

# Does Commercial Microfinance Belong to the Financial Sector? Lessons from the Stock Market

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**Summary.** — This paper is the first to draw a global picture of worldwide microfinance equity by taking full advantage of daily quoted prices. We revisit previous findings showing that investors should consider microfinance as a self-standing sector. Our results are three-fold. First, microfinance has become less risky and more closely correlated with the financial sector. This convergence might be followed by a decline in the proportion of women borrowers. Second, microfinance and finance shares have equivalent currency exposure. Last, introducing a self-standing microfinance sector presents few diversification benefits. This paper confirms that microfinance has changed dramatically during the last decade.

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## 1. INTRODUCTION

The microfinance industry offers attractive opportunities to investors who want to help alleviate poverty in developing countries. Furthermore, microfinance is often perceived as different from conventional finance. It is thought to be riskier because borrowers generally have no collateral and little or no credit history to underpin a precise assessment of their credit risk. Despite this, investing in microfinance is also viewed as a way of diversifying from international markets in general and the conventional financial sector in particular (Di Bella, 2011; Galema, Lensink, & Spierdijk, 2011; Gonzalez, 2007; Krauss & Walter, 2009). This diversification effect stems from the special nature of microfinance institutions, which are driven by a double bottom-line (social and financial), and from the fact that they are less leveraged than traditional financial institutions. By scrutinizing the most recent trends of this rapidly evolving industry, this paper aims to check whether investors still need to consider microfinance as a self-standing sector. To this end, it examines both the risk factors associated with microfinance and the diversification benefits of microfinance investment.

Microfinance has changed dramatically during the last decade, moving from a universe of donor-financed NGOs toward a widely disparate industry (Mersland, 2009), including a growing number of commercial banks. Simultaneously, socially responsible investments have gained momentum on financial markets. We assess the impact of microfinance equity on globally diversified portfolios by using the classical tools of portfolio analysis. For that purpose, we construct original microfinance country indices, analyze their movements, and assess them in reference to comparable indices for the financial sector and to national indices. We also take international equity indices into consideration.<sup>1</sup> Our findings show that although the microfinance sector has definitely moved closer to conventional finance, the risk-return trade-off has also changed.<sup>2</sup> Microfinance equity is now less risky than before, but it is also much more closely correlated with the financial

sector, and yields fewer diversification benefits. We conclude that microfinance can reasonably be considered as part of the financial sector.

Two types of public investments in microfinance are currently available: Microfinance Investment Vehicles (MIVs)<sup>3</sup> and listed equity of Microfinance Institutions (MFIs). For reasons of data availability, this paper concentrates on listed MFIs. Arguably, microfinance equity is not representative of the whole sector.<sup>4</sup> However, while confined to a relatively small number of assets, microfinance equity has the considerable advantage over MIVs of being publicly priced daily on stock exchanges. This makes it more transparent and allows for deeper financial analysis. Conversely, MIVs invest in several MFIs mainly through loans, but the content of their portfolios is often opaque,<sup>5</sup> making it difficult for outsiders to assess the actual level of risk.

The microfinance sector has experienced successful initial public offerings (IPOs) such as the highly publicized flotation of Banco Compartamos in Mexico in 2007. These IPOs have nevertheless been criticized by influential players, including Nobel Prize winner Muhammad Yunus, who views the Compartamos IPO as mission drift<sup>6</sup> that compromises the sector's reputation (see Ashta & Hudon, 2012, for a detailed discussion). Leaving ethical and mission-based considerations aside, this paper is the first, to our knowledge, to start from observable returns of publicly traded MFIs. From a portfolio perspective, these returns are to be judged not only on a case-by-case basis but also in regard to their correlation with other assets.

Previous work has already investigated the financial properties of microfinance investment. However, because of data availability issues, authors are bound to use figures extracted from annual accounting statements provided by the Microfinance Information Exchange (MixMarket) rather than high-frequency market data. This significantly limits the relevance of their results for mainstream investors. From this

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perspective, Krauss and Walter (2009) present evidence that, over the period 1998–2006, including microfinance in global portfolios reduced overall portfolio volatility, but that the same result did not hold for domestic investors. Using MixMarket data for the period 1997–2007, Galema *et al.* (2011) apply the spanning test methodology proposed by De Roon, Nijman, and Werker (2001), and confirm that investment in microfinance is beneficial in terms of portfolio diversification. O'Donohoe *et al.* (2009) were the first to compare the performances of listed MFIs with those of financial indices. Their results are twofold. First, over the 2003–08 period, the listed MFIs outperformed banks worldwide. Second, the financial ratios of Mexican listed MFIs did converge toward those of their domestic banks. In this paper, we construct microfinance country equity indices and an international Global Microfinance Index (GMI). We analyze the changes in these indices, assessing them in reference to comparable indices for the financial sector and also to national indices. Our findings show that microfinance has been closely correlated with the financial sector since 2003. Evidence suggests that the gradual integration of microfinance stocks into mainstream finance might be followed by a decline in the proportion of female borrowers. In terms of risk exposure, estimates of the Capital Asset Pricing Model (CAPM) demonstrate that microfinance shares exhibit higher market beta than those of conventional financial institutions and have equivalent currency exposure. We then turn to spanning tests and show that introducing a self-standing microfinance sector presents little interest regarding banking sector diversification in emerging countries.

The remainder of the paper is structured as follows. Section 2 describes the database and methodology. In Section 3, we study the joint movements of the finance and microfinance indices. In Section 4, we analyze microfinance risk exposures by estimating both a local CAPM including the foreign-exchange factor and an international four-factor model. Section 5 assesses the diversification benefits of microfinance stocks. Section 6 concludes.

## 2. DATA AND METHODOLOGY

We consider the complete universe of listed MFIs.<sup>7</sup> This exhaustive approach is a real advance over the existing literature because the securities in question are the only assets that allow investors attracted by the microfinance sector to gain direct access to the capital of MFIs. The alternative, MIVs, concentrates primarily on loans to MFIs (Reille, Glisovic-Mezieres, Berthouzoz, & Milverton, 2009), and the choice of institutions benefiting from them is often unclear.

Three MFIs are quoted in South Africa: African Bank (the oldest quoted MFI, since January 1990), Blue Financial Services (BFS), and Capitec; one in Kenya: Equity; two in Indonesia: Danamon (also one of pioneering quoted MFI, since April 1990) and Bank Rakyat Indonesia (BRI); one in Bangladesh: Brac; and two in Mexico: Compartamos and Financiera Independencia (FI).

Given the small number of listed MFIs, it is important to understand how they compare to the universe of MFIs in the developing world. MFIs are hybrid institutions driven by both financial and social motives. Acknowledging this double-bottom-line specificity, Table 1 successively reports not only financial characteristics (return on equity, return on assets, operational self-sufficiency (OSS),<sup>8</sup> and debt-to-equity ratio), but also social ones (average loan size, interest rates charged on loans, and share of female borrowers). The

non-listed MFIs are broken down into statutory categories according to the classification proposed by the Microfinance Information Exchange, Inc. (MixMarket).<sup>9</sup>

Regarding financial characteristics, Table 1 shows that listed MFIs are among the most profitable MFIs, although most differences are not statistically different because the microfinance industry is highly heterogeneous, which implies significant dispersion of financial indicators. The relatively high profitability of listed MFIs is especially apparent in OSS values. Two factors concur to explain this outcome. First, IPOs impose changes in firms' capital structure. As pointed out by Cull, Demirgüç-Kunt, and Morduch (2011), complying with regulations affects the characteristics of microfinance institutions. Second, many non-listed MFIs still rely on subsidies, which may hinder financial performance. Bogan (2012) points out that long-term use of grants perpetuates inefficiencies by insulating MFIs from competitive pressure. In contrast, listed firms are exposed to competition, as they need to attract market funding.<sup>10</sup>

The social performances reported in Table 1 are summarized by three indicators widely used in microfinance: average loan size, measured by the average loan balance per borrower scaled by GNI per capita; the interest rate charged on loans, proxied by the nominal yield on gross portfolio; and the share of female borrowers.<sup>11</sup>

Listed MFIs exhibit average loan sizes in a range comparable to those of their non-listed counterparts. In contrast, the interest rates charged by listed MFIs (above 50% a year on average) are higher, although not significantly so, than those charged by non-listed MFIs (between 24% and 38% a year on average). The high level of interest rates charged to poor borrowers is a controversial issue in microfinance, especially from an ethical standpoint (Hudon, 2007). Practitioners argue that high interest rates are inevitable without subsidization, mainly because the operational costs associated with managing small loans are high (Fernando, 2006). Strikingly, listed MFIs serve 78% of female borrowers on average, which places them slightly above their non-listed counterparts (from 50% to 76%). Again, the differences are hardly significant. Overall, the social performances of listed MFIs do not depart from those of the rest of the industry. This is a promising sign for the future of microfinance, as commercialization currently represents a strong trend in the industry (Bogan, 2012) and new IPOs are to be expected in the near future.

Listed MFIs represent less than 0.1% of world market capitalization. Relative to their domestic market, however, most microfinance stocks are far from negligible. To get a clear picture, Table 2 reports data on market capitalizations for all finance and microfinance stocks in our dataset, as well as the shares of their countries in the world's emerging stock markets. All market capitalizations are computed from Morgan Stanley Capital International (MSCI) indices. In the countries where microfinance has listed stocks, we give the capitalization of these stocks with respect to both their domestic finance-plus-microfinance (F + MF) sector (Table 2, column 5), and their domestic equity market (Table 2, column 6). In most cases, the market shares of microfinance stocks are comparable to those of mainstream financial stocks. This is especially relevant for Kenya, where Equity Bank dominates the F + MF sector (31%) and accounts for a notable 14% of the domestic stock market. To obtain a scaling perspective, Table 2 also provides the market shares of the countries at stake in F + MF sectors in the worldwide emerging-finance sector (column 7), and in the emerging-market universe (column 8). Together, the five countries under scrutiny account

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