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"THE MORE PROFITABLE THE LESS SOCIAL? A MISSION DRIFT ANALYSIS"

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The More Profitable The Less Social? A Mission Drift Analysis

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Abstract

MFIs are said to have a double bottom line to measure their performance. Microfinance institutions are supposed not only to achieve good financial results but in addition to comply with a strong social goal, serving poor clients. The effective ability of microfinance to alleviate poverty and foster economic and social development has been hardly debated over the last years. The renewed crisis of the sector and new and accurate impact evaluations (Banerjee et al., 2014; Karlan and Zinman, 2011) have cast a shadow over the seeming miracle of microfinance. The result of the crisis has been a higher skepticism in the sector and the production of several studies trying to detect when microfinance can generate the expected result, when it can't and the reasons behind this failure. In this big debate an increasing number of authors has expressed their worries about a change in the sector social mission. In the present article will be presented the views of different authors claiming that this change in the sector's structure is pushing MFIs to crowd out the poorest clients. We will go through the results exposed until now in the literature on the existence of mission drift and on its relation with an eventual trade-off between outreach and profitability. We will compare different results and try to put together some common conclusions. Moreover, we will use MixMarket data to study the evolution in time of different measures of outreach, cost and revenues.

Contents

Introduction

In 2006 the Norwegian Nobel Committee awarded the creator of Grameen Bank Muhammad Yunus with the Nobel Peace Prize, affirming that "Yunus and Grameen Bank have shown that even the poorest of the poor can work to bring about their own development" (Nobelprize.org, 2006). Eight years later the effective ability of microfinance to alleviate poverty and foster economic and social development it's hardly debated. The renewed crisis of the sector and new and accurate impact evaluations (Banerjee et al., 2014; Karlan and Zinman, 2011) have cast a shadow over the seeming miracle of microfinance. The result of the crisis has been a higher skepticism in the sector. researchers have produced different studies in the last 20 years trying to detect when the microfinance produce the expected result, when it doesn't and the reasons behind. In this big debate an increasing number of authors has expressed their worries about change in the social mission in the sector (**?**), a problem termed as mission-drift. An increasing percentage of MFIs are becoming regulated shifting to a commercial bank status. Institutions that were born as NGOs have become profit entities and the sector is progressively attracting more private capital rather than public funds or donations. In the present article will be presented the views of different authors claiming that this change in the sector's structure is pushing MFIs to crowd out the poorest clients. We will go through the results exposed until now in the literature on the existence of mission drift and on its relation with an eventual trade-off between outreach and profitability. We will compare different results and try to put together some common conclusions. Moreover, we will use MixMarket data to study the evolution in time of different measures of outreach, cost and revenues. Exploring further these topics is fundamental for their implication in the governance of the sector. The existence of a trade-off would be an important element to be taken into account in order to establish whether to set a limit to the commercialization of the institutions. Moreover the existence of mission drift would detect the need of a more accurate allocation of public funds and donations between the different MFIs.

In what follows, section 1 will briefly and discuss the issue of the trade-off between outreach and sustainability; section 2 will focus on the definition and measurement of mission drift; section 3 will discuss the different approaches to the topic of outreach; while section 4 will present our comparative analysis. Finally section 5 will sum up and conclude.

1 Sustainability versus outreach. Is there a trade-off?

"Commercial microfinance matters in the eyes of the poor because it means there is an industry. [...] For the first time the poor can envision that every family that needs microfinance, and can progress through microfinance, will one day get it. That is how powerful commercial microfinance is." *Michael Chu, Founder of Banco Compartamos.* [1]

"You cannot have both a social and a commercial mission – the two conflict. When institutions with a social mission move towards a commercial mission, the commercial mission will take over and the social mission will get lost." *Muhammad Yunus, Founder of Grameen Bank.* [2]

Microfinance can be defined as the provision of financial services to poor people in a sustainable way. This apparently simple definition contains the two terms that are central in one of the most debated topic in microfinance: poor and sustainability. The statements by Yunus and Chu clearly show the existence of two different and apparently incompatible views about which strategy and objective a microfinance institution should pursue. Without entering the debate on commercialization, their words highlight the belief, respectively, in the total compatibility and incompatibility of seeking profits and serving the poorest at the same time.

As explained by Rhyne (1998) with a fitting mathematic analogy, for those believing in the so-called *mathematician's view* microfinance has to deal with a problem of dual maximization. According to this view, every institution that faces the simultaneous problem of reaching the poor and achieving financial sustainability, will be able to maximize just one of those two objectives, while the other will be treated as a constraint. In other words, the institution copes with a trade-off between its two purposes. Those who believe in the *complementarity view*, instead, consider poverty ad sustainability as "the yin and yang of microfinance". Sustainability, in this case, is seen as a necessary condition for outreach. Only those institutions that can prove to be profitable and financially solid will be able to attract an amount of investments sufficient to reach a higher number of clients. As stressed by Morduch (2000) those who believe in the so-called "win-win proposition" rely on the assumption that poor clients need access to credit, not access to cheap credit. By charging high but affordable interest rates the institution will grow, become independent from donations and subsidies and thus serve an increasing number of poor people. Rhyne concludes her analysis stressing three fundamental points. That for a microfinance institution sustainability *per se* always has to be a tool and not a goal. That the debate eventually reduces to the weight assigned to the very poor with respect to the less poor ones. And that the limited empirical sources on the topic do not allow to reach any final conclusion.

Morduch' s position in somehow less neutral. He ascribes the lack of discussion, innovation and scientific research exactly to the the win-win hypothesis and its too enthusiastic undertaking by microfinance practitioners. Moreover the author emphasizes that large-breath programs are not necessarily better for poverty reduction than smaller but more targeted ones.

On the contrary, a strong pro-sustainability approach is taken by the social anthropologist and microfinance expert Marguerite S. Robinson in her classical analysis of the microfinance universe (Robinson, 2001). According to her view, the *financial systems approach*, relying on best practice examples and commercially financed portfolios, will enable the MFI to leverage additional capital and multiply its outreach. As such, it is "the only possible means to meet widespread client demand for convenient, appropriate financial services" (*Ibid.*, p.22). The

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[1]WMFG (2008)

[2]*Ibid.*

poverty lending approach, instead, is seen by the author as donor-dependent and unable to appropriately meet the existing demand for financial services.

Leaving discussion aside, which of these three authors shall we believe? Is there in effect a problem of choice? Or in reverse is just pursuing high profits that an MFI can fulfill its social mission? Fortunately more recent years have seen the flourish of different empirical studies that have shaded light on this dilemma.

The next paragraph will briefly present the most relevant ones along with their main findings.

1.1   The empirical front

Even though from 2000 the scientific relevance of the trade-off debate has surely increased, the number of researches focused on the topic is still limited. Nonetheless, in June 2011 *World Development*, the top journal for development economics, has dedicated a special issue to "Microfinance: Its Impact, Outreach, and Sustainability", presenting the most important results on the topic. In particular, the two works by Cull et al. (2011) Hermes et al. (2011b), using different datasets and time frames, provide both evidence of the existence of a trade-off between sustainability and outreach. Hermes, Lensink, and Meesters investigate the relationship between outreach and efficiency. The authors argue that an increasing focus on the financial sustainability and efficiency might remove the MFI from serving the poorest, since they tend to be the most difficult and expensive to reach. The study is one of the most accurate and interesting on the topic. It is based on data from a sample of 435 MFIs over a ten-year period and follows a stochastic frontier analysis (SFA) approach. The SFA measures the efficiency of each individual MFI and then links it to two different measures of outreach, the average loan balance per borrower and the percentage of female borrowers. In particular it allows to evaluate the MFI's cost efficiency by estimating simultaneously the efficient cost frontier of an ideal best-practice MFI as well as the gap that each MFI has with respect to the frontier itself (inefficiency equation). The panel data analysis is then carried out by regressing the inefficiency variable for each MFI on the two outreach variables and on a number of controls, including the type of loan provided and the MFI's age. The authors find indeed evidence that "outreach is negatively related to efficiency of MFIs" (*Ibid.*, p. 945). More specifically, the institutions having a lower average loan balance or a higher number of female clients, which are both standard measures of the depth of outreach, are also found to be less efficient.

These conclusions perfectly match Cull et al. (2011)'s findings. In this case the authors use cross-country data from 346 institutions, mostly from 2003 and 2004, to study the impact on the institution's profitability and outreach of becoming regulated. In particular, the effect of regulatory supervision is estimated through a treatment effects regression in which the dependent variable is either an indicator of profitability or outreach. The independent variables include control variables for the MFI size, lending type, region and business orientation as well as an endogenous treatment variable that indicates whether the MFI is subdued to supervision or not. The results show a positive association between supervision and the average loan balance and a negative association between supervision and the percentage of women clients. The analysis, thus, supports the hypothesis that profit-oriented MFIs tend to compensate the higher costs associated with their new regulated status by curtailing their outreach to the costliest clients. Cull, Demirgüç-Kunt and Morduch have investigated the issue also in two previous articles. The results presented in the oldest one (Cull et al., 2007) are quite controversial and stress the importance of the institutional design in determining the existence and size of the trade-

off. Using a cross-country analysis based on data from 124 institutions, the authors find little evidence of outreach-profit trade-off at the microfinance industry level. Nonetheless, once the sample is split according to the three main lending types, group lending, village banking and individual-based lending, the overall picture changes. Larger and older microbanks, in fact, tend to allocate larger loans and less frequently to women; moreover, they perform more poorly on the outreach measures considered. The data suggest that once an institution grows in age and size it might eventually focus on clients able to absorb higher loans. In the 2009 paper the authors present a cross-country qualitative study conducted over a sample of 346 institutions (2002-2004 data), comparing nongovernmental microfinance organizations and commercial banks that offer microfinance services. In line with the previous studies, they find that the latter are more likely to provide individual and larger loans, to be more profitable and have higher costs per borrower, while they tend to have a lower percentage of women borrowers.

A fully opposite conclusion is drawn by Paxton (2003). Following a different approach, Paxton creates a new poverty outreach index (PO index) that allows him to reclassify the MFIs and study the relationship between outreach and sustainability. More specifically, the author develop a scale sensitive outreach index able to satisfy Amartya Sen' s main poverty properties (Sen and Foster, 1973) and a non poverty invariance axiom that makes the poverty measure independent of the non-poor population size.[3] He indeed finds that larger and more profitable institutions, as banks and credit unions, serve a higher number of clients below the poverty line. On the contrary, no correlation was detected between depth of outreach and dependence from subsidies, questioning the usual assumption that subsidized NGOs are better in reaching poor clients. Even if of undeniable interest, Paxton' s study suffers from a serious limitation. The PO index is indeed computed for only 18 microfinance organizations included in the 1997-1998 World Bank Sustainable Banking with the Poor study. Such a limited sample question the reliability of the results presented.

Taking these results all together they seem to reject Morduch' s win-win proposition and point towards the effective existence of a trade-off between outreach and sustainability. It has however to be stressed that all the considered studies, with the important exception of Hermes et al. (2011b), are carried out through cross-country or qualitative analysis. Even if they suggest the existence of a relationship between the institutions' age and growth and their actual capacity to reach the poorest, they lack the possibility to follow those institutions in their inter-temporal evolution. The cost structure of the MFI, for instance, could change in the long run under the influence of a variety of factors (changes in regulation, new technologies, changes in legal status and so forth) affecting the outreach-profitability relation. Would a panel approach change the results here presented? Moreover, once the trade-off problem has been detected, how should the MFI manage it? Should it pursue sustainability or instead protract its dependence from donations to remain faithful to its social mission?

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[3]Specifically, Paxton's PO index respects three of Sen' s axioms. The *Focus axiom* ensures the irrelevance of the non-poor income distribution. The *Monotonicity axiom* implies an increase in the poverty level each time the income of a poor person decreases. The *Transfer axiom* ensures the irrelevance of income redistribution among poor.

2 Mission drift. Still serving the poorest?

The previous section results, even if to take with caution, suggest the possible existence of a profitability-outreach trade-off. Such a scenario can have strong consequences for the institutions belonging to the microfinance world. MFIs are said to have a double bottom line to measure their performance. Microfinance institutions are supposed not only to achieve good financial results but in addition to comply with a strong social goal, serving poor clients. Moreover if, using Muhammad Yunus' s words, microfinance practitioners "got involved because [they] want to help people to overcome poverty" (WMFG, 2008, p. 2), the achievement of its social mission should be the main priority of an MFI. In this context detecting the existence of a profitability-outreach trade-off acquires a particular relevance. As seen in the previous section, it might be true that microfinance institutions as they grow in age and size tend to focus more on wealthier clients. In this case they are not just choosing among two alternative evolution strategies. They are betraying their original vocation and failing to comply with their main objective. The economic research has created the term *Mission Drift* exactly to define this kind of diversion. The different authors that have dealt with the topic substantially agree on how to define mission drift, even if some minor differences persist. The definition we will follow in the present work it is provided by Cull et al. (2007). According to the authors, mission drift is "a shift in the composition of new clients, or a reorientation from poorer to wealthier clients among existing clients".

The proper evaluation of a microfinance' s ability to reach poor clients and have an impact on poverty would require econometric techniques which are extremely complex, costly, time-consuming and often suffer from a limitation of scope.[4] For these reasons, the literature on the theme tries instead to verify whether there effectively exist a shift in mission in the sector and which are its main sources. To do so microfinance players (be they founders, researchers or the MFIs themselves) proceed through an outreach analysis.

The definition of outreach and its measurement will be the object of Section 3, while the next paragraph will present the main scientific results on mission drift.

2.1 Looking for evidence

Few authors approach the mission drift topic from a purely theoretical view point. Caserta and Reito (2013) suggest that a change in the composition of the clients portfolio does not necessarily imply mission drift. According to the authors, an MFI could find optimal to offer smaller joint-liability contracts to poor clients and larger individual loans to wealthier clients. The mixture of the two lending methodology will indeed help the MFI to comply with its social mission and be profitable at the same time. A similar conclusion was reached also by Armendáriz and Szafarz (2011) who built a theoretical model to identify the conditions that can lead to mission drift. In particular, the authors highlight the importance of distinguish mission drift from two related but different phenomena, progressive lending and cross-subsidization. Progressive lending refers to the upgrade of reliable clients allowed to subscribe higher loans. Cross-subsidization is the admission of unbanked wealthier clients in order to reach out a higher number of poor clients. The model shows that mission drift will mainly depend on the relative weight an MFI attributes to serving the poor and on the country-specific cost of serving them.

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[4]We are in particular referring to Randomized Controlled Trials, the in-fashion econometric methodology based on the creation of two statistically equivalent groups by the random assignment of units. The reader might refer to Duflo et al. (2008) for a more extensive discussion of the topic.

In line with Caserta and Reito, having wealthier client does not have to imply mission drift. It could actually be the result of the a cross-subsidization strategy taken in order to maximize MFI's outreach. Chu and Luke (2012) propose a slightly different but related strategy. The authors examine the approaches of ten international NGOs operating in Viet Nam and find that the group lending methodology achieves limited success when only poor people are involved. As an alternative they propose a "strategic shift", namely to encompass both poor and non-poor households in working groups. This organization might initially exclude the extreme poor but, if integrated in a broader social and economic development program, can help to build an effective long-term strategy.

Other studies take a more analytical approach to the topic in the attempt to verify whether exists a mission drift and how it is originated. It is the case of Cull et al. (2007) who tray not only to detect the existence of a trade-off , as already seen in the previous section, but also to verify the occurrence of mission drift. As for the case of the trade-off, simple correlations show little evidence of mission drift in the sample as a whole. Nonetheless, their cross-country analysis lead them to conclude that "individual-based lenders are more susceptible to mission drift than village banks" (*Ibid.*, p.27). Serrano Cinca and Gutiérrez-Nieto (2014) derive quite similar conclusions as far as the MFI status is concerned. Using 2006-2010 data from a sample of about a thousand MFI, the authors build up an indicator able to distinguish between mission drifted and mission centered MFIs. The indicator is then used as dependent variable in a logistic regression and regressed against a variety of variables in order to test which of them has a stronger mission-drift prediction power. Studying mission drift by type of entity the authors find that a rough 60% of the centered MFI are NGOs while just a 19% of the drifted ones share the same legal status. Moreover, the regression analysis shows that those MFIs that fulfill their social mission serving the end of "long tail" distribution of clients are able to do it maintaining a fair level of profitability. Hoque et al. (2011), instead, applies several estimation techniques to a six-year (2003-2008) panel dataset to examine the impact of commercialization on mission. The authors go beyond the simple institution status analysis and blame commercialization for being the cause of the drift in MFIs' motivations. The increase in the cost of capital associated with commercialization, indeed, will lead to lower outreach, higher delinquency and higher risk in credit operations. These findings strongly support Yunus' s anti-commercialization position presented in section 1. These first results provide some positive evidence over the existence of mission drift. A MFI providing individual loans which increases its commercial sources of funds seems susceptible of drifting away form its original mission. On the one hand it will have to face a higher cost of capital. On the other it will also increase its expenditures for back-office personnel in order to comply with the additional supervision burden. Thus, as far as profit oriented, supervised, non-NGOs and individually lending institutions are concerned, the change in the target group does not appear to be driven by sustainability nor by outreach maximization concerns.

The conclusions met in the literature are anyway far from being concordant. Schmidt and Ramana (2010) analyze a 223 sample of Indian MFIs, differentiating between small and large institutions and looking at selected characteristics and indicators. The authors admit that "large MFIs will always only reach a certain segment of the unbanked and poor, which may not be the poorest". However they deny the existence of any mission drift, as long as the classical outreach measures (female clients, loan size and staff payment) are taken in consideration. This point fully matches Christen (2000) who also refuses the hypothesis of a mission drift tendency in the industry. He focuses on the impact of commercialization on Latin American MFIs and his analysis indeed shows that commercialization leads to larger loan balances. However the author argues that rather then implying mission drift this result could depend from factors as

the market entry period, choice or the natural evolution of the target. Furthermore according to Christen for the Latin American institutions it is not possible to talk about mission drift since the poorest were never their real target. Similar conclusions are reached by Gonzalez Vega et al. (1996) who study the effects of having a rapid growth looking at the practical case of the Bolivian MFI Bancosol. The authors conclude that Bancosol has indeed experienced an increase in the loan size but has not drifted from its original mission. The increase in the average balance outstanding is indeed due to increase in the demand from clients and greater experience more than to policy choices.

The most accurate and recent analysis on the topic is probably the one carried out by Mersland and Øystein (2010). The study applies panel data analysis to a sample of 379 MFIs from 74 different countries spanning 11 years. No evidence of mission drift is found in the industry as a whole, nor a shift towards more individual loans or urban clients. Moreover the average loan size results to increase with average profits and average operational costs and the cost effect is stronger than the profit effect. This suggest that MFIs rather than focus on commercialization should pay more attention to cost reduction. As a consequence the authors stress to take with caution those analysis that detect the existence of mission looking only at the profits side. The finding of a positive correlation between cost and outreach calls Hermes et al. (2011a) into question. As seen in section 1.1, this last study actually finds the exact opposite relation. This inconsistency results of particular importance considering that these two articles represent the main, most recent and accurate quantitative studies on the topic. Apart form the methodological differences, the two studies differ in the databases used. Hermes et al. use MixMarket data while Mersland and Øystein relies on rating agencies data that should be theoretically more reliable than the self-reported ones of the Mix. Nonetheless, the average loan balance valued is pretty much higher in Hermes et al.' sample than in Mersland and Øystein' s one (1,132 dollars in the first case and 7,474 dollars in the second). Furthermore the variance of the MixMarket-based observations, equal to 904, appears extremely high when compared with the variance of the rating-based ones, just 332,3. As a consequence Hermes et al.' s results might be strongly affected by extreme values and the authors actually don't seem to apply any outliers correction. On the other side Mersland and Øystein suffer from a limitation of scope. Considering only rated MFIs might introduce a severe selection bias problem since only the most mature and big MFIs get usually evaluated by rating agencies. Their results thus might not apply to the overall microfinance sector. It is true however that those are the institution more exposed to a mission drift risk. The overall conclusion is that, even if some advances have been carried out, an agreement on the mission drift topic is far from being reached. More quantitative studies on the topic will help shading light on such a sensible debate. The next section will present our personal contribution.

3   Outreach, proxies and dimensions

When we talk about outreach, we can distinguish at least between two different dimensions, the scale and the depth of outreach. With scale is intended the number of clients an MFi is able to serve. With this meaning, indeed, Yaron (1994) defines outreach as the provision of a variety of financial services to large numbers of the poor. A common way to measure the scale of outreach is the one presented by Christen (2000), who compares the number of clients served with the potential market demand for micro-enterprise loans. On the contrary, the depth dimension of outreach refers to the poverty level of the clients served by the MFI. The scale approach focuses on how many clients are served but leaves aside the type of clients served. An MFI could reach a large outreach scale while targeting middle income clients rather than poor ones. Such a strong limitation discourages from the utilization of scale indicators as long as the objective is to study the possibility of trade-off or mission drift.[5] As a consequence this study will focus only the depth side of the outreach.[6]

3.1   Depth indicators

Most common depth indicators used in the literature are respectively the percentage of women borrowers, the percentage of rural clients, the loan type (mainly individual, group-leading, village banking) and the average loan per borrower (ALB) (Cull et al., 2011; Christen, 2000; Gonzalez Vega et al., 1996). The first three indicators are used because the female and rural clients as well as those involved in group-lending methodologies are usually the poorest ones. Thus an MFI that scores high according to these three categories can be seen as having a strong social approach and an high level of outreach. Nonetheless, these indicators appear to be of little help at the moment of carrying out a comparative analysis. In particular, those institutions without a gender or rural target will be severely damage even though they might be targeting the poorest.

A common solution is the creation of a compound index that includes the three indicators and assigns them different weights in order to obtain a final unique outreach score. Serrano Cinca and Gutiérrez-Nieto (2014), for instance, use the percentile rank of the average loan size(PR_{ALS}), the percentage of women borrowers (PR_{WB}) and the percentage of rural clients(PR_{RB}) to compute an MFI-level indicator. The percentile rank is defined as "percentage of scores that are below a given score". If an MFI has an average loan size of 1,199\$ and a PR_{ALS} of 0.22, it means that only the 22% of the MFIs in its country have average loan size lower than 1,199\$.

$$MissionDriftIndicator = \frac{PR_{ALS} + (1 - PR_{WB}) + (1 - PR_{RB})}{3} \tag{1}$$

The most centered MFIs in each country obtain MD ratios close to 0. The authors propose this indicator as a mission drift measure but it should rather be considered an outreach indicator, being a combination of three classical outreach measures. *Mission Drift Indicator* has the advantage of evaluating the MFI performance in terms of mission drift relative to the other institutions in the country. A drawback of this proxy is that it will not be able to detect a change in outreach if it occurs at the country level and therefore is not particularly appropriate

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[5]In this contest the trade-off between outreach and profitability is considered as the relation between economic performance and the focus on the poorest

[6]From the next paragraph on the word outreach will be used as as synonym of depth of outreach.

for a cross-time analysis. Furthermore computing the percentile rank requires the availability of a huge amount of data per country. (Hermes et al., 2011a) use as well a combination of different indicators to create a new outreach proxy. The outreach indicator used has a truncated normal distribution whose expected value is function of the average loan per borrower and of the percentage of women clients. The indicator is then used in a panel analysis with controls for the loan type and the age of the institution. One limitation of these indexes is that they don't correct for possible country bias. In addition the weights assigned to each sub-indicator (woman,rural and so on) vary from study to study depending on each researcher' s subjective definition of outreach. In essence, there not exist an widely accepted approach and this lead us to leave aside these indicators and look for a better alternative.

Some studies, in particular Cull et al. (2007) and Mersland and Øystein (2010), don't use compound indexes but rather repeat their analysis taking each time a different indicator as dependent variable. Cull et al. (2007) use the average loan size to GNP per capita, age, loan portfolio size, for-profit status, type of lending and average loan size to GNP per capita of the poorest 20% and for each variable repeats his analysis to check its robustness. Mersland and Øystein (2010) uses similar variables but focus mainly on the ALB. An interesting alternative is Poverty Outreach Index (PO) created by Paxton (2003). The PO, already presented in the first section, allows to take into account the number of poor and the different poverty levels among the clients. However, to compute such an indicator are required the income level per each client and the country's specific poverty line, data that often are not available.

To conclude, the only indicator easy to compute, widely available and applicable to all kind of institution seems to be the average loan per borrower, which will be object of our next paragraphs.

3.2 Using the average loan per borrower

As a result of the previous analysis, the average loan per borrower (ALB) was chosen as the reference indicator for the present study. A low ALB suggests that the credits offered by the MFI are small on average and thus more adequate for low income clients than for wealthier ones. The ALB suffers however from more than one limitation. One recurrent objection is that using the average loan balance the possibility of having progressive lending is not taken into consideration. Many MFIs are used to offer a smaller initial credit and then progressively increase the amount lent. In such cases the ALB could result high even if the MFI is effectively serving poor client. The "credit-scale" approach is indeed an effective strategy to make the loans affordable even for the poorest, as the subsequent increase in the amount does not constraint their participation. Moreover, the ALB can increase for other reasons different from a change in the MFI' s target-clients (Christen, 2000; Gonzalez Vega et al., 1996). It is the case of a better scoring of the clients' credit capacity or of an increase in the clients' average income due to the credits already received. In the scoring case the ALB will increase not because of a loss in outreach but rather thanks to an improved capacity of the MFI in assessing the amount of credit a client will be able to pay back. In the income increase case, the ALB naturally increases as a consequence of progressive lending. It is not the loss of outreach that generates mission drift but instead the tendency of the MFI to prefer its old and now wealthier clients to alternative new and poorer ones. In addition, it has to be stressed that detecting mission drift means looking at change in the outreach deepness, rather than at the level of such deepness. Hence the ALB, even if imperfect as a level indicator, can successfully be used to study the change in focus experienced by MFIs over a certain time period.

In order to allow the comparison of the ALB across institutions belonging to different countries some statistical adjustments need to be carried out. A first adjustment is needed in order to account for the country-specific living standards. Moreover the ABL is a nominal value so in order to use it for inter-temporal analysis it has to be cleaned from the effect of inflation. These adjustments can be done following different approaches. Figure 1 and Figure 2 show
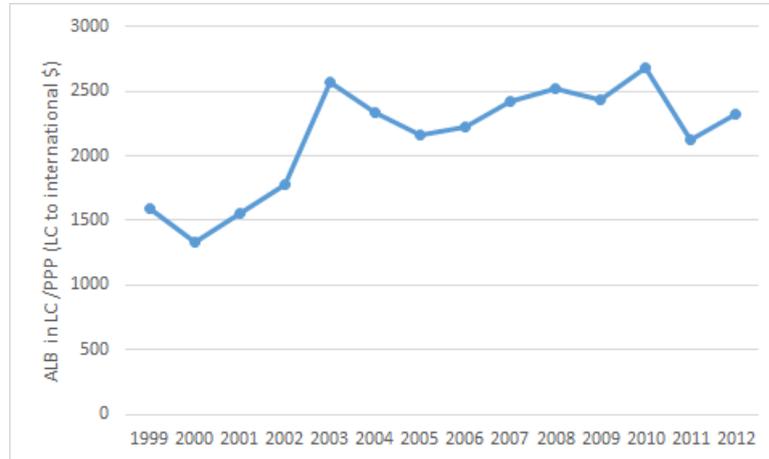

Figure 1: Average Loan Balance per Borrower on Purchasing Power Parity

the time paths of the ALB corrected, respectively, for the sole purchasing power parity (PPP) and for the gross national income *per capita* (GNI) adjusted for the PPP at constant price.[7] These two first corrections allow a cross-country comparison of the data but are not enough for a cross-time analysis since they still lack any inflation adjustment. Indeed, as it will be seen later on, the positive trend for the ALB they both show fully vanish once the right inflation adjustments have been applied. For this reason those first two attempts of adjustment were actually abandoned.

The usual tools adopted to correct the inflation are a consumer price index or an inflation deflator, yet these none of them was available for a large enough number of countries nor for the majority of the time frame considered. This data limitation forced us to adopt a simpler adjustment. As suggested by Christen (2000), in order to have a "more appropriate comparative measure", we use the average outstanding loan balance as a percentage of GNP per capita. In other words, the ALB in dollars has been deflated by the GNI per capita at current international dollars (ALB-on-GNI). Being both the measures nominal and increasing with the inflation, their ratio actually cancels out the inflation effect. [8] This indicator is already provided by the MixMarket but the data are often incomplete. For this reason, when lacking, the indicator was computed using the average loan balance provided by the MixMarket itself and adjusting it for the GNI per capita at current dollars provided by the World Bank.[9]

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[7] The data are available in the World Bank Open Data database (http://data.worldbank.org/) respectively as *PPP conversion factor, private consumption (LCU per international $)* and *GNI per capita, PPP (constant 2011 international $).*

[8] This last adjustment relies on the assumption that both the values are equally affected by the inflation.

[9] World Bank Open Data database, *GNI per capita (current international $).*
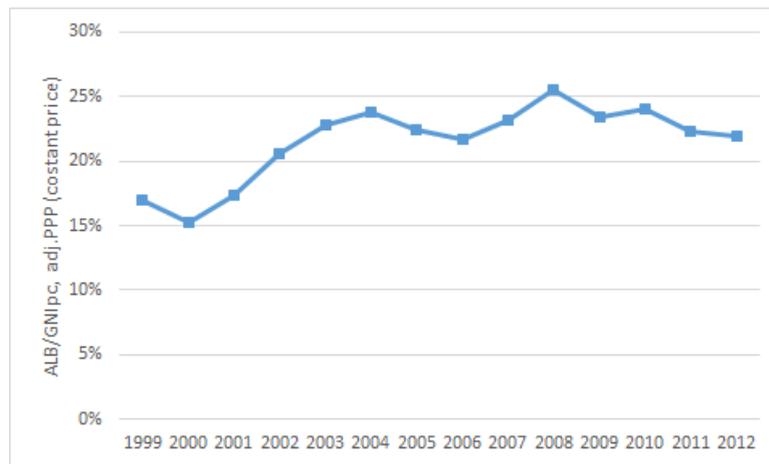
Figure 2: Average Loan Balance per Borrower on GNI per capita, PPP adjusted (constant price base 2011)

4 Some quantitative intuitions

The present section proposes a comparative analysis with the aim of providing some useful intuitions for future researches. The objective is not to derive ultimate conclusions on the topic but rather to complete the analysis carried out until now. In particular, we will present and analyze the time series of different outreach proxies, of costs and of financial revenues and we will compare their trends in time.

4.1 Data

The data used in the present analysis are collected from the MixMarket, an non profit organization which gathers and publishes supports by providing that intent to create a dataset useful for the researches in the sector, using self-reported data.[10]The MFIs selected are the one with 4-5 diamonds (MixMarket classification), For Profit and with legal status of Banks, Rural Banks or No-Banking-financial-institution (NBFI). The Diamonds mean that the data are confirmed by an internal auditing or a rating agency, this grantee the quality of the data. The risk of this choice is that the so created sample would include just the MFIs with a big size, and so, it would be no representative for the entire sector, the analysis will take in account this aspect. The MFIs no-profit are excluded because they are less expose to a drift from their social mission, the idea is that if a mission-drift exist, it would be more evident analyzing the for-profit-MFIs. For the same reason just Bank, Rural Bank and NBFI are considered, ignoring ONGs. The period considered go from just from 1999 to 2012 due to the limited availability of the data in other years.

The applied selection don't affect the variety of the sample. The MFIs considered comes form all the regions of the sectors, to compare them, the data are expressed in dollar using the current exchange rate. As proxy of depth of outreach this study uses the Average loan balance per borrower(ALB), computed as the Gross loan portfolio divided by the number of borrowers[11]. In the previous section others proxies were presented, as the percentage of woman clients or the percentage of rural clients, but compared with the other proxies the ALB is available for

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[10]the data used are free and available at http://www.mixmarket.org/

[11]MixMarket Methodology

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more institutions and permits to compare different MFIs whether or not they have a gender focus or, independently from the contest where they are operating. The problem of using ALB is that is an average and can increase in the case the institution has both microcredit's and conventional banking products (for example a Bank that is doing down-scaling) moreover the data can contain errors, to avoid this problem we have excluded the MFI that has a ALB higher than 35.000$. The Figure 3 show that the lost of observation is very low, the only MFI excluded are ORDA credit and WMN(Russia). As introduced in the previous section
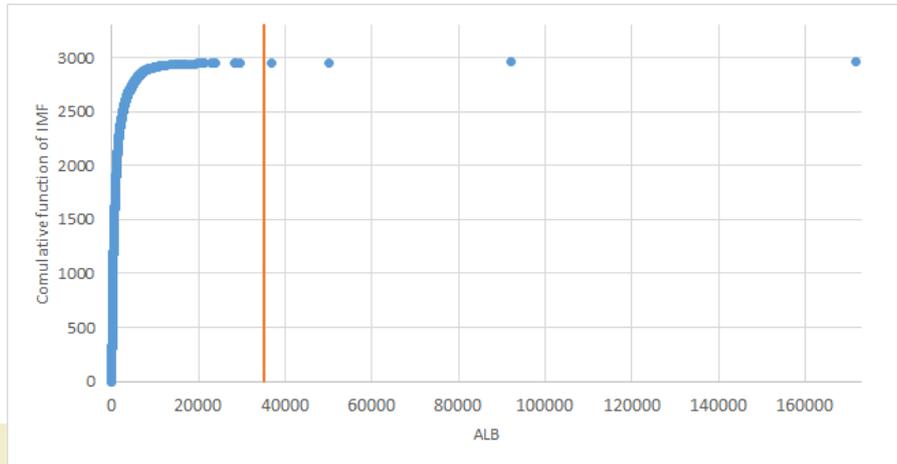
Figure 3: Number of MFIs with ALB lower than the considered level

we will use as indicator of outreach ALB in dollar on GNI per capita at current dollar price (ALB-on-GNI). The use of GNI per capita create several problem because it is an average of the country's life-standard and moreover the database of the MixMarket can contain errors, for this reason it was a necessary to exclude observations with a ALB-on-GNI higher than 200%. This is against the common practice of cutting out both highest and lowest values but, as we can see in Figure 4, outliers use to have the the highest values. This procedure excludes 310

Figure 4: Cumulative function, Number of MFIS having ALB-on-GNI lower than the considered level
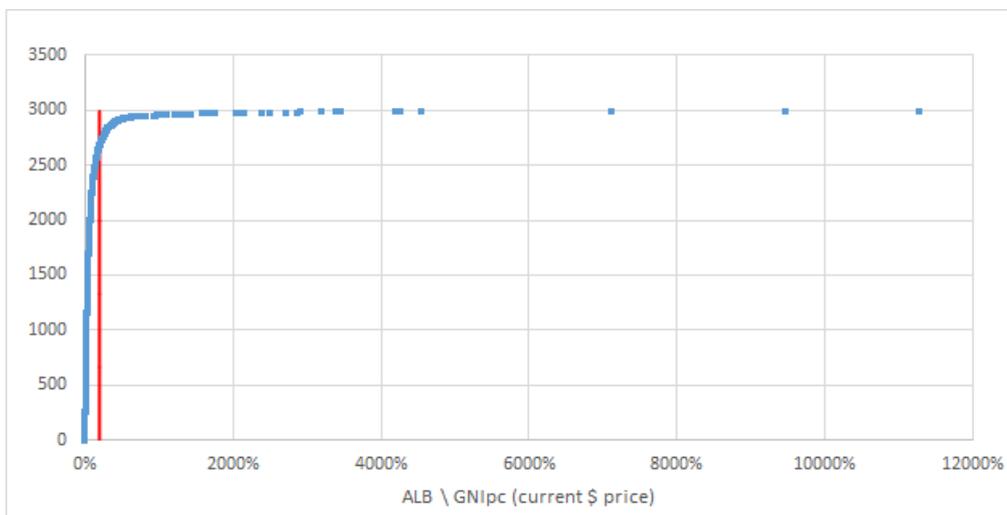

observation on a total of 3074, the 10,%.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Max	162%	179%	190%	160%	194%	186%	199%	198%	192%	192%	200%	211%	198%	200%
Min	2%	3%	5%	3%	0%	2%	1%	1%	1%	1%	3%	1%	0%	1%
VAR	16%	19%	16%	16%	22%	21%	17%	22%	21%	21%	23%	25%	19%	24%
1 Quant	16%	19%	21%	21%	26%	22%	21%	19%	17%	15%	15%	11%	10%	10%
2 Quant	43%	49%	44%	44%	50%	42%	41%	44%	40%	35%	31%	28%	25%	21%
Obs	33	48	56	87	127	188	229	253	251	331	291	305	280	214

Table 1: Descriptive Statistics for each year of the ALB-on-GNI

Figure 5: Average Loan Balance per Borrower in Dollars on GNI per capita at Current Dollar Price
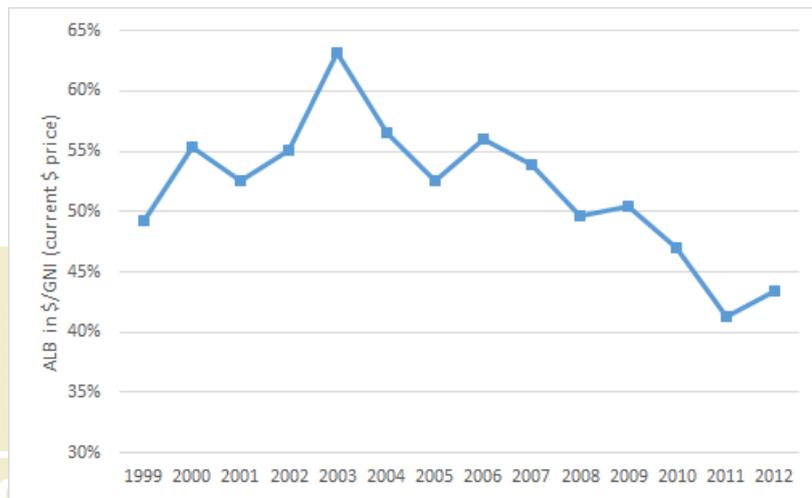
4.2 A Comparative Analysis

Table 1 shows some first descriptive statistics of the sample. It can be noticed the number of observations increases year after year, from an initial level of 48 to a final one of 214. However the variance is not particularly high, taken into consideration the variety of institutions, and reaches its highest value, 0.25, in 2010. The Figure 5 shows the time evolution of the ALB-on-GNI indicator and, as anticipated, the value decreases starting from 2003, in sharp contrast with what shown in Figure1 and Figure 2.Iin particular from 1999 to 2003 the value increases from 43% to 63% and it then drops to 41% in 2011. Such a trend matches the studies that don't detect any mission drift in the sector. Figure 6 presents the percentage of institutions per decile of ALB-on-GNI. From the chart it is clear that an increasing number of MFIs have a ratio lower than 20%. This increase is mainly due to the change of the ALB for NBFIs and Rural Banks rather than from a change in the ALB for Banks.. Figure 7 indeed shows the same graphic adding the distinction by legal status. The ALB-on-GNI follows a clear decreasing path for NBFIs and for Rural Banks but not for Banks.

The decrease of the indicator could be due to different factors. The sector might be focusing each year more on the poorest, there might be an increase in outreach, or it might be that the new NBFIs and Rural Banks that are reporting to the MixMarket are targeting the poorest more than the previous one. Figure 8 seems to confirm this second hypothesis. It reports the number of observations per year and type of MFI and it is shown that in the NBFIs case the value is increasing. On the other hand, Figure 9 shows that the AVB-on-GNI of the institutions
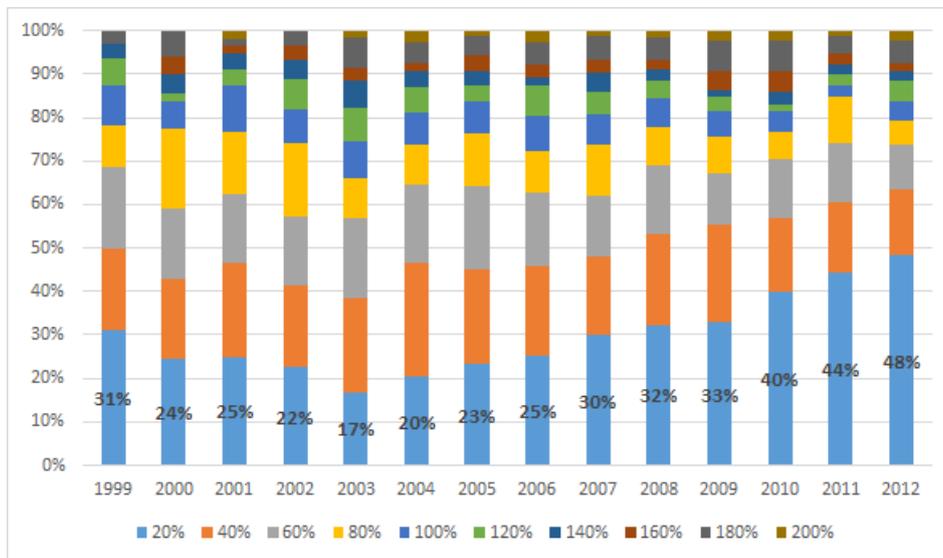
Figure 6: Percentage of Institution per Decile of ALB-on-GNI on the Total Observation of the Year
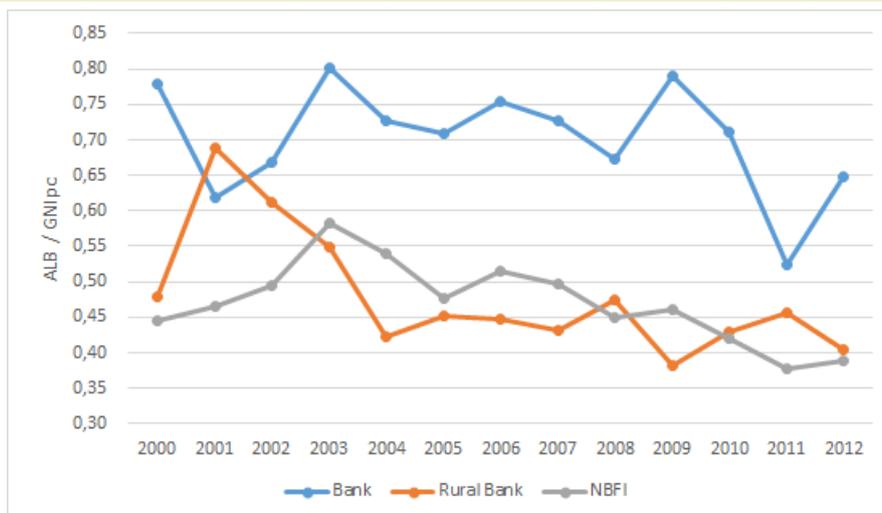

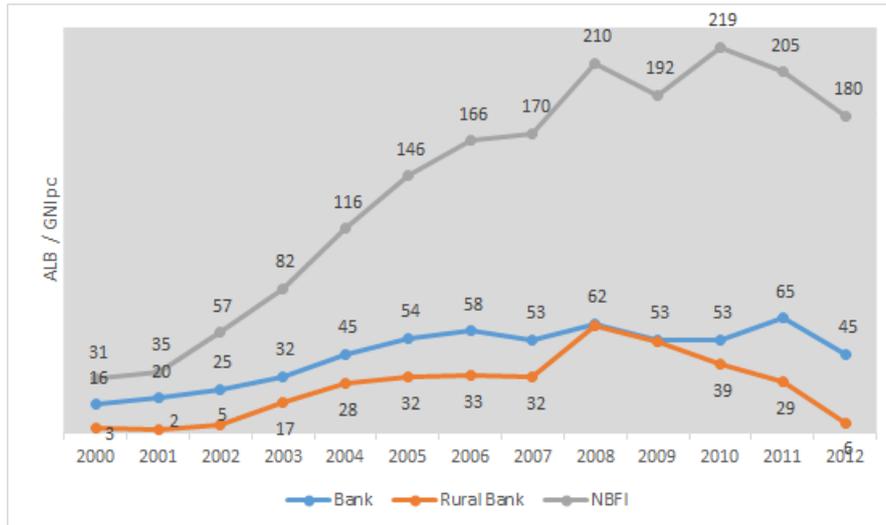Figure 7: ALB-on-GNI per Legal Status
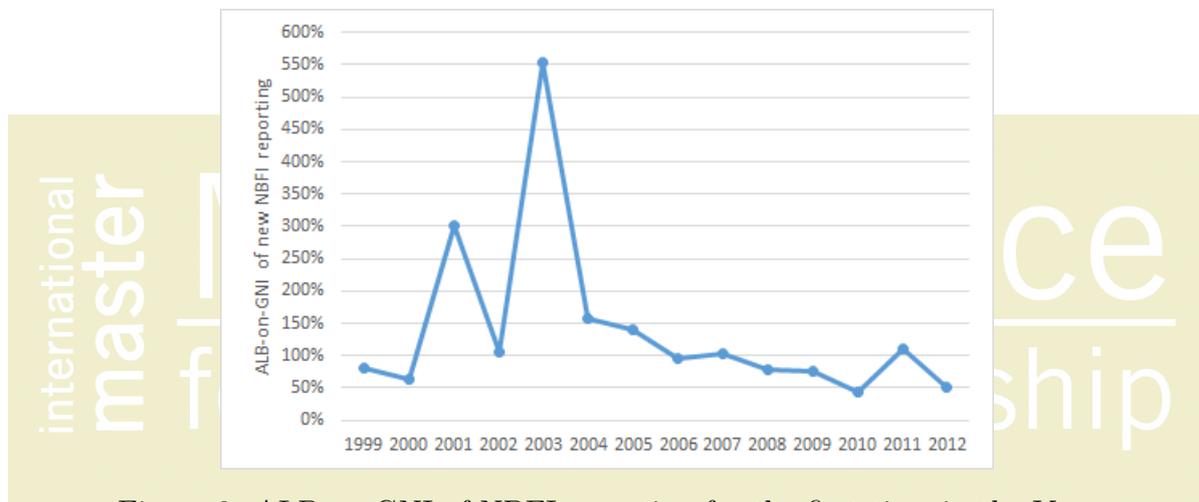
Figure 8: Number of Observation per Legal Status

Figure 9: ALB-on-GNI of NBFI reporting for the first time in the Year

reporting for the first time is between the 50% and the 100% a value tha is not much lower than the sample average, confirming that the decreasing path is originated by an increase in the NBFIs' outreach. The ALB-on-GNI of Banks doesn't have a clear decreasing path nor the number of observations increases significantly over time. This result could signal a higher risk of mission-drift for Banks. This last result is confirmed by Cull et al. (2011; 2007) who state that regulated MFI, providing individual loans are the more susceptible to a change in the target clients. One possible explanation of the differences between Banks and NBFIs could be that they face different costs, as suggested by Mersland and Øystein (2010). To make possible a cost comparison, we have used the cost per borrower divided by the GNI per capita at current price. Figure 10 shows the growth rate of the ALB-on-GNI and of the Cost per borrower on GNI per capita for both Banks and NBFIs. In none of the cases there appear to be a clear correlation. To complete the analysis we studied the differences between Banks and NBFIs with respect to revenues. In particular the yearly average of the financial revenues to assets ratio(FR-on-A) has been used as a proxy for the profitability of the institutions. Figure 11 shows that the indicator grows constantly over time and that the Banks have a lower value of FR-on-A compared to NBFIs. In this case no adjustments have been made since the indicator is already the ratio of two nominal values and so it is not affected by the inflation. Up to this
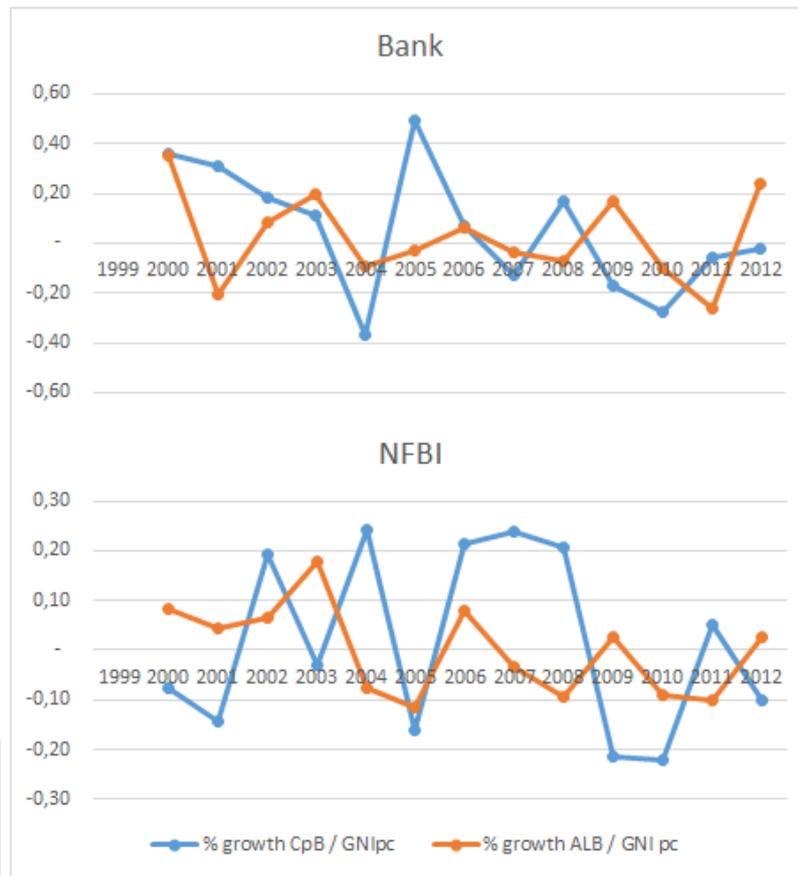
Figure 10: Growth rate of Cost per Borrower on GNI per capita and ALB-on-GNI for Banks and NBFI

point the sector on average does not seem to be doing mission drift because even if Banks are not decreasing their ALB, the NBFIs do show decreasing ALB values. We have then turn to study the evolution of ALB-on-GNI in NBFI per age of the institution, considering also the institutions with less than 4 diamonds. In Figure 12 it can be seen that for all the age level there exists a decrease in ALB-on-GNI, meaning that there is a general increase in the NBFIs' outreach. If we consider the percentage of observations per each age levle we can detect an increase in mature firms. Thus, in the long run NBFIs seem to have a deeper outreach (Figure 13).. Considering just institutions with a number of yearly observations higher or equal to ten it can be detected an increase of ALB-on-GNI in Banks but not in NBFIs , as shown in Figure 14. . . Moreover this increase goes in accordance with the cost of the institutions (Figure 15. Concluding, in the sector there seem to be a risk of mission drift, especially for Banks and mature institutions. Nonetheless the average outreach of the sector continues to decrease on average thanks to a constantly increasing focus on the poorest of NBFIs (and probably NGOs). Such a difference might be explained by the different profitability level of the two kinds of institutions: in particular the Banks facing lower revenues and increasing cost in time are more easily driven to mission-drift.
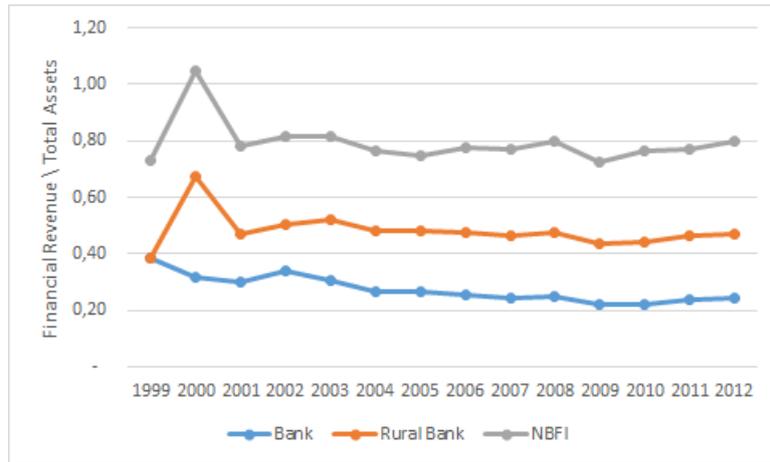
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Figure 11: Financial Revenues on total Asset per year and Legal Status
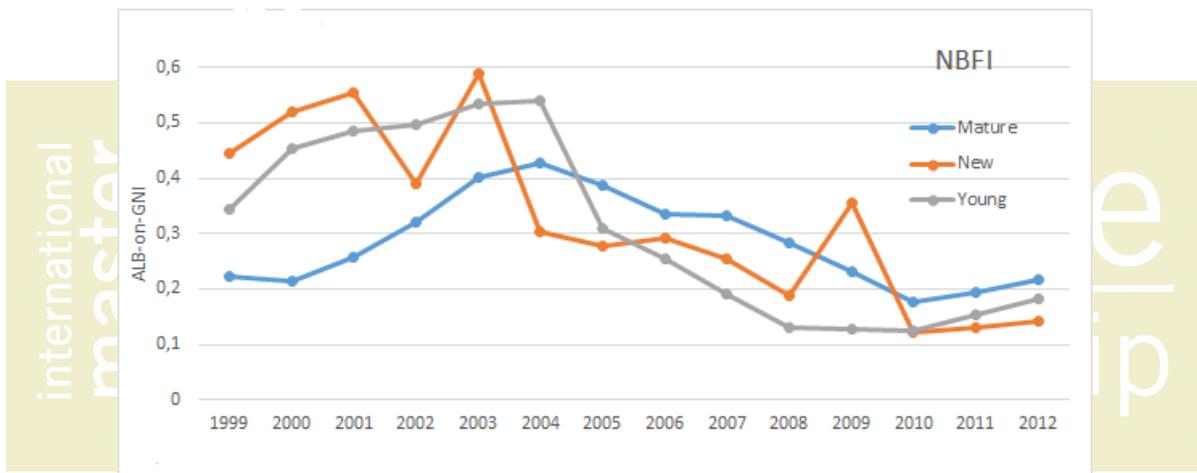

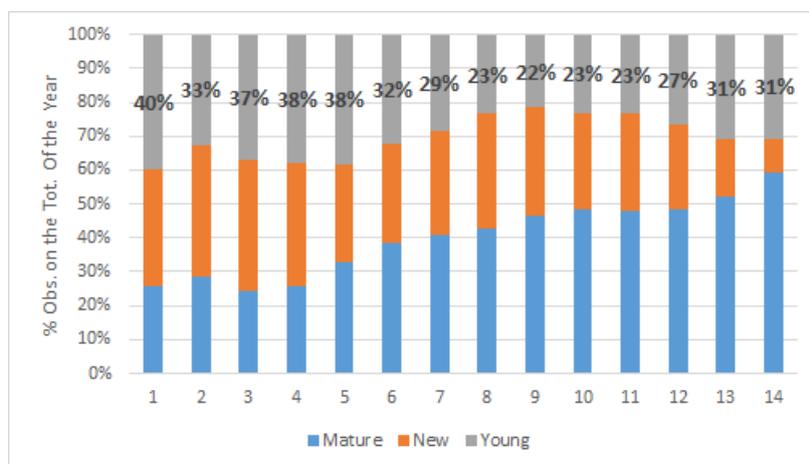Figure 12: ALB-on-GNI of NBFI per Age

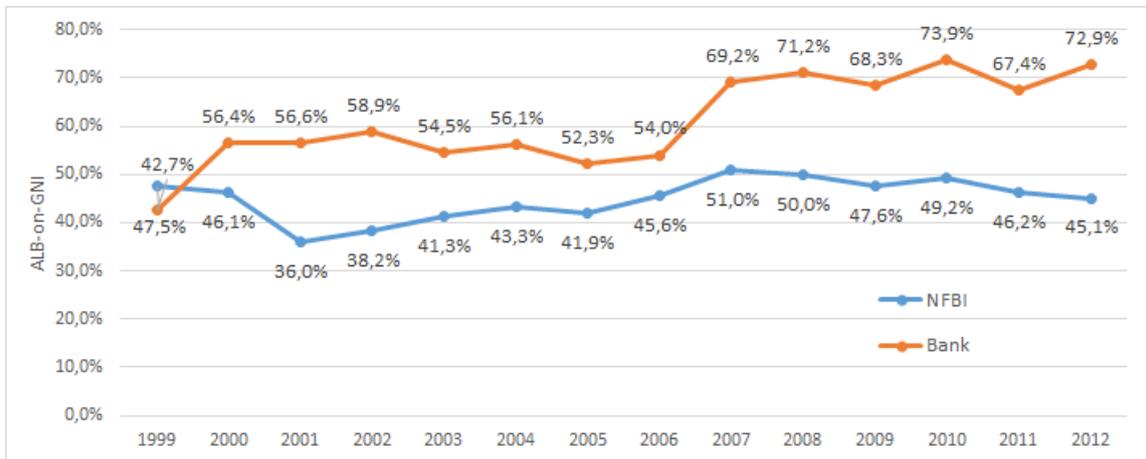Figure 13: % of Observation per Age on the Total of the Year

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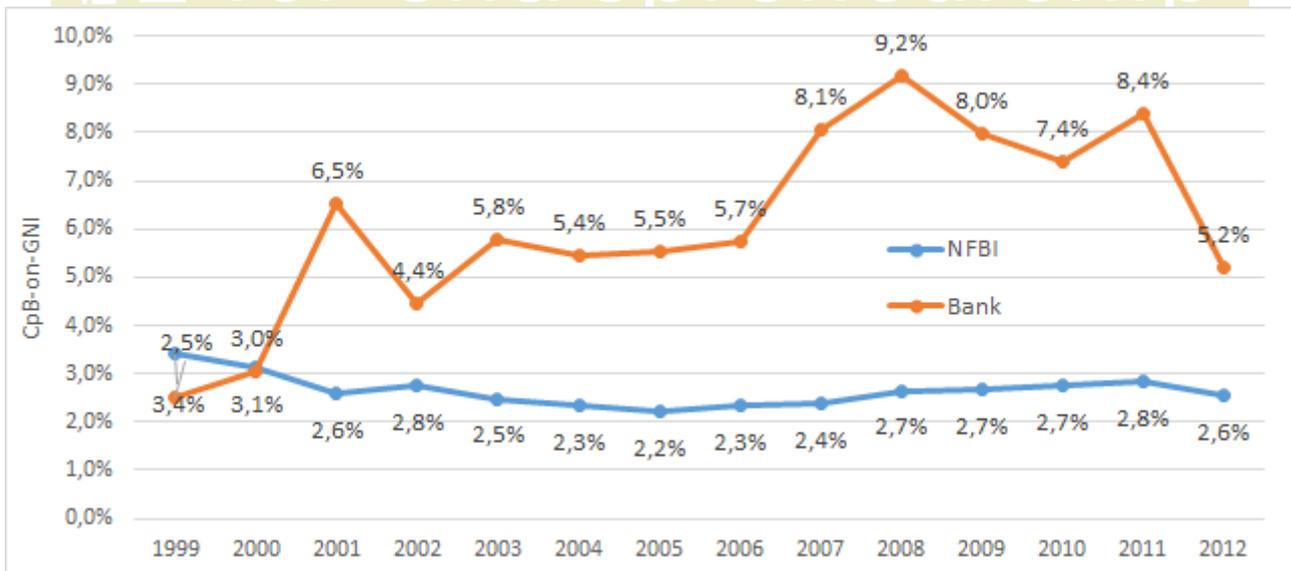Figure 14: ALB-on-GNI per Banks and NBFIs with more than 10 Observation

Figure 15: CpB-on-GNI per Banks and NBFI with more than 10 Observation

Conclusions

The present article aims at providing a review of the most relevant works currently available on the MFIs mission-drift topic, in order to understand which conclusions can be derived and which are the open questions the research should focus on. From or analysis we can conclude that on average MFIs are not doing mission drift, in accordance with the results found by Mersland and Øystein (2010). At he same time, there exists MFIs that are decreasing their outreach. In particular we came to the conclusion that Banks are the institutions with a higher risk of deviating from their mission. This finding is in accordance with part of the literature, in particular with the results of Serrano Cinca and Gutiérrez-Nieto (2014). Banks seems to face higher costs than NBFIs, in part because of supervision costs, as explained by Cull et al. (2011) and in part because of higher cost of capital, as stated by (Hoque et al., 2011). For some Banks the cost seems not to decrease in the long run, as suggested by Gonzalez Vega et al. (1996). Moreover, the positive correlation found between costs and ALB in this kind of institutions contradict the thesis provided by Armendáriz and Szafarz (2011) but are in accordance with what is found by Mersland and Øystein (2010). Our analysis seems to confirm the results of Mersland and Øystein but just for Banks, since the NBFIs don't show any degree of correlation. NBFIs show a lower risk of mission drift, mature NBFIs has not increased their ALB on average, even if we see a slightly increase in the oldest one. Furthermore the outreach seems to increase in time. This last result in some measure contradicts part of the conclusion of Serrano Cinca and Gutiérrez-Nieto (2014) that NGOs has more probability to not do mission drift. The increase of outreach seems to be due to the higher profitability of the assets that compensate the institutions' costs.

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