Ethical Investments and Microfinance Mutual Funds: An Empirical Analysis

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ABSTRACT

Through this thesis, we discuss the importance of asset performance evaluation of microfinance investment vehicles (MIVs) in order to deeply understand the risk faced by microfinance investors and the relative benefit in terms of risk diversification. We also encourage the use of J.P. Morgan Emerging Market Bond Index as main benchmark for microfinance fixed income mutual funds.

Using market data, we explore and analyze returns of MIVs and we show that microfinance, as an asset class, offers an adequate risk adjusted return and it is weakly correlated with global markets.

In particular, our results show low correlation of MIVs during the subprime crisis in 2007 and global recession in 2008, a period where correlations among all others asset classes rose sharply. This particularity proves that investing in microfinance can offer protection during financial turmoil.

Moreover, this thesis shows that when we measure the performance of microfinance mutual fund we cannot disregard the social component, which should be carefully measured in order to avoid that poor performance are hidden though vague social goals.
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Chapter 1

INTRODUCTION & BACKGROUND

Poverty

“Poverty is the absence of all human rights. The frustrations, hostility and anger generated by abject poverty cannot sustain peace in any society. For building stable peace we must find ways to provide opportunities for people to live decent lives”, Those words are part of the Nobel Lecture delivered by the Prof. Muhammad Yunus on December, 10th 2006, after that the Grameen Bank and its founder, were jointly awarded the Nobel Peace Prize\(^1\).

The magnitude of poverty remains a critical issue for the Asian, African and south America continents, and according to the World Bank, 1.4 billion people in the developing world live in extreme poverty, with less than US$ 1.25 a day\(^2\).

Although the use of poverty lines have been sometimes criticized, especially because it is difficult to be unanimous on what it costs to maintain a respectable and dignified standard of living, the concepts of US$1 or US$1.25 a day have been broadly used by the World Bank and policymakers.

The use of a common international standard line has called the attention of the international audience, showing a considerable interest among the social partners, as well as the media and it highlighted the problem to the privileged and wealthy people, most of whom live in the northern hemisphere.

In addition, at the 2000 United Nations Millennium Summit, world leaders from rich and poor countries committed themselves to a set of eight time-bound targets (Millennium Development Goals), which range from halving

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\(^1\) Nobel Lecture [Http://nobelprize.org/nobel_prizes/peace/laureates/2006/yunus-lecture-en.html]

extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015³.

Those targets require the choice of a universal notion of poverty for monitoring poverty reduction.

In the celebrated book “The Fortune at the Bottom of the Pyramid”, the notably Professor C.K. Prahalad argues that poor people should be seen as potentially profitable customers rather than mere charity cases⁴.

He also emphasizes the need of a sustainable approach by Multinational Corporations that have ignored so far the profitable opportunities at the bottom of the pyramid (BOP) market where more than 4 billion people live on less than 2$ per day.

Serving poor people, by improving access to products and services, can convert BOP market to the “fastest growing market in the world”⁵.

According to CGAP⁶, more than three billion poor people have no easy access, and often no access at all, to the basic financial services essential for them to manage their precarious lives.

Access to financial services helps poor people to enable payment transactions, to save and deposit money and using this saving as cushion against unexpected expenses.

Moreover, it allows them to support their micro-enterprises and to take advantage from small business opportunities.

The world is paying attention to the connections between poverty and finance as never before, and over the past decade the idea that low-income clients represent a viable business proposition has been widely embraced⁷.

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³ United Nations Millennium Declaration, September 2000
⁶ Consultative Group Assisting Poor (CGAP) is a consortium of 33 public and private development agencies working together to expand access to financial services for the poor in developing countries
The important role that financial intermediation has played in supporting economic development throughout history and across the world has been supported by empirical evidence and many studies confirm the importance of complementariness between banking and non-banking financial intermediation in different stages of economic developments. Others studies have also demonstrated that there is a high correlation between financial-services penetration in a country and GDP per capita.

However, the financial crisis and economic slowdown made this a precarious time for development, and if we also consider the devastating effects of the global food crisis in developing countries, we have no doubt that poverty remains one of the most daunting problems for all developing countries.

Is microfinance a powerful tool to fight poverty?

Microfinance is about giving low-income people access to financial services, typically by lending tiny amounts of money to people who usually would not be able to borrow from traditional financial institutions, mostly because banks do not serve those who cannot offer traditional collateral and with no credit history.

For those micro borrowers, microcredit is often the only way to borrow money at reasonable interest rates in contrast to the high interest rates charged by informal moneylenders or loan sharks in developing countries.

However, as we mentioned previously, poor people do not need just loans; they also need access to a whole range of financial products as saving, health insurance and money transfer services.

Muhammad Yunus, known as the "banker to the poor", pioneered the movement of microfinance three decades ago and since Grameen Bank was founded, he has served nearly 8 million people in Bangladesh.

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9 United Nations Capital Development Fund, International Year of Microcredit 2005
percent of whom are women\textsuperscript{10}.

Currently, the bank operates with 2,539 branches and provides financial services in 83,566 villages, covering most of the villages in Bangladesh. At the end of December 2008, the bank has disbursed USD 7.59 billion as loans\textsuperscript{11} and with 98.32\% repayment rate, increased by 30bp in 2008 from 98.02\%\textsuperscript{12}, it proves that poor people are worthy of loans and when credit is given, they can repay their loans promptly and with interests.

That high repayment rate shows the successful of Grameen Bank and many studies provide evidence that microfinance, and in particular microcredit, can contribute to the development of poor countries and improve life of those who are marginalized and underprivileged.

The rest of the thesis is organized as follows. Section 2 discusses the importance of microfinance for economic development and the evolution of microfinance institutions (MIFs) and microfinance investment vehicles (MIVs) over last decade. Section 3 analyzes return and volatility of MIVs. Section 4 presents an analysis of MIV’s risk premium while in section 5 we investigate portfolio diversification effects of MIVs. Section 6 and 7 conclude and discuss some of the risks that the microfinance industry might face in the near future and we suggest some area of further research.

Chapter 2 - Evolution of microfinance institutions and microfinance investment vehicles

Microfinance institutions (MFIs)

The term "microfinance institution" refers to those organizations that are characterized by their commitment to assist poor families, micro-entrepreneurs and impoverished women in gaining access to financial services\textsuperscript{13}.

\textsuperscript{10} Muhammad Yunus, Banker to the Poor: Micro-Lending and the Battle Against World Poverty, New-York, PublicAffairs, 2003
\textsuperscript{11} Grameen Bank, Annual Report 2008
\textsuperscript{12} Grameen Bank, www.grameen-info.org
\textsuperscript{13} Daniel Hardy & Paul Holden & Vassili Prokopenko, Microfinance Institutions and Public Policy, 2003, IMF Working Paper
Microfinance institutions differ from traditional banks since they developed innovative lending techniques in order to overcome all the obstacles that low-income borrowers are facing such as lack of collateral and no credit history.

Those techniques include: group lending, small loans with progressive lending and frequent repayment installments. Those methods are part of solution to the problems of asymmetric information, which normally leads to strategic and immoral behavior of the borrower before and after the loan contract.

In particular, group lending is an enforcement mechanism widely used in microfinance and it reduces adverse selection and moral hazard through peer pressure and the threat of group sanctions against the individual borrower.

The fear of losing eligibility to further loans improves discipline inside the group, reduces strategic default, as those we have seen during subprime crisis in 2007, and it ensures loan repayments. According to Armendariz de Aghion and Morduch, group loans are more likely to be repaid than individual loans.

An emblematic example of how powerful microfinance can be, it is given by the Struggling Member Programme started by Grameen Bank in 2003 with the aim to provide financial services to beggars. As of 31st December 2008, Grameen Bank distributed small loans to 108,741 beggars and more than half of money distributed, it has been already repaid.

No interest rates are charged and no reinforcement mechanisms are applied. Grameen Bank only encourages the “struggling member” to start-up small and simple income-generating activities by giving him / her support and dignity and the beggar is tempted to pay back the loan because

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17 Grameen Bank, www.grameen-info.org
otherwise he would loss the eligibility to future loans and likely the chance to change his/her life.

**Evolution of MFIs industry**

Within the microfinance industry, the majority of MFIs are subsidized, either by governments or by NGOs.

According to the World Bank, although there are over 10,000 microfinance institutions (MFIs), serving over 150 million poor people in developing countries, they only reached 4 percent of the potential market.

In the recent years there has been a tremendous growth in the number of microfinance borrowers, growing over the past five years, between 25 and 30 percent annually and it is expected a similar growth in the coming years\(^\text{18}\).

Microfinance industry is segmented, ranging from very small NGOs with few clients to large institutions with millions of clients and it is a highly concentrated industry. One need only consider that the median share of the largest MFI in a country is one third of the entire market and the median share of the top ten MFIs is about 95 percent of the all industry\(^\text{19}\).

The microfinance investment market is also growing in size and maturity and it is increasing the need of investors for transparency through market research, data provider and analysis of MFIs.

Transparency is encouraged by the launch of open data for microfinance such as MIXMarket\(^\text{20}\), which publishes data on more than 1,500 microfinance institutions (MFIs) in more than 190 countries, and helps to build the information infrastructures needed in developing countries. The MIXMarket database is publicly accessible and it is a powerful reporting platform for academic researchers, private investors and microfinance institutions.

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\(^{18}\) MicroCapital, www.microcapital.org

\(^{19}\) Adrian Gonzalez & Richard Rosenberg, The State of Microfinance – Outreach, Profitability, and Poverty, World Bank, 2006

\(^{20}\) www.mixmarket.com
Through reports and analysis, such as the benchmarking reports published in the MicroBanking Bulletin, MIXMarket allows MFIs to compare their performance not only to that of other similar institutions but to a single and precise reference.

The growth of microfinance market also requires the creation of professional services companies. A perfect example is the Swiss-base firm Symbiotics SA, Information, Consulting & Services’ that provide microfinance investment services. The company also launched a microfinance investment fund benchmark: Symbiotics Microfinance Index, which is made up of publicly listed global microfinance investment vehicles.

**Microfinance moves towards commercialization**

More often, MFIs are facing big disadvantages due to their nonprofit ownership structure and the solution of transformation is, most of the times, appealing.

In particular, NGOs, that seek to offer new financial products, have to revolutionize and improve their internal process because in most cases microfinance NGOs are not allowed to mobilize public deposits and they have limited access to private funding.

This change in organization is often realized by transforming the microfinance NGO into a regulated commercial entity with a precise objective: providing financial services to poor people.

The change in legal status of a microfinance institution (MFI), from an unregulated nonprofit or non-governmental organization (NGO) into a regulated for-profit institution and it is one of the ways an MFI can be commercialized.

A transformed and commercialized MFI is subject to government regulations similar to those applied to banking institutions and is supervised by a financial authority, generally the central bank of the country where the MFI is registered\(^2\).

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\(^2\) Joanna Ledgerwood and Victoria White, Transforming Microfinance Institutions: Providing Full Financial Services to the Poor, published by World Bank and the Microfinance Network, August 2006
The commercialization has been an increasingly popular trend and it has stimulated the growth of microfinance industry. Today, MIFs are accessing more diverse and commercial sources of funding, from short-term funding as saving deposit to long-term funding as fixed-rate bond. A commercialized MFI also attracts equity investors.

The diversification of their funding sources allows MIFs to expand their operational activities and to establish an appropriate matching of assets and liabilities. However, the increasing in complexity points out the importance of Asset Liability Management as key element in management risk of microfinance institutions (MFIs).

In particular, microfinance institutions must ensure adequate liquidity while managing the bank's spread between the interest income and interest expense and they should maintain sufficient cash to satisfy client demand for loans and unexpected savings withdrawals 22.

**Socially Responsible Investment & Microfinance**

The Socially Responsible Investment (SRI) market is a booming area and it is growing at a faster pace than the broader universe of all investment assets under professional management.

The Social Investment Forum defines SRI as “an investment process that considers the social and environmental consequences of investments, both positive and negative, within the context of rigorous financial analysis.”

The oldest and most basic SRI strategies are based on negative screens. The most common negative screens exclude tobacco, alcohol, gambling, weapons and nuclear power. Other negative screens may include irresponsible foreign operations, pornography, abortion, workplace conditions, violation of human rights, and animal testing.

According to Social Investment Forum, $2.71 trillion in total assets under management in the United States today is involved in Socially Responsible

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22 Karla Brom, CGAP, Asset and Liability Management for Deposit-Taking Microfinance Institutions, CGAP Publications, June 2009
Investments (SRI) and SRI assets represent about 10% of total assets under management in the US\textsuperscript{23}.

Although the European SRI market is still in an early stage of development, it is also growing rapidly.
According to European Social Investment Forum, as of December 31\textsuperscript{st} 2007, the assets of SRI screened portfolios in Europe totaled around EUR 2.66 trillion and they account for about 17.5% of the asset management industry in Europe.
This corresponds to a remarkable growth of 102% since December 31\textsuperscript{st} 2005\textsuperscript{24}.

The rising interest in socially responsible investments is the product of new global trends.
In particular, the increasing numbers of socially conscious investors, sensitive to ethical and environmental issues, proves that investors are multi dimensional entities and they do not want only to maximize profit but also to generate social benefits\textsuperscript{25}.

In addition, investors are also becoming more sensitive to low volatile and uncorrelated assets and they are confident that emerging markets and developing countries will continue to present attractive opportunities in the coming years.

We have no doubt that microfinance investment vehicles (MIVs) fit into the definition of RSI and they represent an attractive investment opportunity for those investors who seek both social and financial return.

**Microfinance: Social mission VS profit maximization (Grameen Bank - Bangladesh VS Compartamos - Mexico)**

While we include microfinance in the broad range of Socially Responsible Investment, it is important to notice that microfinance is not following a single path and we should distinguish socially oriented non-profit microfinance institutions from for-profit microfinance institutions.

\textsuperscript{24} European Social Investment Forum, European SocialRI Study 2008
\textsuperscript{25} Muhammad Yunus, Creating a world without poverty–Social business and the future of capitalism, Public Affairs, New York, 2007
In the book “Creating a World without Poverty - Social Business and the Future of Capitalism”, the Nobel Peace Prize Muhammad Yunus defines a social business a company that is cause-driven rather than profit-driven.

In particular, social business is a market-base solution for poverty, and it differs from charity because it does not rely on donation. When we talk about social business, we talk about sustainability. It means that the institution must recover all cost through income-generating activities and it has to become financially self-sustaining.

Pure charity is value transfer rather than a true wealth creation, and this feature distinguishes beneficence from social business, which aims to create social and economic value and not only to provide a mere value transfer from rich people to low-income people.

Grameen Bank can be considered a social business as consequence of its ownership structure.
It means that the institution is mostly owned by the borrowers themselves and the profits directly work to achieve the social objectives of Grameen Bank.

The most known example of for-profit MIF is the Mexico’s largest microfinance institution, Banco Compartamos, which it became publicly listed in 2007. The MFI, with an initial public offering (IPO) of 30 percent of the ownership of the bank, made a successful debut on the Mexican Stock Exchange and its newly public shares rose 32,2 percent on the first day of trading.

However, the huge success did not hide the doubt about Compartamos’s interest rate policy and decision-making policy in setting up social objectives.

The Mexican MIF’s clients pay an annual interest rate of 105%, including the 15% government tax, compared with 20% charged by Grameen

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Bank\textsuperscript{29} and the worldwide average microfinance interest rates of 25% charged by non-governmental organizations (NGOs)\textsuperscript{30}.

The main cause of the tension between social and commercial objectives of Banco Compartamos is the commercialization in 2000, and the Initial Public Offering in 2007 can be considered only a consequence of that previous process.

That commercialization proved the difficulty in maintaining its social mission in the new organizational form and it showed the governance consequences of that change\textsuperscript{31}.

**The demand for funding and the importance of specialized Microfinance Investment Vehicles (MIVs)**

Microfinance Investment Vehicles (MIVs) are independent and specialized investment funds, which primarily invest in the microfinance sector.

MIVs create the demand-supply chain of funding needed in microfinance industry by gradually increase the funding sources of many MFIs. In particular, those intermediary investment vehicles mobilize funds from private and institutional investors and channel them to viable range of MIFs in developing countries.

The success of MIVs industry is demonstrated by the tremendous growth over the past 5 years. As shown in figure 1, the number of MIVs has more than tripled from 43 to 103, between 2004 and 2009, and their asset under management has increased significantly from USD 3 billion in 2006 to USD 6.6 billion in 2008\textsuperscript{32}.

Market participants forecast that microfinance sector will continue to grow at rapid path in the coming years, especially after that private investors and

\begin{thebibliography}{99}
\bibitem{29} Grameen Bank, www.grameen-info.org
\bibitem{31} Richard Rosenberg, CGAP Reflections on the Compartamos Initial Public Offering: A Case Study on Microfinance Interest Rates and Profits, June 2007
\bibitem{32} CGAP Publications: CGAP 2007 MIV Benchmarks - CGAP 2008 MIV Benchmarks - CGAP 2009 MIV Benchmarks
\end{thebibliography}
pension funds have started increasing their portion of microfinance investment though direct investment in MFIs and MIVs.

**Figure 1**

![Figure 1](image)

**FIGURE 1:** Source: CGAP 2007 MIV Benchmarks - CGAP 2008 MIV Benchmarks - CGAP 2009 MIV Benchmarks and Symbiotics Report, December 31, 2008 (Luxembourg MIVs)

*Note: Data are extracted considering the inception date of Luxembourg MIVs universe existing as of December 2008

As MIFs industry, also MIVs industry is highly concentrated and the top 10 MIVs account for 60% of the total assets under management.\(^{33}\) The high concentration is partially due to the fact that a microfinance fund must reach a break-even size in term of total assets to assure profitability and attract new investors,

Fixed income investment accounts for 75% of microfinance investments, whereas equity only accounts for 24% and guarantees fill the remaining 1%.\(^{34}\)

Nowadays, 103 microfinance investment vehicles are actually active, using varying legal structures, such as SICARs, SIFs, securitization vehicles and structured products, representing a wide variety of investment strategy.

\(^{33}\) Xavier Reille and Jasmina Glisovic-Mezieres, CGAP Publications, Microfinance Funds Continue to Grow Despite the Crisis, May 2009

\(^{34}\) CGAP Publications, CGAP 2009 MIV Survey -Market Data & Peer Group Analysis
According to CGAP, funds can be classified into 7 major categories and peer groups:
-Registered Fixed Income Mutual Funds;
-Registered Fixed Income Investment Funds
-Structured Finance Vehicles / Dynamic Asset Allocation
-Structured Finance Vehicles / CDOs
-Socially Focused Funds
-Private Equity Funds
-Holding of Microfinance Institutions

Registered Fixed Income Mutual Fund are the largest category of MIVs, and it has grown at a formidable pace over last year, now accounting for USD 1.8 billion of AuM and 13 funds\(^{35}\).

Registered microfinance mutual fund are supervised by a market authority and they are mostly registered in Luxembourg, which is a leader in the domiciliation of microfinance investment vehicles, due to the favorable legal and regulatory environment and the unique concentration of specialist service providers.
In particular, as of December 31, 2008, there are already 21 MIVs active in Luxembourg and their total assets reached USD 2.4 billion\(^{36}\).

Microfinance mutual funds generate returns by managing a diverse portfolio of loans and other debt securities, including portions of equity, issued primarily by MFIs located in emerging markets in Europe, Latin America, Asia, Africa and the Middle East.

Their investment strategy typically combined a top-down country allocation with a rigorous bottom-up credit analysis of the single microfinance issuer, due to the fact that a deterioration of the loan portfolio can lead to the default of the MIF and consequently generate losses for the investors.

In fact, the elevate percentage of debt investment in microfinance, explains partially the attractiveness of MIVs. Microfinance mutual fund can better manage the exposure to credit risk and interest rate risk by investment and

\(^{35}\) Xavier Reille, Jasmina Glisovic-Mezieres, and Yannis Berhouzoz MIV Performance and Prospects: Highlights from the CGAP 2009 MIV Benchmark Survey, September 2009

\(^{36}\) Symbiotics S.A. Information, Consulting & Services, Symbiotics Report, December 31, 2008, Luxembourg MIVs, March 2009
allocating resources to a pool of well-diversified MFIs, which might not be feasible for an individual investor.

Chapter 3 - PERFORMANCE ANALYSIS

Asset Allocation and Literature Review

In 1952 and later in 1959, Harry M. Markowitz published an article entitled “Portfolio Selection”37 and a book entitled “Portfolio Selection: Efficient Diversification of Investments”38.

In his article and book, Markowitz developed a mean-variance approach, also known as mean-variance efficiency, in the context of selecting a portfolio of common stocks and he clearly defined for the first time Modern Portfolio Theory.

MPT assumes that the first two moments of a distribution can sufficiently define the profile of a portfolio of securities39 and that risk can be reduced by simply holding combinations of low correlated securities, which are low correlated.

The concept of mean, variance and correlation were extended by Sharpe (1964) and Linter (1965) in what become known as the Capital Asset Pricing Model (CAPM) and over the last decade they become popular and widely used by all professional thank to their intuitive appeal40.

Since stocks generally tend to move together, the benefits of diversification within a stock portfolio are limited. Hence, investors can reduce risk by selecting asset classes rather than securities that are usually lower correlated.

Asset allocation is the practice of dividing a portfolio into major asset class of equities, fixed income, cash equivalents, and alternatives and it is a fundamental principle of sound investing.

37 Harry M. Markowitz, “Portfolio Selection” Journal of Finance, vol. 7, no. 1 (March 1952)
39 William F. Sharpe – The Sharpe Ratio – Stanford University, Fall 1994
Investors need to identify investments in segments of each asset category that may perform differently under different market conditions and they need to examine the past history and projected outlook in terms of risk, return and correlation of each of those investments.

**Return, Variance and Correlation. Is Microfinance becoming a new asset class?**

Microfinance does not belong yet to a specific asset class and it makes difficult to compare the performance of this investment within a specific asset category and also against a defined benchmark.

Although, returns from MFIs have been less volatile than other fixed-income investments and they have offered low correlation with other asset classes, the previous fiduciary aspect does not allow to clearly defining the risk-reward profile of microfinance investment and consequently it may reduce the attractiveness of microfinance for many commercial investor\(^{41}\).

Microfinance investment vehicles (MIVs) cannot be classified as typical ethical funds due to the complexity of their investment, and their performances should be analyzed by taking into consideration the “emerging market” element and the liquidity constraints of fund assets.

So far, very little research has been done with regards to the performance of MIVs and a major reason for this lack of assessment of performance was the absence of public market data.

Nowadays, it is still not clear to what extent microfinance mutual funds offer an attractive investment opportunity in term of risk-return and / or diversification benefits within international balanced portfolios.

In the rest of this paper, we will concentrate on the portfolio selection area and the estimation of return, variance, correlations and betas of microfinance investment vehicles.

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We will show that MIVs offer an attractive risk-return profile, marked by stable financial returns and low volatility, and they simultaneously contribute to the development of the microfinance sector.

Moreover, in order to apply modern portfolio theory to microfinance investments, the utility function of a single investor should consider the gains derived from a socially responsible investment and it should be readapted considering his idiosyncratic preferences. In chapter 4, we will discuss how the concept of philanthropy is included in the utility function of a single investor.

**Dataset**

We analyze the performance of a representative sample of registered fixed income microfinance mutual funds.

The data analyzed in this section are the monthly NAV of 7 registered fixed income microfinance mutual funds. Data were obtained from Bloomberg and they are up-to-date per August 2009.

Table 1 describes the characteristics of 7 investment funds used in our study and for three of them we consider both EUR and USD asset class.

The assets of the investment funds included in the sample total US $1,166.10 million as of December 2008, representing 65% of the total value of assets managed by registered MIVs.

**Table 1**

<table>
<thead>
<tr>
<th>Fund Name</th>
<th>Country of Incorporation</th>
<th>Fund Assets (US$) as December-08</th>
<th>Currency Asset Class</th>
<th>Inception Date</th>
<th>Currency Asset Class (US$)</th>
<th>Inception Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dacia Microcredit Fund</td>
<td>Luxembourg</td>
<td>428.80</td>
<td>USD</td>
<td>September-08</td>
<td>EUR</td>
<td>April-03</td>
</tr>
<tr>
<td>responsAbility Global Microfinance Fund</td>
<td>Luxembourg</td>
<td>377.90</td>
<td>USD</td>
<td>November-03</td>
<td>EUR</td>
<td>January-03</td>
</tr>
<tr>
<td>responsAbility Microfinance Leaders Fund</td>
<td>Luxembourg</td>
<td>200.80</td>
<td>USD</td>
<td>November-06</td>
<td>EUR</td>
<td></td>
</tr>
<tr>
<td>Dual Return Fund - Vision Microfinance Sub-Fund</td>
<td>Luxembourg</td>
<td>115.50</td>
<td>EUR</td>
<td>April-06</td>
<td>USD</td>
<td>May-05</td>
</tr>
<tr>
<td>BBVA Credespa Microfinanzas</td>
<td>Spain</td>
<td>26.00</td>
<td>EUR</td>
<td>December-06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Honoré Microfinance Fund</td>
<td>Luxembourg</td>
<td>17.30</td>
<td>EUR</td>
<td>November-05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Assets** 1,166.10

*Table 1.* Source: Symbiotics: Luxembourg Microfinance Investment Vehicles (MIVs) Report #2, (December 31, 2008) and http://www.blueorchard.com,
The funds are tasted against the performance of benchmarks, which are particularly useful in evaluation mutual funds and to determine their relative performance.

The difficulty to define the asset class where microfinance belongs, it has lead to misleading and confusing conclusions about the performance of MIVs and it did not clearly identified a common benchmark\textsuperscript{42}.

The used of LIBOR+2% as main reference for the return of microfinance mutual fund has underestimated the risk profile of this investment and created confusion among commercial investor\textsuperscript{43}.

In particular, the London Interbank Offered Rate – plus the credit spread of the MFI – need to be used as reference of the interest rate at which microfinance institutions should borrow money, and it should not be used to explain the return of the microfinance fund\textsuperscript{44}.

Looking at the range of indexes actually available, MIVs have to be tested against an emerging market bond indexes in order to better reflect the risk profile of microfinance assets.

For our purposes we use the J.P. Morgan Emerging Market Bond Index (EMBI) Global, which has become the standard and the most used benchmark for emerging market bonds.

The Index tracks total returns for U.S. dollar denominated Brady bonds, debt loans, Eurobonds and local market instruments issued by emerging market sovereign and quasi-sovereign entities. It currently covers 33 emerging market countries.

In our analysis we also take into account some of the most used equity market indexes in order to compare performance and analyze correlations.


Those market indexes are the MSCI (Emerging Markets) Latin America Index, the MSCI Emerging Markets Index and the MSCI All Country World Index.

The MSCI (Emerging Markets) Latin America Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of emerging markets in Latin America. As of June 2007, the MSCI (Emerging Markets) Latin America Index consisted of 5 Latin American indices.

The MSCI Emerging Markets Index consists of 22 emerging market country indices, while the MSCI All Country World Index consists of 45 country indices comprising 23 developed and 22 emerging market country indices.

Moreover, we consider the UBS (Lux) Money Market fund, as money market fund and the HSBC Emerging Markets Bond Fund, as emerging markets bond mutual fund in addition to the J.P. Morgan EMBI Index prior mentioned.

Performance measures for managed portfolios: risk-adjusted return and the Sharpe Ratio

The risk-adjusted performance measurement is an important factor for fund investor when selecting fund managers, and for deciding on the way for compensating them.

Although introduced more than four decades ago, the Sharpe ratio (Sharpe 1966) remains the most commonly used measure of risk-adjusted performance of mutual funds.

According to the Modern Portfolio Theory developed by Markowitz in 1952 and the Capital Asset Pricing model developed by Sharpe in 1964 and Lintner in 1965, the portfolios with the highest Sharpe ratio are mean-variance efficient. In particular, in a return standard deviation space, any risk adverse investor would select those securities that offer greater return for the same risk or a lower risk for the same return.
In other words, they would select a portfolio along the straight line, which connects the risk-free asset and the market portfolio and the slope of this line represents the Sharpe Ratio\textsuperscript{45}. With the Share ratio, mean and variance are summarized in only one measure of reward-to-variability\textsuperscript{46}.

The impossibility to have the same holding period for all MIVs and indexes may lead to misleading conclusions. However the aim of this paper is to report and quantify some of the measurements already used in the financial industry and not yet applied in microfinance, and it wants to give an idea of the risk-reward profile of MIVs in relation of other well-knows indexes.

Table 3 shows the calculation of annualized return and standard deviation from a series of monthly net asset values. Column 1 is the annualized return and column 2 is the annualized return volatility of our sample of MIVs since their inception.

Table 3 show that MIVs have displayed on average positive return over the sample period. In particular, microfinance mutual fund have generated an annualized return ranging from 1.73 to 5.79, close to what the investor would have received from HSBC Emerging Markets Bond or from UBS Money Market Fund but lower than the return of J.P. Morgan Emerging Markets Bond Index.

However, returns alone do not tell the whole story and investor are concerned with the risk of the fund. Over a single period, the risk of an investment can be associated with the standard deviation, which measures the possible dispersion of the returns around their arithmetic mean. In finance the standard deviation is referred to as the volatility.

\textsuperscript{45} Edwin J. Elton, Martin J. Gruber, Stephen J. Brown, William N. Goetzmann, Modern Portfolio Theory and Investment Analysis, Seventh Edition

\textsuperscript{46} William F. Sharpe, The Sharpe Ratio, Stanford University, Fall 1994
Table 3

<table>
<thead>
<tr>
<th>Fund Name</th>
<th>Annualized Return</th>
<th>Annualized Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>ResponsAbility Microfinance Leaders Fund USD</td>
<td>5.39%</td>
<td>1.37%</td>
</tr>
<tr>
<td>Dexia Microcredit Fund USD</td>
<td>4.29%</td>
<td>0.96%</td>
</tr>
<tr>
<td>ResponsAbility Global Microfinance Fund USD</td>
<td>4.28%</td>
<td>1.21%</td>
</tr>
<tr>
<td>ResponsAbility Global Microfinance Fund EUR</td>
<td>4.17%</td>
<td>1.23%</td>
</tr>
<tr>
<td>Dexia Microcredit Fund EUR</td>
<td>3.57%</td>
<td>0.90%</td>
</tr>
<tr>
<td>BBVA Codespa Microfinanzas EUR</td>
<td>3.07%</td>
<td>0.04%</td>
</tr>
<tr>
<td>St. Honoré Microfinance Fund EUR</td>
<td>2.40%</td>
<td>0.63%</td>
</tr>
<tr>
<td>Dual Return Fund - Vision Microfinance Sub-Fund EUR</td>
<td>2.22%</td>
<td>0.37%</td>
</tr>
<tr>
<td>Dual Return Fund - Vision Microfinance Sub-Fund USD Liquidated (last NAV available 27 July 2009)</td>
<td>1.73%</td>
<td>3.63%</td>
</tr>
<tr>
<td>MSCI EM Latin America Standard Core USD (MSCI EM Latin America)</td>
<td>10.45%</td>
<td>31.01%</td>
</tr>
<tr>
<td>JPMorgan Emerging Market Bond Index (JPEICO)</td>
<td>8.61%</td>
<td>10.01%</td>
</tr>
<tr>
<td>MSCI EM (Emerging Markets) Standard Core EUR (MSCI EM10)</td>
<td>8.05%</td>
<td>24.16%</td>
</tr>
<tr>
<td>HSBC Emerging Markets Bond USD</td>
<td>4.27%</td>
<td>11.17%</td>
</tr>
<tr>
<td>UBS (LUX) Money Market Fund EUR</td>
<td>3.19%</td>
<td>0.70%</td>
</tr>
<tr>
<td>MSCI AC World Index Standard Core (MSCI AC_world)</td>
<td>1.45%</td>
<td>17.15%</td>
</tr>
</tbody>
</table>


Although MIVs assets are situated in emerging markets, which have experienced significant high volatility in recent years, MIVs appear to be less volatile and sensitive than other emerging market funds.

This low volatility is partially explained by the lack of a secondary market where MFI loans and equity are daily traded and the absence of a marked-to-market value reduce the sensitivity of the underline assets to market changes. This situation explains the low fluctuation of the microfinance mutual fund47.

In particular, for illiquid assets as debt and equity of MFIs, the NAV is influenced by the valuation model used to assess the value of those underline assets, which may not captured the market movements as if those asset were market-traded.

The consequence is a smoothed performance similar to those achieved in other fixed income investment and a low standard deviation.

Looking at the average total expense ratio, it decreased slightly from 2.7 percent to 2.2 percent during the last few years but it still remain relatively high comparing with the industry standard\textsuperscript{48}.

In particular, the small average MIV size does not allow synergies in terms of transaction cost and fiduciary reporting and analysis, and these relatively costly factors affect the gross return of the fund\textsuperscript{49}.

We now turn to an examination of whether microfinance offer a reasonable risk-adjusted return and we apply the Sharpe ratio to the Dexia Microcredit Fund USD, which is the registered MIV with the longest time series, starting in 1998 and which shows an annualized return of 4.29\%, and the Dual Return Fund - Vision Microfinance Sub-Fund USD, which shows the lowest annualized return since inception.

In addition, we apply the ratio to those indexes and other funds indicated previously.

Since Sharpe ratio is affected by time horizon, we compute 3 years Sharpe Ratio. It is calculated over 36-month periods ending on August 2009.

Table 4 shows the results.

Column 1 is the 3 years annualized return and column 2 is the 3 years annualized standard deviation. Column 3 is the Sharpe ratio, the return divided by standard deviation and assuming the risk-free rate equal to zero.

\textsuperscript{48} Xavier Reille, Jasmina Glisovic-Mezieres, and Yannis Berthouzoz, with Damian Milverton, CGAP, MIV Performance and Prospects: Highlights from the CGAP 2009 MIV Benchmark Survey, 2009

Table 4

<table>
<thead>
<tr>
<th>Fund Name</th>
<th>Last 3 year Annualized Return</th>
<th>Last 3 year Annualized Std Dev</th>
<th>Sharpe Ratio (Rf=0%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBS (LUX) Money Market Fund EUR</td>
<td>3.06%</td>
<td>0.19%</td>
<td>16.2811</td>
</tr>
<tr>
<td>Dexia Microcredit Fund USD</td>
<td>5.36%</td>
<td>1.49%</td>
<td>3.6022</td>
</tr>
<tr>
<td>JP Morgan Emerging Market Bond Index (JPEICORE)</td>
<td>5.48%</td>
<td>9.41%</td>
<td>0.5618</td>
</tr>
<tr>
<td>Dual Return Fund - Vision Microfinance Sub-Fund USD Liquidated (last NAV available 27 July 2009)</td>
<td>2.47%</td>
<td>4.34%</td>
<td>0.5699</td>
</tr>
<tr>
<td>MSCI EM Latin America Standard Core USD (MSCI EM Latin America)</td>
<td>6.03%</td>
<td>33.27%</td>
<td>0.1812</td>
</tr>
<tr>
<td>HSBC Emerging Markets Bond USD</td>
<td>0.36%</td>
<td>9.07%</td>
<td>0.0392</td>
</tr>
<tr>
<td>MSCI EM (Emerging Markets) Standard Core EUR (MSCI EM10)</td>
<td>-3.35%</td>
<td>25.73%</td>
<td>-0.1301</td>
</tr>
<tr>
<td>MSCI AC World Index Standard Core (MSCI ac_world)</td>
<td>-6.99%</td>
<td>20.92%</td>
<td>-0.334</td>
</tr>
</tbody>
</table>

The Dexia Microcredit Fund shows a 3 years standard deviation of 1.49% and 3 years annualized return of 5.36% corresponding to a 3 years Sharpe ratio (risk-free=0) of 3.60.

For comparison, the J.P. Morgan Emerging Markets Bond Index has a lower 3-year Sharpe ratio of 0.58 due to the higher standard deviation showed during the same period.

However, as mentioned before, return of microfinance mutual funds are smoothed because of no actively traded microfinance debt instruments and, according to Getmansky, Lo and Makarov, illiquidity and smoothed returns can cause an upward bias for observed returns and a downward bias for standard deviation. Consequently, smoothed returns increase risk-adjusted performance measures such as the Sharpe ratio\(^{50}\).

Figure 2 highlights the risk-reward position of MIVs compared to the investment universe.

The risk-reward position of MIVs is much closer to those of money market funds than emerging markets bonds funds and microfinance provides an attractive risk-rewards trade-off due to the good performance recorded during last 3 years.

However, it is important to notice three years data are widely affected by the latest financial crisis and they might not represent properly the risk-profile of the others asset classes.

Another aspect to stress is that the Sharpe ratio does not take into account correlation and how the return of a specific mutual fund is related with the return of pre-existing investment portfolio or with the return of predefined Benchmark\(^51\).

In such cases, information regarding correlation should be added in order to have more insight of how the fund’s return reacts with other asset’s return\(^52\).

However, in order to better understand our results, we show in the same graph the historical performance of the MSCI AC World Index, the JP Morgan Emerging Markets Bond Index and the Dexia Microcredit Fund USD, which has the longest time series among all registered MIVs.

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51 William F. Sharpe, The Sharpe Ratio, Stanford University, Fall 1994
52 William F. Sharpe, The Sharpe Ratio, Stanford University, Fall 1994
Figure 3 shows that during most of the period (1998-2009), the Dexia Microcredit Fund outperformed the MSCI AC World Index, especially during the financial crisis in 2007, but it considerably underperformed the JP Morgan EMBI.

Emerging Markets Bonds has tripled the returns of Equity market and Microfinance Debt Fund over the September 1998 to August 2009 period.

Figure 3

Source: Bloomberg

Chapter 4 – Risk premium and ethical investor

How can we explain the difference on spread between emerging markets bond funds and microfinance mutual funds?

MFI investments are characterized by a dual return profile, i.e., social and financial returns, and microfinance investors need to be concerned with three primary sources of risk.

First of all, MIVs are illiquid instruments and they are not listed on a regulated market. In particular, looking at the MIV’s asset, most of bonds issued from MFI are illiquid and the bond structure needs to be properly modeled in order to capture the interest rate sensitivities
The second risk is currency risk as many debt instruments are issued in local currencies and the rate of the dollar versus that currency can positively or negatively affect the yield of those instruments. The third type of risk is sovereign, or country risk.

Defining the risk premium as the difference between the risk free rate and expected returns on the market, a logical question to ask is how the fund manager explains the differences between the return on microfinance mutual fund and the return on emerging markets bond funds.

In order to answer to that question we use the historical premium approach. In this case the actual returns earned on a specific asset class over a long time period is estimated, and compared to the actual returns earned on a risk free asset and the difference between the two returns represents the historical risk premium.

We first calculate the bond risk premium in emerging markets as the difference between the yield on the JP Morgan EMBI and the yield on U.S. Treasury Notes and after we calculate the risk premium on microfinance mutual fund as the difference between Dexia Microcredit Fund USD and the return on the risk-free asset.

The 10 year U.S. Treasury Notes rate is widely used and accepted proxy for the risk-free rate and the average 10 Year Treasury Rate over the last 10 years from 1998 to 2008 was 4,74%53.

Annualized return of the JP Morgan EMBI since 31st December 1997 is 9,63% and when compared to the Treasury bond rate of 4,74% it results in a risk premium of 4,89%.

Due to the fact that the Dexia microcredit fund invests in debt instruments of up to 3 years in maturity issued by microfinance institutions (MFIs) located in Africa, Asia, Eastern and Central Europe and Latin America54, we use as proxy of risk-free rate the 3 year U.S. Treasury Notes.

Similarly, the annualized return of the Dexia Microcredit Fund since September 1998 is 4,29% and when compared to the average 3 Year U.S.

53 Federal Reserve: Source: http://www.federalreserve.gov/releases/H15/data.htm
54 Dexia Micro-Credit Fund, November 2009 Investors’ Update, www.blueorchard.com
Treasury Rate of 4.02%, over the last 10 years from 1998 to 2008\textsuperscript{55}, it results in a risk premium of only 0.27%.

In average, a microfinance investor earns 0.27% on 3 year U.S. Treasury Notes and it is far for the premium required from any investor exposed to emerging markets, who should require a risk premium of at least 4.89% for emerging markets bond.

If we also consider the specific risk of investing in MFI, we should add in average 1% or 2% more as risk premium.

This significant difference in return shows that investors are giving away part of return and this sacrifice should be compensated by the social benefits achieved from having socially responsible investments.

In this context, social performance should be clearly assessed and portfolio managers should explain how social and financial performances are balanced in the fund and which impacts the fund has on the local communities.

This important information must be disclosed in term of “rate of return” in order to avoid that poor performance are hidden though undefined and vague social goals\textsuperscript{56}.

Basically, this loss of more 400bp is the price paid by the investor for a “sustainable” and “fair” investment.

**Ethical Investor and theory of choice**

Traditional performance measurements of mutual funds do not allow taking into account ethical aspects. In particular, the Sharpe ratio (Sharpe, 1966), and the Treynor Ratio (Treynor, 1965) are computed as ratios between the expected excess return and a risk indicator and cannot consider additional features.

Most portfolio selection models rest on the assumption that rational investors maximize their expected utility over a predefined time horizon. They also assume that all investors are risk-adverse and the expected utility

\textsuperscript{55} Federal Reserve: Source: http://www.federalreserve.gov/releases/H15/data.htm

is positively related to the return on a portfolio and negatively related to the risk taken. However, microfinance investors are also attracted by the social performance of investing in microfinance.

The utility function of this type of investor should take into account return and social performance at the same time and the utility gains - of investing in microfinance - are a function of the benefits created by positioning the investors as socially responsible citizens.

Of course, the investor preference are related to the portfolio size and individuals or families with high net worth (HNWI) have more opportunities to improve diversification by allocating resources to emerging markets and investing to less liquid securities sometimes even due to less regulatory constraints.

In particular, most registered mutual funds can only be offered on a private placement basis and they are not available to the mass of retail clients yet\textsuperscript{57}.

HNWI, in addition with institutional investor, are also more sensitive to Social Responsible Investments due to marketing benefits that this type of investors can enhance\textsuperscript{58}.

Those investors are the investor target for microfinance and we have no doubt that also retail investor will become a target as soon as microfinance is established as an asset class and fiduciary practices improved.

\textbf{Chapter 5 – Betas and Correlations}

\textbf{Regression analysis: Fitting a line}

So far, we studied an isolated single variable, but now we want to look at how one variable is related to other variables. In particular we are interested in analyzing the sensitivity of MIV’s returns to market’s returns.

Krauss and Walter analyzed correlation of MFIs to domestic and international markets. They used the MIX market accounting data and they

\textsuperscript{57} Raimar Dieckmann, Microfinance: An emerging investment opportunity, Deutsche Bank Research, December 2007

conducted an empirical analysis of 325 MFIs by using accounting beta, as MFIs are typically not mark-to-market valued. Their calculations show low sensitivity of MFIs with global capital markets, comparing with the leading emerging market institution, and higher correlation with the domestic markets\(^{59}\).

Gonzales analyzes how changes in domestic GNI per capita affect MFI portfolio risk and he concludes that loan portfolio of MFIs is not significantly correlated and is resilient to national macroeconomic shocks. He concludes that microfinance can improve portfolio diversification\(^{60}\).

Differently to those previous papers, we analyze betas of MIVs instead of microfinance institutions and we use market data of MIVs, which are forward looking and contain more information than accounting data, which are backward looking.

In order to analyze the sensitivity of MIVs to market movements, we calculate the historical market beta and we regress the returns of microcredit funds against the return of specific benchmark indexes through a simple regression analysis. A fund that moves in harmony with the market is said to have a beta of 1.0, while a fund with a beta lower or higher than one, it is supposed to move less or more than the market in general.

Calculations of betas are reported in table 5

Most regression coefficients obtained are rather low and these results seem to indicate that investing in microfinance can reduce the exposure of a portfolio to international markets. In particular, the results of table 5 show low and negative beta with the three equity indexes and a slightly higher beta with the J.P. Morgan Emerging Market Bond Index.

It is important to note that betas illustrate the effect of a specific security on a well-diversified portfolio and a low beta does not necessarily mean low risk. It simply means low exposure to the market and that the risk carried

\(^{59}\) Nicola Krauss and Ingo Walter, Can microfinance reduce portfolio Volatility? SSRN working paper no. 943786 (2008)

\(^{60}\) Adrian Gonzalez– Resilience of Microfinance Institutions to National Macroeconomic Events: An Econometric analysis of MFI asset quality- July 2007)
by the fund is not coming from market movements. Conversely, the fund can be very risky in terms of specific risk.

Table 5

<table>
<thead>
<tr>
<th>Fund Name / Indexes</th>
<th>MSCI EM Latin America Index</th>
<th>MSCI EM Index</th>
<th>MSCI ACWI Index</th>
<th>J.P. EMBI Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBVA Codesa Microfinanzas</td>
<td>0.101</td>
<td>0.087</td>
<td>0.138</td>
<td>0.103</td>
</tr>
<tr>
<td>Dexia Microcredit Fund USD</td>
<td>-0.097</td>
<td>-0.213</td>
<td>-0.175</td>
<td>0.042</td>
</tr>
<tr>
<td>Dexia Microcredit Fund EUR</td>
<td>0.116</td>
<td>0.206</td>
<td>0.224</td>
<td>0.341</td>
</tr>
<tr>
<td>Dual Return Fund - Vision Microfinance Sub-Fund EUR</td>
<td>0.204</td>
<td>0.310</td>
<td>0.347</td>
<td>0.712</td>
</tr>
<tr>
<td>responsAbility Global Microfinance Fund USD</td>
<td>-0.120</td>
<td>-0.221</td>
<td>-0.095</td>
<td>0.299</td>
</tr>
<tr>
<td>responsAbility Global Microfinance Fund EUR</td>
<td>0.160</td>
<td>0.270</td>
<td>0.292</td>
<td>0.503</td>
</tr>
<tr>
<td>responsAbility Microfinance Leaders Fund</td>
<td>-0.130</td>
<td>-0.227</td>
<td>-0.105</td>
<td>0.297</td>
</tr>
<tr>
<td>St. Honore Microfinance Fund</td>
<td>0.204</td>
<td>0.310</td>
<td>0.347</td>
<td>0.712</td>
</tr>
</tbody>
</table>

**TABLE 5** Note: All data are since 31st August 2006 until 31st August 2009 except for the BBVA Codesa Microfinanzas with monthly NAV since 1st December 2006 and ResponsAbility Microfinance Leaders Fund with monthly data since 15th November 2006.

Overall, investing in MIVs can positively affect a well-diversified portfolio where specific risk is diversified away by adding more securities to the portfolio. Conversely, adding a microfinance mutual fund in a not diversified portfolio may not create the same benefits.

Tracking error quantifies the degree to which the performance of the fund differs from that of its benchmark and the lower the tracking error, the more the fund resembles its benchmark’s risk and return characteristics.

Table 6 illustrates the tracking errors of previous calculations and they are relatively high because of the divergence of MIVs’s return from the benchmark return.

There are different ways the standard error can be reduced and one of those is by increasing number of observations, which it is not possible at the moment due to relative short holding period of MIVs.

In particular, we use 3 years data until August 2009 and due to the fact that only monthly market prices are published by registered MIVs, the number of points may be insufficient for an accurate regression analysis.
Low correlations during crisis

In the prior chapters, we used historical market data in order to compute and analysis return and standard deviation, but obviously past performance may not be indicative of future results. Nevertheless, historical market data are also used to compute historical market betas, as shown in the previous analysis, and historical correlation, which are good expectations of future correlation.

Correlation refers to the extent to which performance of a specific asset class move in relation to that of another asset class or market index. The lower the correlation among different assets in a portfolio, the greater the diversification, which means lower volatility of returns.

In regression analysis the whole regression equation is estimated, instead correlation yields a single number that gives an immediate picture of how two variables are related. Although correlation is a less powerful technique than regression, it became a useful tool to interpret regression analysis.

Table 7 presents Correlation of 8 different MIVs against 4 Benchmarks indexes.
As one might expect, MIVs are weakly correlated with global financial markets and these low correlation suggest that investing in MIVs can enhance diversification of a portfolio of shares and bonds.

It is important to notice that correlations are computed over the last 3 years, since August 2006 until August 2009, therefore during the subprime crisis in June 2007 and the recession in 2008.

There are evidences that cross-country correlations in returns increase during crisis times relative to correlations during normal times, jumping to a level close to 1. The 2008 crisis was unique in its speed: correlations rose sharply and diversification provided no crash protection.

Nevertheless, microfinance investment vehicles have proved to be low correlated with general stock market and interest rates fluctuations even during this last financial crisis and they have been not too affected by the stock market crash. The results suggest that investing in microfinance can offer protection during global turmoil.

However, it is expected that correlation of returns will increase over time; the more the microfinance sector is integrated in the domestic economy.\footnote{Raimar Dieckmann, Microfinance: An emerging investment opportunity, Deutsche Bank Research, December 2007}
Chapter 6 – Are we moving towards a micro-bubble?

The subprime mortgage crisis can be attributed to a number of factors such as the inability of borrowers to repay their mortgage installments and predatory lending.

In addition, securitization enabled banks to sell the mortgages and distribute credit risk through complex financial products. Microfinance certainly contains some of those factors, including loans made to borrowers with little or no income and equity.

In particular, commercial investors are increasing funding of microfinance institutions and this exuberance of resources can reduce the portfolio quality of MFIs and consequently increase the threat of MFI failures.

Once we expand microcredit from a small village to the general society, the probability of a domino default increased and according to Prof. Morduch, there will likely be some big microfinance failures in some place but they will be localized bubbles and there are not still evidences that there will be a global bubble62.

However, even localized “micro bubbles” can have disastrous effects due to the highly concentration of MFIs industry. In particular, table 8 show the combined failure of the biggest 10 MFIs would directly or indirectly affect more than 27 million of borrowers and a gross loan portfolio of 7 billion USD.

Table 7

<table>
<thead>
<tr>
<th>Rank</th>
<th>MFI</th>
<th>Country</th>
<th>Number of active borrowers</th>
<th>Gross loan portfolio USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Grameen Bank</td>
<td>Bangladesh</td>
<td>6,287,000</td>
<td>482,104,480</td>
</tr>
<tr>
<td>2</td>
<td>ASA</td>
<td>Bangladesh</td>
<td>5,163,279</td>
<td>305,268,840</td>
</tr>
<tr>
<td>3</td>
<td>VBSP</td>
<td>Vietnam</td>
<td>4,695,986</td>
<td>1,149,165,032</td>
</tr>
<tr>
<td>4</td>
<td>BRAC</td>
<td>Bangladesh</td>
<td>4,550,025</td>
<td>350,100,012</td>
</tr>
<tr>
<td>5</td>
<td>BRI</td>
<td>Indonesia</td>
<td>3,455,894</td>
<td>3,035,699,100</td>
</tr>
<tr>
<td>6</td>
<td>Spandana</td>
<td>India</td>
<td>972,212</td>
<td>89,837,686</td>
</tr>
<tr>
<td>7</td>
<td>SHARE</td>
<td>India</td>
<td>826,517</td>
<td>91,683,453</td>
</tr>
<tr>
<td>8</td>
<td>Caja Popular Mexicana</td>
<td>Mexico</td>
<td>643,659</td>
<td>941,664,645</td>
</tr>
<tr>
<td>9</td>
<td>Compartamos</td>
<td>Mexico</td>
<td>616,528</td>
<td>271,098,542</td>
</tr>
<tr>
<td>10</td>
<td>BANTRA</td>
<td>Peru</td>
<td>563,805</td>
<td>345,920,510</td>
</tr>
</tbody>
</table>

Total 27,775,735 7,062,589,400

Source: Deutsche Bank Research, Microfinance: an emerging investment opportunity, December 2007

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62 The economist, Froth at the bottom of the pyramid, Aug 25th 2009
The tragedy here is that the victims would be far poorer and far more desperate than the sub-prime borrowers in the US and we must avoid that microfinance follows the evolution of subprime industry.

Chapter 7 – Conclusion and Further research.

We highlighted some topics and areas of future research. Because of constraints on time and space, we ignored the impact of microfinance investment vehicles to borrowers and at what extent the increase of funding sources of MFIs can produce benefit to poor people.

However, the study shows that improving fiduciary practices of microfinance mutual funds, together with the booming of socially responsible investment market, creates a new investment opportunity for those investors who seek a reasonable risk adjusted return, a low international exposure and a high emphasis on social ethic aspects.

Consistent with prior microfinance literature, MIVs exhibit very low correlations to global markets and the study suggests that investment in MIVs can positively affect a well-diversified portfolio in term of risk and return. However, due to the relative high specific risk of microfinance, adding a microfinance mutual fund in a not diversified portfolio may not create the same benefits.

Our results show that MIVs underperform the J.P. Morgan Emerging Market Bond Index in terms of rate of return and that microfinance investors are giving away part of their return. This sacrifice should be compensated by the social benefits achieved from having socially responsible investments.

All these results help in understanding the financial performance of MIVs, but additional work remains to be done with respect to the social performance of these investment vehicles. In particular, further researches, with the use of markets data, are strongly needed in order to assess the social performance and to avoid that poor performance are hidden though undefined social achievements. Moreover, new market analysis needs to capture any possible changes in the evolution of this fast growing market and anticipating the creation of localized micro bubbles.
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