	Chow Test	Beta Estimates			Aplha Measure Estimates		
		p-value	total	1st period	2nd period	total	1st period	2nd period
responsAbility Global Microfinance Fund	EUR	0,1397	-0,0277 **	-0,0357	-0,0110	0,11% *	0,02%	0,31% ***
	USD	0,8072	-0,0281 **	-0,0442	-0,0226 *	0,19% ***	0,19% *	0,24% **
	CHF	0,1378	-0,0295 **	-0,0416	-0,0128	-0,03%	-0,11%	0,16%
responsAbility Microfinance Leaders Fund	USD	0,6385	-0,0289 **	0,0152	-0,0273	0,20% **	0,10%	0,24%
Dual Return - Vision Microfinance Fund	USD / Class P	**0,0181**	0,0283	-0,0263	0,0778 *	0,29% *	-0,01%	0,86% **
	EUR / Class P	**0,0000**	-0,0269 ***	0,0052	-0,0053	-0,01%	-0,23% ***	0,30% ***
	CHF / Class P	**0,0000**	-0,0268 ***	-0,0061	-0,0046	-0,14% ***	-0,36% ***	0,14% **
Dexia Micro-Credit Fund - BlueOrchard Debt Sub-Fund	EUR	**0,0000**	-0,0158 **	0,0003	0,0012	0,12% ***	-0,02%	0,34% ***
	CHF	**0,0000**	-0,0127 *	-0,0029	0,0072	-0,02%	-0,16% ***	0,24% ***
	USD	**0,0237**	-0,0045	-0,0037	0,0071	0,21% ***	0,13% **	0,35% ***
Edmond de Rothschild - St-Honore	EUR	**0,0007**	-0,0231 ***	0,0167	-0,0109	-0,05%	-0,20% ***	0,14%
Mean of selected MIVs			-0,0178	-0,0112	-0,0001	0,08%	-0,06%	0,30%
Mean of statistically significant results (at min. 10% level)			**-0,0244**			**0,14%**	**-0,11%**	**0,31%**

Notes: The null hypothesis of the Chow test is no structural break in date series.
Source: own calculations on data from Bloomberg

Unfortunately only few beta estimates in both periods were statistically significant. Nevertheless, slight changes in beta estimates were recorded and some positive estimates of beta were reached as well, but all estimates are still close to zero, which should therefore point to zero symmetric risk due to zero correlation of microfinance investment funds' portfolios to world equity market. Obtained results are therefore in line with our hypothesis of non-exposure of MIV's to world equity markets as represented by the MSCI World. In order to explain the structural break in estimates after October 2007 denoted by the Chow test we shall focus on the intercept estimates where we see important changes in the Jensen's alpha from negative to positive figures (move of the average of statistically significant estimates at minimum 10% level of significance from -0.11% in the first period to 0.31% for the later period). We shall make some remarks on this development below.

Performance Measures

In terms of the systematic risk-adjusted monthly returns over the whole study period microfinance investment funds in average outperformed all given benchmarks no matter the nature nor the region of investments by 14-16 basis points (mean of statistically significant results at minimum 10% significance level). Among the statistically significant results the only fund with negative Jensen's alpha (with respect to all indices) was the Swiss franc-denominated Dual Return - Vision Microfinance Fund (see table 5.6).

The two period analysis shown above revealed, however, that there had been a significant change in alpha estimates (i.e. excess monthly returns of MIVs) between the two time intervals. Mean of statistically significant estimates of alpha was -0.11% (table 5.5) in the first period, which means in times of positive sentiment on global markets monthly returns of microfinance investment funds in the sample slightly lagged behind returns of the MSCI World. Conversely, in time of decreasing markets microfinance funds' shares have not decreased in their value and recorded stable returns. Consequently, in terms of monthly returns they significantly outperformed (in average by 31 basis points m/m) the world equity market represented by the MSCI World. The excess return over the benchmark portfolio should be attributed to both moderately growing microfinance funds on one hand as well as to a great extent falling stock markets on the other hand. Nevertheless, as it was mentioned earlier, the negative effect of the financial crisis may appear in the sector only later on. And since the global recession that followed the financial crisis is not over yet and time series are rather short, it's too early to sum up that the microfinance segment in terms of its returns was not touched by global affairs.

Nevertheless, as an inconsistency in alpha estimates between the first and second periods was registered, we may not rely on alpha estimates from the first overall model (suggesting positive and on average rather important excess returns of MIVs over benchmark indices) in implications we make.

Table 5.6. Portfolio Jensen's Alphas

MIV	Currency / Class	Jensen's Alpha			
		MSCI World	MSCI EM Diversified Financials	iBoxx USD Overall	EMBI+
responsAbility Global Microfinance Fund	EUR	0,11% *	0,14% **	0,14% *	0,15% **
	USD	0,19% ***	0,22% ***	0,22% ***	0,23% ***
	CHF	-0,03%	0,00%	0,00%	0,01%
responsAbility Microfinance Leaders Fund	USD	0,20% **	0,24% ***	0,26% ***	0,25% ***
Dual Return - Vision Microfinance Fund	USD / Class P	0,29% *	0,26% *	0,23%	0,25%
	EUR / Class P	-0,01%	0,03%	0,04%	0,04%
	CHF / Class P	-0,14% ***	-0,11% **	-0,10% *	-0,10% *
Dexia Micro-Credit Fund - BlueOrchard Debt Sub-Fund	EUR	0,12% ***	0,13% ***	0,13% ***	0,14% ***
	CHF	-0,02%	0,00%	0,00%	0,00%
	USD	0,21% ***	0,22% ***	0,21% ***	0,22% ***
Edmond de Rothschild - Saint-Honore Microfinance	EUR	-0,05%	-0,03%	-0,02%	-0,02%
Mean		**0,08%**	**0,10%**	**0,10%**	**0,10%**
Mean of statistically significant results (at min. 10% level)		**0,14%**	**0,16%**	**0,14%**	**0,15%**

Note: *Significant at the 10 % level; **Significant at the 5 % level; ***Significant at the 1 % level
Source: own calculations on data from Bloomberg

Eight out of eleven observed microfinance investment funds reached a positive Sharpe ratio while the average for all funds exceeded all benchmark indices. Both equity benchmarks' Sharpe ratio representing an excess return compensating for the additional risk investor assumes when holding a riskier asset (i.e. other than the risk-free 4-week U.S. Treasury Bill) ended negative while the J.P. Morgan EMBI+ index recorded a Sharpe ratio close to zero. Positive Sharpe ratio Markit iBoxx Overall bond index as well as selected MIVs is highly due to low standard deviations in returns (table 5.3) that have an direct effect of the ratio.

Table 5.7 reveals that some microfinance funds (e.g. Euro and U.S. dollar responsAbility Global Microfinance Fund with respect to both equity indices and EMBI+, as well as other funds) recorded a negative Treynor ratio (i.e. punishment in terms of added negative returns for an investor who chooses to invest in a riskier asset). All that despite the fact that their Jensen's measures were positive pointing to positive added returns of portfolios above the expected return compensating for the symmetric risk. The inconsistency in results seams to be in line with the remark earlier made in the Treynor ratio definition (i.e. that for funds with zero of negative betas, the Treynor Ratio may be unstable and imprecise performance measures as it attributes negative performance to funds with positive abnormal returns). For this reason we prefer to rely on the alpha measure that equally measures excess returns of a portfolio in relation to its systematic risk but it is not computed directly on the basis of beta.

Table 5.7. Portfolio Sharpe and Treynor ratios

MIV	Currency / Class	Sharpe Ratio	Treynor Ratio			
			MSCI World	MSCI EM Diversified Financials	iBoxx USD Overall	EMBI+
responsAbility Global Microfinance Fund	EUR	0,3319	-0,0524	-0,1695	0,0251	-0,0885
	USD	0,5446	-0,0802	-0,2530	0,0698	-0,0702
	CHF	0,0118	-0,0017	-0,0056	0,0011	-0,0022
responsAbility Microfinance Leaders Fund	USD	0,5982	-0,0733	-0,1229	0,1669	-0,0433
Dual Return - Vision Microfinance Fund	USD / Class P	0,2708	0,0827	0,1283	0,0324	0,0757
	EUR / Class P	0,1171	-0,0096	-0,0306	-0,0211	-0,0136
	CHF / Class P	-0,3272	0,0429	0,1147	0,1376	0,0591
Dexia Micro-Credit Fund - BlueOrchard Debt Sub-Fund	EUR	0,5961	-0,0860	-0,3257	0,0846	-0,1622
	CHF	-0,0017	0,0003	0,0017	-0,0002	0,0020
	USD	0,9481	-0,4757	1,3320	0,0361	0,2058
Edmond de Rothschild - Saint-Honore Microfinance	EUR	-0,0849	0,0107	0,0314	0,0124	0,0114
Mean		**0,2731**	**-0,0584**	**0,0637**	**0,0495**	**-0,0024**
Benchmark Indices						
MSCI World Index		-0,2376	-0,0125			
MSCI Emerging Markets / Diversified Financials Index		-0,0632		-0,0067		
iBoxx USD Overall		0,1093			0,0015	
J.P. Morgan Emerging Bond Index (EMBI+)		0,0028				0,0001

Source: own calculations on data from Bloomberg

5.2.7 Implications and Restraints

This case study of eleven microfinance investment funds and their sub-funds pointed to some interesting results both in terms of risk related to investment in microfinance as well as returns offered.

The extent of total risk, which is especially useful to asses shall microfinance funds be held alone, reached very low levels (measured by the standard deviation in historical returns) comparable to the risk-free asset. The total risk recorded surely much lower levels than one would expect from an investment when underlying assets are debt or equity stakes in institutions that lend money to low-income and poor customers without the right on collateral. On the other hand, investors that wish to hold shares in microfinance investment funds as a part of broad portfolio of assets shall focus on the symmetric (non-diversifiable) risk of MIVs that was estimated from the linear regression of risk-free rate adjusted monthly returns of microfinance funds in the sample against the premium offered by the market (equity and bond). It revealed that the development of MIVs returns only slightly tracks with the movement of market which was demonstrated by low values of R-squared as well as close-to-zero estimates of the regression parameter beta with respect to all four indices (also after having accounted for the break in the development of benchmark equity indices value).

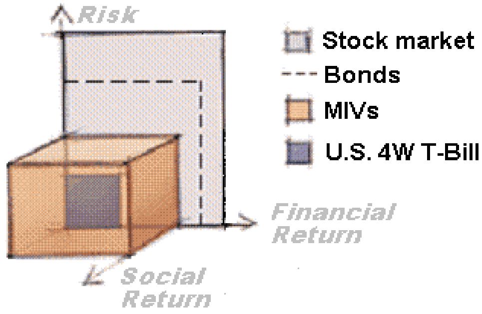
Based on the historical data, we conclude that there is no correlation between broader market and MIVs. The symmetric (market) risk of microfinance investment funds' shares is therefore close to zero, which implies that an addition of microfinance assets to a broader portfolio may help to reduce the overall risk of a portfolio and should be attractive from the portfolio diversification point of view. From this point of view our results are in line with works of Galema, Lensink & Spierdijk (2008) as well as Kraus and Walter (2008) that did not tackled the microfinance investment funds but analyzed broader financial data of MFIs themselves.

With regard to examined funds' performance results we have seen that they provided moderate but stable returns over the study period no matter the sentiment on global financial markets. With respect to the total risk-adjusted returns recorded positive values of the Sharpe ratio (which was not derived from the regression, however) for most funds indicate that investors had been well compensated for the underlying risk when holding other than risk-free assets (here the 4-week U.S. Treasury Bill). With respect to this matter only fixed income investment could countervail MIVs in the sample even thought they reached lower (but still positive) Sharpe ratios, therefore lower risk premium for an investor.

As our task was also to confirm whether the performance of studied microfinance funds surpasses returns generated by benchmark indices we focused on the Jensen's alpha referring to funds' excess returns. At first sight, almost all MIVs in average outperformed given equity and bond market indices (when the whole period of examination is taken into account). Nevertheless, detailed study of two time intervals denoting firstly growing and then decreasing world equity markets revealed significant changes in the alpha measure of funds' excess return. With respect to this fact, we can not rely on alpha estimates from the first overall model that pointed to positive and on average rather important excess returns of MIVs over benchmark indices. Therefore, we conclude that microfinance investment funds in average do not reach any added returns above those returns that compensate an investor for the symmetric risk measured by the beta.

To sum up, in terms of microfinance total risk the analysis suggests that examined funds have recorded lower total risk than global stocks and bonds (measured by four benchmark indices) with moderate but stable returns. Nevertheless, they bring along a new third dimension - important social returns. Therefore microfinance may be seen as depicted in the figure below. In addition, the analysis revealed that investment in microfinance investment funds that focus especially on debt instruments do represent an attractive opportunity for the portfolio diversification as this asset class does not show any correlation with global as well as emerging capital markets. At the same time, it provides adequate risk-adjusted returns and may be therefore attractive not only for investors with a particular interest in the social responsible aspect of this investment opportunity. For that reason, we may expect greater development of the sector of microfinance investment vehicles and an increase in the flow of funds to microfinance institutions in developing countries. Consequently, we may hope in expended access of low-income customers to financial resources and improvement of their economic conditions.

Figure 5.6. Notion of Microfinance



Notes: The figure is purely notional and does not exactly reflect figures used in the analysis, where average financial returns of equity indices were negative due to the recent bear market.
Source: adapted from BlueOrchard

It needs to be noted that our conclusions represent only a case study-based evidence on risk and performance characteristics of microfinance investment funds or investment vehicles in the broader sense. The sample includes only microfinance investment vehicle that are organized in the form of mutual funds (SICAV or FCP) that all are characterized by a high level of commercialization. They are either sponsored or their assets are managed by some important European banks (*Dexia* or *Credit Suisse* in case of both responsAbility funds), their performance data as well as monthly briefing reports are publicly available and regularly updated. Put in another words, it is evident that funds that were included in the sample are not representative of the whole microfinance investment vehicles universe, which is in reality more heterogeneous. Nevertheless, since we are interested in the flow of funds from "north to south", i.e. from developed capital markets to new emerging asset class of microfinance, we may expect that those investors will, in the first place, eventually invest in the most developed and stable investment vehicles.

Conclusion

The traditional model of microfinance organizations based on the non-governmental organizations that are financed by subsidies provided by local or international agencies and donors is evolving and changing. We have seen that the current trend of development of microfinance institution is characterized by gradual commercialization in sense of implementation of more market-based business strategies and by transformation of legal forms into for-profit regulated financial intermediaries. It suggests that the pool of more mature and financially sustainable MFIs that are likely to attract foreign investors is enlarging.

The potential of the growth of the sector is given by the figure reported by the World Bank that there are currently only 26 percent of people around the world that have the access to formal financial services. The demand for microfinance capital is enormous, Deutsche Bank for example estimates the today's total sector demand of about 1 billion microborrowers and the gap in financing for the microfinance industry worth of USD 250 billion and suggests that capital markets will play a very important role in filling this gap.

Seeing this, we have asked ourselves a question of how to participate in the potential growth of the microfinance sector. Indirect investment in shares of microfinance investment funds is one of the most common investment opportunities, which does not require a deep knowledge of the particularities of microfinance institutions and at the same time investors are exposed to a lower amount of risk when holding shares of a fund instead of directly investing in shares of selected MFIs.

Having discussed the asset structure and the historical financial performance as well as the social impact of eleven selected microfinance investment funds we have turned our attention to their risk and return characteristics. The analysis showed that the total risk of microfinance investment funds is very low and comparable to the risk-free asset while total risk-adjusted returns reach positive values and investors are therefore well compensated for the underlying risk when holding other than risk-free assets. This effect clearly speaks on the side of investment in microfinance.

Our aim was to verify whether microfinance investment funds show any correlation with global market proxied by four chosen market indices. In the case study we proved that microfinance assets do not show any correlation with global nor with emerging capital markets, which enlarges the possibility of portfolio diversification if shares of the microfinance investment funds are held as a part of a broader portfolio of assets (which seems to be the most realistic decision since the broader community of investors may still not be aware of the MFI sector). At the same time, investment in microfinance has the potential to provide an investor with adequate risk-adjusted returns and therefore may be attractive not only for investors with a particular interest in the socially responsible aspect of microfinance.

Our hypothesis of no correlation of microfinance investment funds and their underlying investments in MFIs to world financial markets has been confirmed for both the time when global markets were adding on value as well as for the period that was characterized by falling market indices. From this point of view we shall see more investors coming in the sector, which should help MFIs to expand their outreach and reach other regions and villages as well as deeper down the market to the poorest.

Despite of conclusions that we draw from the case study, current global recession that was triggered by the crisis in the financial sector may bring some restrains to further development of this investment class. Although the analyzed time series covered both periods of the business cycle in the global economy, the recession is not over yet even in the most developed economies.

From whence it follows to ask whether the microfinance will remain immune from the global financial crisis and whether the commenced interest of capital market players in this kind of assets will continue to increase or conversely whether investors will rather keep greater distance from microfinance in times of global uncertainty. It is questionable whether a global financial crisis and recession of such extent will not have repercussions on the least developed economies where MFIs act only later on (this year or even later). These impacts could have a dual character as we may witness worsened rates of repayment reflecting greater depression in developing countries. Secondly, more MFIs may lack necessary sources for refinancing due to an increased global negative sentiment. Then increased costs of funding, tighter net interest margins together with possible augmented instability of the exchange rate terms and increased cost of hedging – that all could have negative impacts on financial results of microfinance institutions and therefore on the share value of specialized microfinance investment funds. Therefore, it seems to be too early to sum up that the microfinance segment in terms of its returns was not touched by global affairs and this topic may be a subject of further research.

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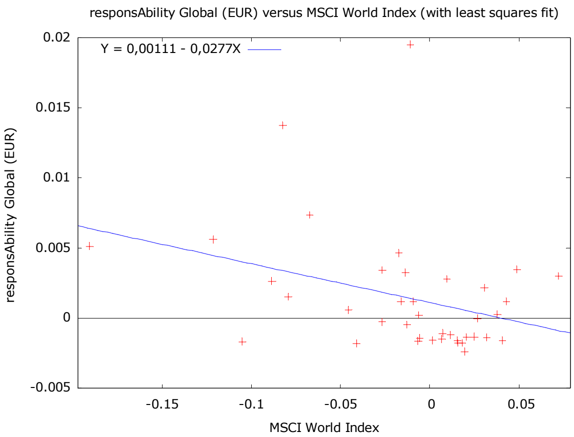
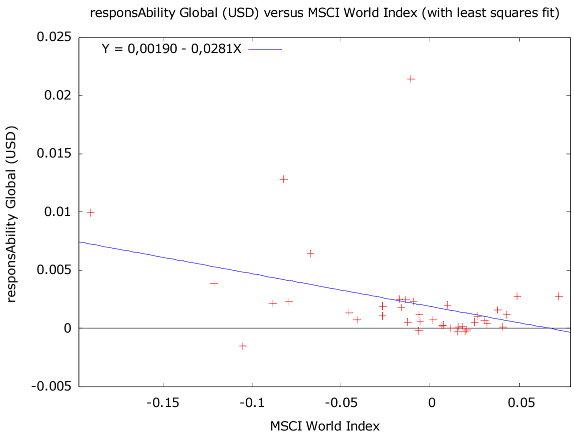
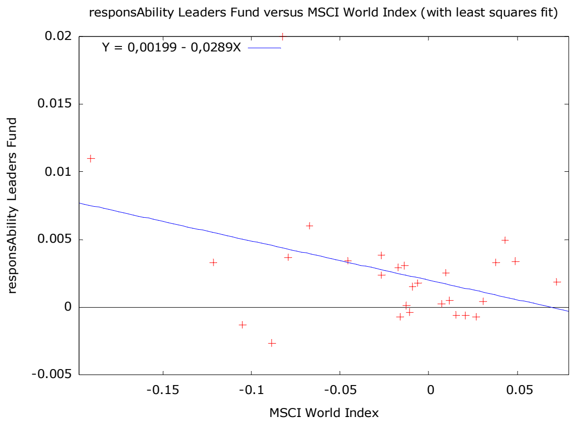
U.S. Department of the Treasury: http://www.ustreas.gov

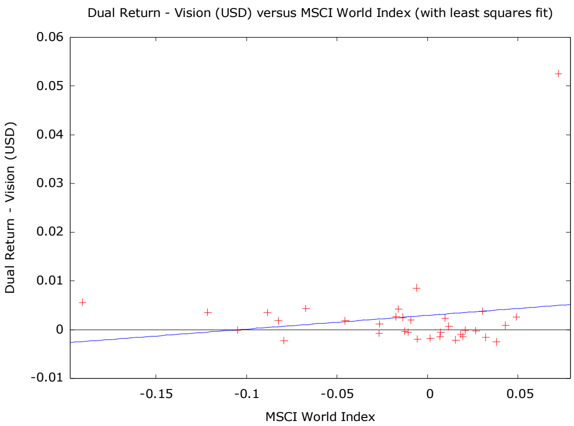
Annex

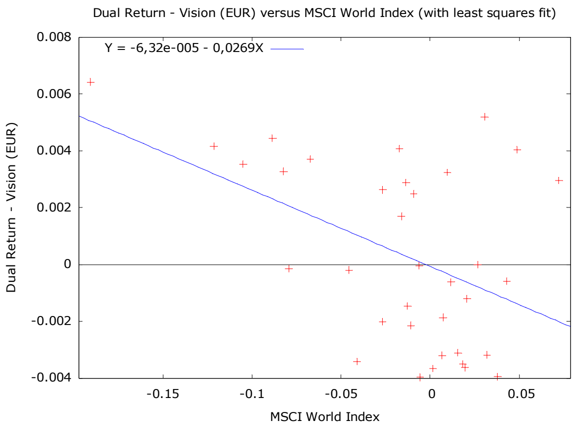
Annex 1. X–Y Scatter Plot with the MSCI World Index as an explanatory variable

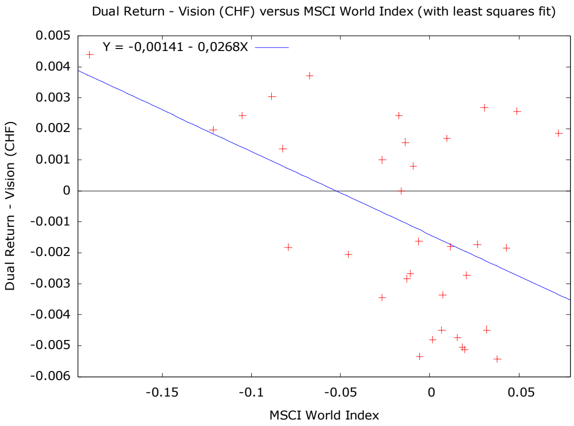


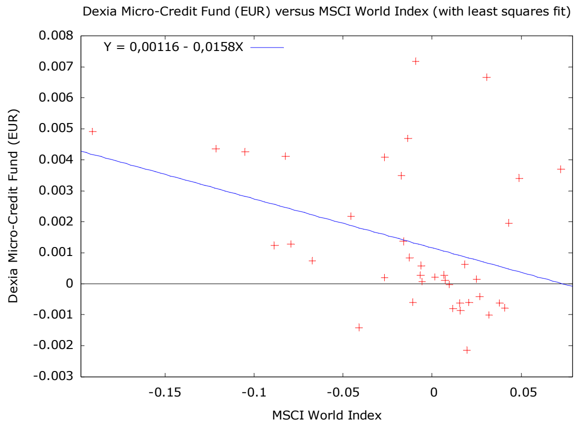


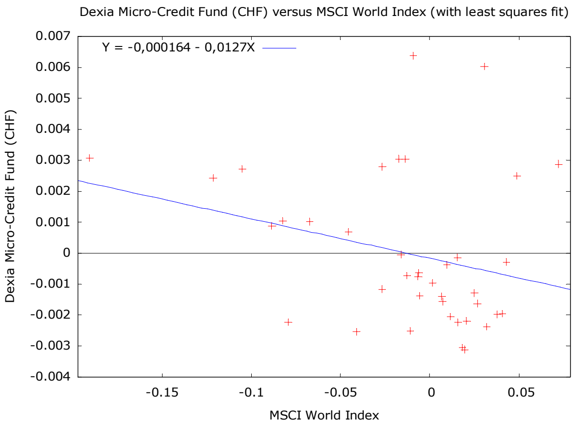


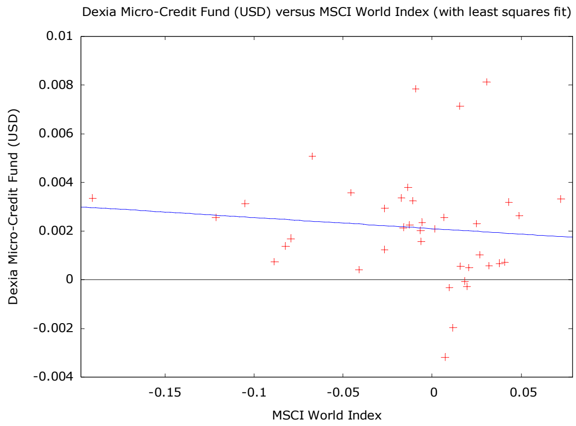


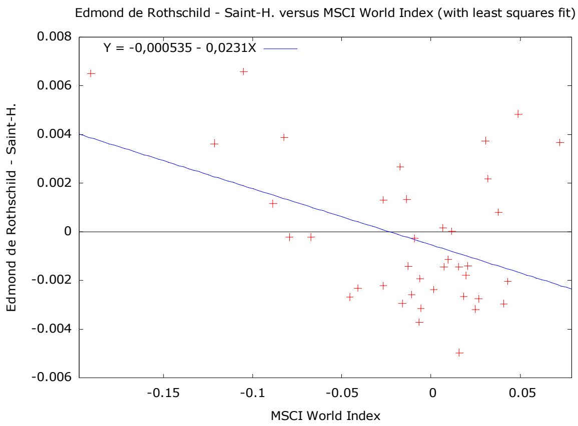












Source: own calculations on data from Bloomberg