

Institutional transformation and mission drift in microfinance

Kim Wagenaar*

Centre of Development Studies, University of Cambridge

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Abstract Microfinance Institutions (MFIs) are experiencing increased pressure to achieve financial sustainability. For this and other reasons, some non-profit MFIs have decided to transform into for-profit institutions. This focus on financial sustainability and the for-profit status of MFIs in general has led to concerns regarding possible mission drift. This paper investigates mission drift among MFIs that transform from non-profit into for-profit institution using data on 1,558 MFIs spanning 15 years. Results of panel data analysis suggest that an MFI's profit status and charter type affect its outreach. MFIs that transformed from non-profit NGO into for-profit organisations have significantly higher average loan sizes and a lower percentage of female borrowers than non-profit NGO MFIs. Furthermore, the outreach of MFIs that transform from non-profit into for-profit institution is significantly lower after transformation, in terms of average loan and percentage of female borrowers, than before transformation.

Keywords: microfinance, mission drift, institutional transformation

1 Introduction

Over the past three decades, the microfinance industry has attracted public attention by providing small loans to poor people considered unbankable by the conventional financial sector. The main goal of microfinance institutions (MFIs) is to give poor people access to financial services; their focus on the poor is commonly referred to as 'outreach'. The first MFIs, founded in the early 1980s, were non-governmental organizations (NGOs) funded by grants and soft loans. Given the high costs involved in providing credit to the poor, the outreach focus was expected

*Address: Centre of Development Studies, Alison Richard Building, 7 West Road, Cambridge CB3 9DT, UK, telephone: 07805981915, e-mail: *kw351@cam.ac.uk*.

to conflict with financial sustainability, which is why MFIs needed these types of financial support. Recently, however, the industry's focus is shifting from attracting financial support to achieving financial self-sufficiency. This shift has been accompanied by a number of developments, such as increased competition between MFIs, financial liberalisation and regulation policies of governments, the entry of commercial banks into the microfinance sector and commercial market interest in financing MFIs (Rhyne and Otero, 2006). Such developments have placed pressure on MFIs to change their operating strategies and broaden their activities. NGO MFIs deciding to transform themselves into financially self-sufficient, for-profit institutions provide an example of these changes in strategies. Some MFIs transform for regulatory reasons while others transform for the purpose of accessing financial markets. In the latter case, such transformation can be considered to be part of a commercialisation process, in which MFIs accept market-based principles in an attempt to raise funds from private investors (Charitonenko et al., 2003). This shift in focus towards financial sustainability has led to concerns regarding a possible decrease in MFI outreach to the poor, a phenomenon referred to as 'mission drift' (Woller et al., 1999). The objective of this paper is to determine whether transformation leads to mission drift and whether the status of an MFI matters for its outreach in general.

It is widely agreed upon within the industry that mission drift occurs when an MFI leaves the poor customer segment and moves into new segments (Woller et al., 1999; Mersland and Strøm, 2009). This has been explained in terms of the pursuit of improved financial performance, as lending to customers in less poor segments involves fewer costs (Cull and Demirguc-Kunt, 2006). Transformation from non-profit into for-profit MFI is likely to be related to the pursuit of better financial performance. Given that non-profit MFIs do not have profitability goals, while for-profit MFIs do, transformation suggests an increase in financial focus. This transformation from non-profit into for-profit is therefore also a transformation from having an exclusive mission of serving the poor, to having both a financial and social cause. For-profit MFIs are therefore said to have a 'double bottom line': they aim

to achieve social as well as financial performance (Copestake et al., 2005; Tulchin, 2003). Whether it is possible to maximize both goals at the same time remains unclear.

The few large cross-country studies that have investigated mission drift focus on the effect of financial performance (Cull and Demirguc-Kunt, 2006; Mersland and Strøm, 2009), efficiency (Hermes et al., 2011) or regulatory status (Hartarska and Nadolnyak, 2007; Cull et al., 2011) on outreach. While profit status and/or charter type are included as control variables in all of these studies except for one (Mersland and Strøm, 2009), none of them was able to analyse the effect of transformation since all studies assume that profit status and charter type are static variables per MFI. Consequently, evidence on the effect of transformation from one type of MFI into another or from non-profit into for-profit MFI on outreach does not exist. In addition, no conclusions can be drawn on the effects of charter type and profit status found in previous research in general, since the data used could be considered to be incomplete: an MFI can be a Bank MFI for every year it appears in the dataset, while it actually used to be an NGO MFI in its first four years of existence, for example.

The aim of my study is to go beyond the existing research by analysing the effect of transformation on outreach. The dataset used in this paper, which includes 1,558 MFIs in 102 countries over a period of 15 years (1996-2010) and consists of 8,794 observations, allows for such analysis since it includes information on charter type and profit status changes. It therefore also allows for analysing the effect of charter type and profit status on outreach in general. I test different hypotheses on the effects of charter type, profit status, and transformation from non-profit into for-profit organisation on outreach by applying panel data analysis. A fixed effects model is used for analyzing the data. I use two measures of outreach: average loan balance/GNI per capita and percent of female borrowers. Preliminary findings suggest that non-profit MFIs have significantly deeper outreach than for-profit MFIs: they have lower average loans and a higher percentage of female borrowers.

Banks and non-bank financial institutions (NBFIs) have significantly higher average loans and a lower percentage of female borrowers than NGOs. Most importantly, the results suggest that transformation from non-profit into for-profit MFI causes mission drift: transformed NGOs have significantly lower outreach levels than non-transformed NGOs, and the outreach of NGOs that transform is significantly lower after transformation compared to before transformation.

The remainder of this paper is organised as follows. In section 2, I review the literature. Section 3 provides a description of the dataset. In section 4 I set out the research methodology and develop hypotheses. The results are presented in section 5. Section 6 summarises the main findings and provides conclusions.

2 Literature review

Recent developments in the microfinance sector have posed challenges for MFIs, which have affected their way of doing business. Competition is increasing rapidly in some countries, forcing MFIs to change their strategy and operations: they try to lower costs and increase efficiency, they lower interest rates, and they offer new financial services such as insurance and savings accounts (Rhyne and Otero, 2006). Another recent development, which contributes to increased competition, is the entry of commercial banks into the sector. Successful and profitable MFIs have spurred interest among commercial banks to become involved in lending to the poor, a process referred to as 'downscaling' (Bell et al., 2002). In some countries, for example Malaysia, Nepal and Thailand, the government stimulates commercial banks to start microfinance activities (Hermes et al., 2011). A third development is the growing commercial market interest in financing MFIs. While increased financing allows growth of the sector, this increased interest from commercial sources may have also put pressure on MFIs to lower costs and become financially sustainable.

These developments put pressure on MFIs to change their operating strategies and broaden their activities. One response to this pressure has been the decision of some non-profit NGO MFIs to transform into for-profit institutions. For-profit

organisations could be considered to be more profit oriented than non-profit organisations, because they do not face the nondistribution constraint of non-profits (Hansmann, 1987). Transformation could therefore cause an increased focus on financial sustainability, just like increased competition, entry of commercial banks into the sector and the increased interest from commercial players do. The argument in favour of transformation is that for-profit, shareholder-owned organisations perform better than NGOs: they can accept deposits, attract private equity capital and be independent from donors, provide more and better services, be regulated by banking authorities and benefit from better corporate governance through being privately owned (Mersland and Strøm, 2008). Von Pischke (1996) argues that the evolutionary organisational process that transforms NGOs into shareholder-owned organisations is required. Ledgerwood and White (2006) have published guidelines on MFI transformation. Still, Hishigsuren (2006) reports that out of thousands of NGOs, only 43 have transformed. The dataset used in this paper, comprising 1,558 MFIs, also contains 43 MFIs that transformed from non-profit into for-profit institution. It is unclear whether the assumed difference in performance between ownership types and profit statuses actually exists: for example, Dichter (1996) observed that many NGO MFIs are driven by the same economic rationalism as for-profit organisations. In addition, Mersland and Strøm (2008) note that MFIs that are shareholder-owned and have for-profit status do not necessarily have a profitability goal; they may have a social mission similar to those of NGOs and not try to make profits at all.

The concerns caused by the developments described above have to do with the idea that the emphasis on sustainability, efficiency and/or profits that they are expected to result in may go at the cost of MFIs' outreach. Greater depth of outreach is said to be more costly than shallow depth, since reaching and serving the poor may involve much higher costs than serving richer clients. Because poorer borrowers are more diverse and less able to signal creditworthiness, it is more costly

to judge their risk. Also, given that poorer borrowers' transactions with an MFI are smaller and more frequent, fixed costs matter more both for the MFI and for the borrower (Ghatak and Guinnane, 1999). Thus, transaction costs per loan are higher when loans are very small. For this reason, it is argued that greater depth of outreach, which involves providing smaller loans, increases the per-unit cost of supply (Conning, 1999; Lapenu and Zeller, 2002). This suggests that there may be a trade-off between financial sustainability and outreach: the increasing focus on sustainability and/or profits might reduce the ability of MFIs to achieve their traditional goal of reaching the poor.

This trade-off between sustainability and outreach has been debated excessively in policy circles, where the 'welfarists' argue for dominance of the outreach goal (Hashemi and Rosenberg, 2006; Weiss and Montgomery, 2005) while the 'institutionists' place financial sustainability above outreach (Christen, 2001; Rhyne, 1998). Recently, however, the camps seem to have both come to the conclusion that sustainability and outreach may be compatible under certain conditions (Morduch, 2005).

Empirical evidence supporting the arguments of both institutionists and welfarists has been supplied from a range of case and country studies. The proxy for depth of outreach used in these studies is average loan size, the most widely used measure for outreach in the academic mission drift debate (Cull and Demirgüç-Kunt, 2006; Schreiner, 2002). The rationale behind using average loan is that poor people take out small loans. Poorer clients usually request smaller loans; also, since poorer people are less able to signal their risk, lenders prefer to give them small loans in order to limit exposure to losses from default (Ghatak and Guinnane, 1999).

Olivares-Polanco (2005) analyses 28 MFIs in Latin America and concludes that there is a trade-off between sustainability and outreach. In an analysis of 33 East African MFIs, Makame and Murinde (2006) encounter this trade-off too. In a study of a microfinance project in Burkina Faso, Paxton et al. (2000) find that there is a trade-off between serving poor segments and financial sustainability since small loans involve higher transaction costs than larger loans. However, Christen (2001) finds

that in Latin America, commercialisation did not lead to a decline in outreach. In addition, Hishigsuren (2007) finds no relationship between increasing cost efficiency and outreach in a thorough case study of a Bangladeshi MFI. Furthermore, in a study based on data from 62 MFIs, Littlefield et al. (2003) show that MFIs that target the poorest clients have a lower cost level per borrower than other MFIs through higher productivity levels in terms of the number of borrowers per staff member. They conclude that MFIs are capable of reaching the very poor profitably.

The literature on mission drift includes only a few large cross-country studies. Cull and Demirguc-Kunt (2006) were the first to systematically analyse financial performance and outreach in a large comparative study based on a dataset of 124 MFIs in 49 countries. The dataset was obtained from the MicroBanking Bulletin and contains one observation per MFI from 1999 to 2002; 70% of observations are from 2002. The authors study the relationship between depth of outreach and profitability, using three different proxies for outreach: average loan size/GDP per capita, average loan size/GDP per capita of the poorest 20 percent of the population, and the share of loans extended to women. They find no evidence of a trade-off between profitability and depth of outreach for any of the outreach measures, but they do observe that older and larger MFIs perform worse in terms of outreach than younger and smaller ones. The authors therefore conclude that mission drift does take place, but is not necessarily a consequence of a shift towards financial sustainability. Mersland and Strøm (2009) focus more exclusively on mission drift in an investigation of the influence of average profits and costs on different outreach indicators. They use panel data: their dataset consists of 379 rated MFIs in 74 countries collected by rating agencies during the years 2001 to 2008. The proxy used for outreach is average loan size. No evidence is found on mission drift in the industry as a whole, but the size of the average loan does increase with average profits. This suggests that seeking higher financial returns might cause mission drift, in contrast to the implications of Cull and Demirguc-Kunt's (2006) results. However, the authors find that average cost is a more important

determinant of average loan size than average profit. They conclude that being more cost efficient may thus neutralize the effect of higher profits on outreach. Cull et al. (2009) analyse data on 346 MFIs from the MIX Market database, from the period 2002 to 2004. They do not use regression analysis, but simply compare mean average loan sizes of MFIs with different charter types. They find that NGOs have smaller average loan sizes and a higher proportion of female clients than banks. They conclude that the assumed trade-off between pursuing profits and having deep outreach indeed seems to exist, but they do note that measurements used are only proxies for client income instead of direct measures. Hermes et al. (2011) focus on efficiency of MFIs in a study on 435 MFIs over a period of 11 years (1999-2007). They find that MFIs with lower average loan balances are also less efficient. In addition, their research shows that MFIs with a higher percentage of women borrowers are less efficient as well. They conclude that this is bad news in view of the current commercialisation of the industry, since commercialisation may induce a stronger emphasis on efficiency and MFIs seem only to be able to improve efficiency by decreasing their focus on the poor.

In addition to the aforementioned research, Hartarska and Nadolnyak (2007) conducted a study that does not focus directly on mission drift but is nonetheless relevant to the commercialisation debate. They perform a cross-country study in which they compare regulated and non-regulated MFIs to measure the effect of regulation on MFI sustainability and outreach. Some researchers have concerns that regulation may cause mission drift, but for different reasons than the concern with pursuing profits. With regulation, demands to fulfil regulatory requirements, such as capital adequacy, could potentially cause an MFI to target less poor clients. The study uses MIX Market data from 114 MFIs from 62 different countries to evaluate this claim. Outreach is measured not by average loan size but by the number of borrowers; the outreach referred to in this study is thus breadth of outreach instead of depth of outreach. The authors favour breadth as a measure

of outreach because they want to test the argument that regulation helps to accumulate funds and thus helps MFIs reach more clients. The authors find that regulatory status does not influence either sustainability or breadth of outreach. They do find that MFIs that collect savings have wider breadth of outreach and therefore conclude that there might be indirect benefits from regulation, if regulation is the only way for MFIs to access savings. Surprisingly, capitalisation and leverage were found not to influence breadth of outreach, weakening the institutionist argument that leverage is required for growth in the number of clients and thus for satisfying demand. Cull et al. (2011) do focus on depth of outreach in a study on the effects of regulation on MFIs' profitability, average loan size and focus on women. Their cross-sectional analysis of 245 MFIs finds that regulated MFIs facing onsite supervision have higher average loan sizes and a lower percentage of female borrowers than unregulated MFIs. The authors conclude that for-profit MFIs that have to comply with supervision curtail their outreach to poorer segments of the population in order to absorb the cost of supervision.

None of these studies actually focus on MFI transformation in relation to mission drift. Both Cull and Demirguc-Kunt (2006) and Mersland and Strøm (2009) look at the effect of profit levels on depth of outreach, not at the effect of MFI charter type or developments such as transformation from non-profit into for-profit. Hartarska and Nadolnyak's (2007) study does focus on MFI status by distinguishing between regulated and non-regulated MFIs, but it does not consider transformation from one into the other; neither does Cull et al.'s (2011). Cull et al. (2009) study the differences between NGO, non-bank financial institution and bank MFIs but do not have data on transformations from one status into another either: they simply compare types. Also, they only look at average values for outreach proxies per group, instead of conducting a thorough analysis. Consequently, evidence on the effect of transformation from one type of MFI into another or from non-profit into for-profit MFI on outreach does not exist. However, evidence on the effect of a

change in charter type or status would be more useful in the mission drift debate than simply comparing types or statuses. There are three types of for-profit MFIs present in the microfinance industry: new MFIs that established themselves as for-profit institutions from the start, commercial banks that decided to enter the microfinance industry, and NGO MFIs that transformed themselves into for-profit MFIs. It is the latter type that is most important for the mission drift issue. The first two types of MFIs may have established themselves as institutionist organisations that focus on financial deepening (Woller et al., 1999) and target less poor or more diverse clients. However, NGO MFIs have historically been the institutions that focus on the very poor. New MFIs that establish themselves as for-profit institutions may affect the average poverty level of clients in the microfinance industry as a whole, but only the transformation of originally poverty-focused MFIs into for-profit, possibly less poverty-focused MFIs could potentially take microfinance away from the very poor. Instead of comparing NGO MFIs to bank MFIs, or non-regulated MFIs to regulated MFIs, the transformation from NGO into bank, non-regulated into regulated, or non-profit into for-profit should be analysed. Mersland and Strøm (2009), in their conclusion, specifically call for further research on mission drift in terms of its relationship with MFI transformation. Furthermore, as Cull and Demirguc-Kunt (2006) only use one observation per MFI rather than panel data in their analysis, they highlight the importance of changes over time in the study of mission drift by admitting that their cross-sectional data are *not ideal for addressing mission drift since the issues inherently involve adaptation over time* (p.127). In contrast to these cross-country studies, the data used in my paper allow for analysis of the effect of transformation since the dataset contains information on individual MFIs' changes in charter type.

3 Data

This paper uses data from MIX Market, a global web-based microfinance information platform. The full sample, after adjusting the dataset for missing data, includes 1,558 MFIs in 102 countries over a period of 15 years (1996-2010) and consists of 8,794 observations. The MIX database which is available online was combined with a separate database obtained from MIX on MFI charter type changes. The online MIX database provides charter type and profit status per MFI but treats those as static variables; in this database an MFI that is currently an NBF, for example, will be recorded as such for every year it appears in the dataset, even though it could have been an NGO during the first few years of its existence. The separate database on charter type changes provides names of transformed MFIs, dates of transformation, original charter type of the transformed MFI and the charter type it transformed into. 75 MFIs changed type during the years covered in the sample used in this paper.

Table 1 describes the dataset in terms of the number of MFIs for which data is available per year. Table 2 shows the number of observations per MFI. Table 3 provides information on the different types of MFIs included in the dataset and shows which of those MFIs have transformed. Of the 75 transformed MFIs, 59 were originally NGOs, and transformed NGO MFIs are also the main focus of this paper since this is the only group that includes transformations from non-profit into for-profit institution. The transformed NGO MFIs in this dataset have transformed either into NBF or into Bank. 43 NGOs became for-profit organisations after transformation, while 16 retained their non-profit status.

Table 1: Panel description (MFIs per year)

Year	Number of MFIs with observations in a particular year
1996	17
1997	46
1998	87
1999	124
2000	182
2001	272
2002	471
2003	708
2004	883
2005	1,044
2006	1,149
2007	1,138
2008	1,125
2009	1,031
2010	517
Total	8,794

Table 2: Panel description (number of year observations per MFI)

Number of observations	Number of MFIs
2	242
3	210
4	207
5	184
6	171
7	165
8	125
9	79
10	49
11	45
12	31
13	26
14	15
15	9
Total	1558

Table 3: MFI types

Type	Observations	MFI (total)	MFI that do not transform	MFI that transform and remain non profit	MFI that transform and remain /become for profit
NGO	3549	631	572	16 ¹	43 ²
NBFI	2736	102	102		11 ³
Credit Union /Cooperative	1398	293	292	1 ⁴	2 ⁵
Bank	589	15	13		
Rural Bank	492	77	76		1 ⁶
Other	30	13	13		
		93	93		
		6	6		
		2	1		1 ⁷
Total	8794	1558	1483	17	58

¹ transform into NBFI

² 5 transform into Bank, 38 transform into NBFI

³ transform into Bank

⁴ transforms into NBFI

⁵ transform into NBFI

⁶ transforms into NBFI

⁷ transforms into Bank

Table 4 divides MFIs by country region and MFI type; transformed NGO MFIs are displayed separately. The region Eastern Europe and Central Asia has the highest number of transformed NGOs, while its total number of NGOs is relatively low. In contrast, most African MFIs are NGOs and none of the transformed NGO MFIs in the sample is from Africa. This suggests that the pressure to transform into a for-profit institution and/or to become regulated is high in Eastern Europe and Central Asia, while it seems to be nonexistent in Africa.

Table 5 gives summary statistics on the two outreach variables used in this paper, average loan size/GNI per capita and percentage of female borrowers, per MFI type. In addition, the table displays summary statistics on PPP adjusted average loan size. Separate means are included for transformed NGO MFIs. The table suggests that NGO MFIs have the deepest outreach level of all MFI types, since their average loan size is smallest and their percentage of female borrowers is highest of all types. The average loan of transformed NGOs that have turned into for-profit organisations is more than twice as large as that of nontransformed NGOs. It is also substantially larger than the average loan of transformed NGOs that have remained non-profit organisations. In terms of PPP adjusted average loan, it is almost as high as that of NBFIs. However, when adjusted for GNI per capita, there is still a clear difference. The data suggests that average loan size goes up when NGOs transform, and that the increase is larger for NGOs that turn into for-profit organisations. Interestingly, when looking at PPP adjusted average loan the other MFI types seem to have smaller average loan sizes when they have a for-profit status than when they are non-profits. This is only true for cooperatives and the 'other' category when average loan is adjusted for GNI per capita. Banks are always for-profit organisations and have the highest average loan size.

Furthermore, the table suggests that an MFI's focus on women decreases when an NGO MFI transforms, but only slightly. It decreases 1% more for NGOs that transform into for-profit organisations. However, the percentage of women

borrowers of transformed NGOs is still closer to that of NGOs than to that of NBFIs. Credit Unions/Cooperatives have the smallest percentage of female borrowers, although they still have more female than male borrowers. For-profit Credit Unions/Cooperatives seem to have deeper outreach than non-profit Credit Unions/Cooperatives according to this outreach indicator as well.

The bottom three rows summarise the data in this table. For-profit MFIs have a PPP adjusted average loan balance that is three times as large as NGOs, but the average of the other non-profits is slightly higher than that of for-profits. This average is high mainly because of the high average loan of non-profit Credit Unions/Cooperatives, which represent 61% of the non-NGO non-profit sample. The same is true for focus on women: this is substantially lower for for-profits compared to NGOs, but it is even lower for other non-profits. Nevertheless, in terms of average loan/GNI per capita the average is highest for for-profits.

Table 4: MFI type and region

Region	Type							Transformed NGO*
	NGO	NBFI	Credit Union	Bank	Rural Bank	Other	Total	
Africa	102	90	99	20	24	1	336	0
East Asia and Pacific	61	18	13	4	74	2	172	3
Eastern Europe and Central Asia	51	135	95	27	0	1	309	20
Latin America and the Caribbean	189	118	75	20	1	0	403	14
Middle East and North Africa	46	8	3	1	0	3	61	1
South Asia	180	61	23	5	7	1	277	19
Total	629	430	308	77	106	8	1558	57

* Out of NBFI and Bank MFIs

Table 5: Means of outreach indicators per MFI type

	Average loan balance (PPP adjusted)	Average loan balance / GNI per capita	frequency	Proportion of female borrowers	frequency
Mean	2375	0.79		68%	
NGO	1035	0.34	3549	77%	2277
Transformed NGO non profit	1776	0.4	75	72%	50
Transformed NGO for profit	2624	0.51	194	73%	108
NBFI non profit	3104	0.81	785	65%	427
NBFI for profit	2730	0.88	1951	63%	981
Credit Union/Cooperative non profit	3614	1.17	1336	51%	745
Credit Union/Cooperative for profit	2093	1.27	62	54%	44
Bank	6335	2.51	589	54%	167
Rural Bank non profit	2994	1.02	60	60%	9
Rural Bank for profit	1215	0.51	432	60%	141
Other non profit	2441	0.65	19	65%	14
Other for profit	1011	0.53	11	75%	5
Summary					
NGO	1035	0.34	3549	77%	2277
Non-NGO non profit	3405	1.03	2200	56%	1195
for profit	3193	1.15	3045	62%	1338

4 Methodology

Theoretically, according to Hansmann (1987), for-profit organisations focus on making a profit while non-profit organisations do not, because the latter do not have an incentive to do so due to the nondistribution constraint they face. Furthermore, according to Woller et al. (1999), Schreiner (2002) and Conning (1999), MFIs that try to make a profit and thus want to keep costs low would focus on less poor, more creditworthy clients, who are less costly to serve, and who take out larger loans which allows the MFI to spread out fixed costs. Therefore, MFIs that transform from non-profit into for-profit organisation would be expected to have higher average loan sizes after transformation, and for-profits in general would have higher average loans than non-profits. However, the summary statistics suggest that profit status does not matter very much, unless the non-profit MFI is an NGO. This could be a sign that charter type or regulatory status are better indicators of average loan than profit status. However, profit status does seem to matter for transformed NGOs, since the average loans of NGOs that transform into for-profit institutions are higher than those of transformed NGOs that keep their non-profit status.

The main hypothesis that can be developed from theory is that for-profit MFIs have higher average loans and a lower percentage of female borrowers than non-profit MFIs. The MFI charter type is expected to matter as well, since there are types that are exclusively non-profit (NGOs) or exclusively for-profit (Banks). Furthermore, MFIs that transform from non-profit into for-profit institution are expected to increase their average loan and lower their percentage of female borrowers: they will experience mission drift. In the data sample used in this paper, this applies to NGO MFIs that transform into for-profit NBFIs or Banks. Transformations of NGO MFIs in general can be expected to have an effect on outreach, whether the transformed MFI keeps its non-profit status or not, since transformation from a simple NGO structure into a more complex NBFIs or Bank are likely to involve an increase in costs due to regulatory requirements such as capital adequacy, for exam-

ple (Hartarska and Nadolnyak, 2007). Mission drift could result from an attempt to cover these increased costs. In addition, I am interested in testing for a possible interaction effect between transformation and a country's level of gender inequality measured by the Gender Inequality Index (GII) (UNDP, 2011); MFIs operating in countries with more inequality and thus a higher GII index might find it harder to retain their focus on women when transforming than MFIs in more gender equal countries.

The hypotheses are tested by applying panel data analysis. A fixed effects model is used for analyzing the data. Two types of regressions will be run on the data: one with average loan size as the dependent variable, and one with percent of female borrowers as the dependent variable. Regressions with average loan size can be run on the entire sample, but regressions with percent of female borrowers have to be run on a subsample since not all MFIs provided data on the proportion of women among their borrowers. In addition, two subsamples were created testing hypotheses on NGO transformation specifically. One subsample contains nontransformed and transformed NGOs and will be used to compare NGOs that have transformed into for-profit institutions to NGOs that do not transform. The other subsample contains only transformed NGOs and will be used to test how the MFIs differ after transformation compared to before transformation. In order to deal with missing GII values, the regression with the transformed * inequality interaction variable will be run on a subsample that contains complete information on GII. An overview of the hypotheses and subsamples can be found in tables 6 and 7. Table 8 gives an overview of the variables included in the regressions.

Table 6: Hypotheses: average loan

Variable	Sample	Mean	Obs	Expected effect on average loan
For-profit	Entire sample	0.35	8794	+
NGO	Entire sample	0.40	8794	-
Bank	Entire sample	0.07	8794	+
Transformed	NGO subsample	0.07	3818	+
Transformed into for profit	NGO subsample	0.05	3818	+ larger than transformed
After transformation	Transformed MFI subsample	0.53	511	+
After transformation into for profit	Transformed MFI subsample	0.38	511	+

Table 7: Hypotheses: percent of female borrowers

Variable	Sample	Mean	Obs	Expected effect on % female borrowers
For-profit	% female subsample	0.28	5154	-
NGO	% female subsample	0.47	5154	+
Bank	% female subsample	0.03	5154	-
Transformed	NGO & % female subsample	0.06	2648	-
Transformed into for profit	NGO & % female subsample	0.04	2648	- larger than transformed
Transformed*inequality	NGO & % female & gii subsample	0.56	2498	- larger than transformed
After transformation	Transformed MFI & % female subsample	0.52	501	-
After transformation into for profit	Transformed MFI & % female subsample	0.37	501	-

Table 8: Variable definitions

Variable	Definition
ALOAN	Average loan balance/GNI per capita
FEMALE	Percent of female borrowers
TRANSFORMED	A dummy variable that takes the value of 1 if the MFI is transformed, 0 otherwise
FORPROFIT	A dummy variable that takes the value of 1 if the MFI has for-profit status, 0 otherwise
NGO	A dummy variable that takes the value of 1 if the MFI is an NGO, 0 otherwise
BANK	A dummy variable that takes the value of 1 if the MFI is a Bank, 0 otherwise
NBFI	A dummy variable that takes the value of 1 if the MFI is an NBFI, 0 otherwise
COOP	A dummy variable that takes the value of 1 if the MFI is a Credit Union/Cooperative, 0 otherwise
OTHER	A dummy variable that takes the value of 1 if the MFI is a Rural Bank or Other, 0 otherwise
ASSETS	Total assets (PPP adjusted)
DEBT	Ratio of total liabilities to total equity
BORROWERS	Number of active borrowers with loans outstanding
SELF SUFFICIENCY	Operational self-sufficiency: Financial revenue/(Financial expenses + Loan Loss Provision + Operating Expense). This is a measure of how well the MFI can cover its costs through operating revenues.
AGE	Age of the MFI: number of years since inception
AGE2	Age squared
INFLATION	Inflation, consumer price index ¹
GDP	GDP per capita (PPP adjusted) ²
INEQUALITY	Gender Inequality Index (GII): an index of gender inequality ³ The higher the index, the higher the level of inequality

¹ Source: IMF² Source: IMF³ Source: UNDP

5 Results

Tables 9 and 10 refer to the results of testing the hypotheses on the effects of profit status and MFI type in general, using the entire sample. The results appear to be as expected: they support all hypotheses set out in tables 6 and 7.

The results of these tests with average loan as dependent variable can be found in table 9. The results of estimation [1] demonstrate that MFIs with for-profit status have a significantly higher average loan size than non-profit MFIs, indicating that the outreach of for-profits might be less deep than that of non-profits. Estimation [2] shows that Bank MFIs and NBFIs have significantly higher average loan sizes than NGOs. MFIs in the 'Other' category have significantly higher average loan sizes than NGOs as well. The coefficient for Credit Unions/Cooperatives is not significant.

The exact same results in terms of the potential effect on outreach were found when the percentage of female borrowers was used as the dependent variable, and therefore as the proxy for outreach. From estimation [1] in table 10 it can be concluded that the proportion of women among borrowers of for-profit MFIs is significantly smaller than that of non-profit MFIs, which means that outreach might be less deep among for-profit MFIs than among non-profit MFIs. The results of estimation [2] show that Bank and NBFIs have significantly lower percentages of female borrowers than NGOs. MFIs in the 'Other' category have significantly lower percentages of female borrowers as well. The coefficient for the Credit Unions/Cooperatives group is not significant.

Table 9: Results, average loan balance/GNI per capita: profit status and type

	[1]	[2]
Constant	-1.170*** (0.027)	-1.227*** (0.046)
FORPROFIT	0.2566*** (0.0475)	
BANK		0.442*** (0.080)
COOP		0.146 (0.181)
NBFI		0.172*** (0.042)
OTHER		0.828*** (0.261)
ASSETS	2.43e-10*** (1.17e-11)	2.44e-10*** (1.18e-11)
DEBT	6.98e-7 (0.00002)	1.21e-7 (0.00002)
BORROWERS	-2.48e-7*** (2.88e-8)	-2.39e-7*** (2.88e-8)
SELF SUFFICIENCY	-0.003 (0.005)	-0.003 (0.005)
AGE	0.020*** (0.004)	0.019*** (0.004)
AGE2	-0.00008 (0.0001)	-0.00007 (0.0001)
INFLATION	1.00e-14 (2.02e-14)	1.08e-14 (2.02e-14)
GDP	-0.00005*** (5.80e-6)	-0.00005*** (5.82e-6)
Observations	8794	8794

Standard errors in parentheses.

* Significant at 10%

** Significant at 5%

*** Significant at 1%

Table 10: Results, percent of female borrowers:
profit status and type

	[1]	[2]
Constant	0.690*** (0.011)	0.708*** (0.015)
FORPROFIT	-0.042*** (0.016)	
BANK		-0.067** (0.027)
NBFI		-0.041*** (0.014)
COOP		-0.012 (0.059)
OTHER		-0.473*** (0.086)
ASSETS	3.84e-12 (3.99e-12)	1.42e-12 (4.02e-12)
DEBT	9.55e-6 (0.00002)	9.27e-6 (0.0001)
BORROWERS	1.92e-8 (1.26e-8)	1.27e-8 (1.26e-8)
SELF SUFFICIENCY	0.002 (0.002)	0.002 (0.002)
AGE	-0.004** (0.002)	-0.004** (0.002)
AGE2	0.00003 (0.00007)	0.00004 (0.00007)
INFLATION	9.36e-15 (8.71e-15)	9.14e-15 (8.68e-15)
GDP	6.50e-6** (2.96e-6)	7.04e-6*** (2.70e-6)
Observations	5154	5154

Standard errors in parentheses.

* Significant at 10%

** Significant at 5%

*** Significant at 1%

The results of testing the hypotheses on the effects of transformation, estimated using a subsample consisting of all NGOs and transformed NGOs, can be found in tables 11 and 12. The results of estimation [1] in table 11 show that transformed NGOs have a significantly higher average loan than nontransformed NGOs. The coefficient for the transformation dummy is not significant anymore in estimation [2], when an interaction variable transformed * forprofit is included. This suggests that it is not transformation in general that causes the effect, but transformation into a for-profit institution. NGOs that transform into for-profit institutions have significantly higher average loans after transformation than nontransformed NGOs, while the average loan of transformed NGOs that retained their non-profit status is not significantly different from that of nontransformed NGOs.

Table 12 refers to the results of testing the transformation hypotheses with the percentage of female borrowers as the dependent variable. Transformed NGOs seem to have a significantly lower percentage of female borrowers than nontransformed NGOs, as suggested by the results of estimation [1]. When the interaction term transformed * forprofit was added, none of the two transformation variables' coefficients were significant (estimation [2]). The interaction variable is negative and significant in estimation [3], when the transformed dummy is taken out. As in the results of the estimations with average loan size as dependent variable, so too here the effect on outreach seems not to come from transformation per se but from transformation into for-profit institution specifically. NGOs that transform into for-profit institutions have a significantly lower percentage of female borrowers after transformation than nontransformed NGOs, while the percentage of female borrowers of transformed NGOs that retained their non-profit status is not significantly different from nontransformed NGOs.

In estimation [4] the gender inequality variable is introduced. The coefficient of the interaction term transformed * inequality is positive and significant, suggesting that MFIs operating in more unequal countries actually experience less of a decline in the percentage of female borrowers after transformation than MFIs that operate

in more equal societies. This is the only hypothesis set out in the previous section that has to be rejected. MFIs operating in gender unequal countries might focus more on the gender aspect of outreach, and might therefore put more effort in retaining that level of outreach after transformation.

Table 11: Results, average loan balance/GNI per capita: NGOs and transformed NGOs

	[1]	[2]
Constant	-1.849*** (0.047)	-1.640*** (0.082)
TRANSFORMED	0.161*** (0.040)	-0.047 (0.077)
TRANSFORMED * FORPROFIT		0.276*** (0.088)
ASSETS	2.54e-10*** (1.15e-11)	2.54e-10*** (1.15e-11)
DEBT	9.38e-7 (0.00002)	1.22e-6 (0.00002)
BORROWERS	-1.85e-7*** (3.08e-8)	-1.94e-7*** (3.09e-8)
SELF SUFFICIENCY	-0.003 (0.005)	-0.003 (0.005)
AGE	0.023*** (0.006)	0.023*** (0.006)
AGE2	-0.0001 (0.0002)	-0.0001 (0.0002)
INFLATION	6.84e-15 (2.28e-14)	6.81e-15 (2.28e-14)
GDP	-0.00005*** (0.00001)	-0.00005*** (0.00001)
Observations	3818	3818

Standard errors in parentheses.

* Significant at 10%

** Significant at 5%

*** Significant at 1%

Table 12: Results, percent of female borrowers: NGOs and transformed NGOs

	[1]	[2]	[3]	[4]
Constant	0.818*** (0.021)	0.821*** (0.034)	0.780*** (0.018)	1.269*** (0.130)
TRANSFORMED	-0.042** (0.017)	-0.045 (0.032)		-0.392*** (0.081)
TRANSFORMED * FORPROFIT		0.004 (0.036)	-0.039** (0.019)	
TRANSFORMED * INEQUALITY				0.692*** (0.159)
INEQUALITY				-0.858*** (0.232)
ASSETS	1.60e-12 (4.72e-12)	1.60e-12 (4.72e-12)	1.65e-12 (4.72e-12)	1.73e-12 (4.81e-12)
DEBT	-1.08e-6 (0.00002)	-1.04e-6 (0.00002)	-1.12e-6 (0.00002)	2.59e-6 (0.00002)
BORROWERS	7.88e-9 (1.64e-8)	7.67e-9 (1.65e-8)	8.17e-9 (1.65e-8)	-4.97e-9 (1.72e-8)
SELF SUFFICIENCY	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.002 (0.002)
AGE	-0.005* (0.003)	-0.005* (0.003)	-0.005* (0.003)	-0.008** (0.003)
AGE2	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)
INFLATION	-1.50e-15 (1.40e-14)	-1.50e-15 (1.41e-14)	-1.05e-15 (1.41e-14)	-2.81e-15 (1.43e-14)
GDP	4.72e-6 (5.69e-6)	4.73e-6 (5.69e-6)	4.29e-6 (5.6e-6)	9.19e-6 (6.28e-6)
Observations	2648	2648	2648	2498

Standard errors in parentheses.

* Significant at 10%

** Significant at 5%

*** Significant at 1%

The transformation hypotheses were tested again in a sample containing only transformed NGO MFIs. Table 13 shows the results of these tests with average loan as dependent variable. The transformation dummy's coefficient is positive and significant in estimation [1], indicating that the average loan balance of transformed MFIs is significantly higher after transformation compared to the average loan balance before transformation. When the interaction variable transformed * forprofit is added, the dummy for transformation is no longer significant but the interaction variable itself is. This indicates that the effect of transformation comes from MFIs that transformed into for-profit institutions. The results with percentage of female borrowers as the dependent variable can be found in table 14. I tested both the transformation hypotheses and the gender inequality hypotheses. The results of estimation [1] shows that transformed NGOs have a significantly lower percentage of female borrowers after transformation compared to before transformation. When the interaction variable transformed * forprofit is included in the estimation, the significant effect disappears, which indicates that the effect of transformation does not come from transformation into a for-profit per se. Also when the transformation dummy itself is removed, the coefficient of the interaction variable does not become significant. From the results of estimation [4] can be seen that the coefficient of the interaction term transformed * inequality is positive and significant, suggesting that MFIs operating in more unequal countries experience less of a decline in the percentage of female borrowers after transformation than MFIs that operate in more equal societies.

The equations used to obtain the results reported in tables 13 and 14 are the same as the ones used for tables 11 and 12, but the subsamples are different. In tables 11 and 12, transformed MFIs were compared to a group of nontransformed MFIs, mainly containing observations for NGOs that never transform and some observations for transformed NGOs before transformation. In tables 13 and 14, the NGOs that never transform were left out; the observations after transformation were compared to the observations before transformation. The

results are the same across the two groups of tables: the average loan balance and percentage of female borrowers is significantly higher and lower, respectively, than the average loan balance and percentage of female borrowers of nontransformed NGOs, and than those of the same group of transformed MFIs before transformation. The only exception is the effect of transformation into for-profit institution on the percentage of female borrowers: this effect was significant and negative in the nontransformed and transformed NGO subsample, but no effect of transformation into for-profit was found in the transformed MFI subsample.

Table 13: Results, average loan balance/GNI per capita: transformed MFI subsample

	[1]	[2]
Constant	-1.41*** (0.100)	-1.266*** (0.119)
TRANSFORMED	0.160*** (0.062)	-0.0009 (0.094)
TRANSFORMED * FORPROFIT		0.217*** (0.096)
ASSETS	1.59e-9*** (3.83e-10)	1.55e-9*** (3.82e-10)
DEBT	0.00002 (0.0001)	0.00003 (0.0001)
BORROWERS	-7.82e-7*** (1.69e-7)	-7.73e-7*** (1.68e-7)
SELF SUFFICIENCY	0.035 (0.029)	0.039 (0.029)
AGE	0.074*** (0.017)	0.072*** (0.017)
AGE2	-0.001* (0.0006)	-0.001* (0.0006)
INFLATION	-0.0007*** (0.0003)	-0.0006*** (0.0002)
GDP	-0.0001*** (0.00002)	-0.0001*** (0.00002)
Observations	511	511

Standard errors in parentheses.

* Significant at 10%

** Significant at 5%

*** Significant at 1%

Table 14: Results, percent of female borrowers: transformed MFI subsample

	[1]	[2]	[3]	[4]
Constant	0.834*** (0.026)	0.829*** (0.030)	0.813*** (0.026)	1.570*** (0.117)
TRANSFORMED	-0.029** (0.016)	-0.024 (0.024)		-0.258*** (0.063)
TRANSFORMED * FORPROFIT		-0.007 (0.024)	-0.025 (0.016)	
TRANSFORMED * INEQUALITY				0.464*** (0.116)
INEQUALITY				-1.240*** (0.211)
ASSETS	4.21e-11 (9.78e-11)	4.34e-11 (9.80e-11)	5.27e-11 (9.70e-11)	9.85e-11 (9.84e-11)
DEBT	-8.94e-6 (0.00003)	-9.26e-6 (0.00003)	-8.68e-6 (0.00003)	-1.12e-6 (0.00004)
BORROWERS	-9.23e-9 (4.30e-8)	-9.50e-9 (4.31e-8)	-1.46e-8 (4.28e-8)	-3.86e-8 (4.33e-8)
SELF SUFFICIENCY	0.014** (0.007)	0.014** (0.007)	0.014** (0.007)	0.006 (0.008)
AGE	-0.003 (0.004)	-0.003 (0.004)	-0.004 (0.004)	-0.013*** (0.05)
AGE2	0.0003** (0.0001)	0.0003** (0.0001)	0.0003** (0.0001)	0.0004*** (0.0002)
INFLATION	-0.0001* (0.00007)	-0.0001* (0.00007)	-0.0001** (0.00007)	-0.0003*** (0.0001)
GDP	-0.00001** (6.9e-6)	-0.00001** (6.9e-6)	-0.00001** (6.94e-6)	-6.51e-6 (8.16e-6)
Observations	501	501	501	434

Standard errors in parentheses.

* Significant at 10%

** Significant at 5%

*** Significant at 1%

6 Conclusions

This paper has used panel data analysis to investigate whether institutional transformation among MFIs causes mission drift, and to examine what the importance is of charter type and profit status for outreach. The results, based on a sample of 8,794 observations, suggest that for-profit MFIs have significantly higher average loans and a significantly lower percentage of female borrowers than non-profit MFIs, indicating that outreach among non-profit MFIs is deeper than that of for-profit MFIs. The charter type of an MFI matters as well: the average loan of Banks and NBFIs is significantly higher and their percentage of female borrowers is significantly lower than those of NGO MFIs. This makes sense since all Bank MFIs and most NBFIs are for-profit institutions, while NGOs are exclusively non-profit. The results of analysis on smaller samples of 3,818 observations, containing transformed NGOs and nontransformed NGOs, and of 511 observations, containing only transformed NGOs, suggest that transformation from NGO into for-profit NBFIs or Banks may cause mission drift. Tests on the first sample show that transformed MFIs have higher average loans and lower percentages of female borrowers than nontransformed NGOs. Tests on the second sample indicate that average loan increases and percentage of female borrowers decreases after transformation. Interestingly, transformed MFIs that operate in gender unequal countries experience less of a decrease in their focus on women after transformation than MFIs that operate in more gender equal countries. Motivation to have deep outreach could be an explanation: focus on women could be considered to be more important by MFIs operating in gender unequal countries, making them more motivated to retain their deep outreach in terms of reaching women after they transform.

The results suggest that the recent move to commercialisation of the micro-finance industry is not a positive development. Commercialisation implies the adoption of a for-profit status, which may lead to higher average loans and a lower

percentage of female borrowers. NGOs seem to be the only types of MFIs able to reach the very poor, and when they transform into for-profit institutions, they seem to experience mission drift.

The transformed MFIs in my dataset could have adopted a for-profit status for two reasons: they want to attract private investment and actually try to maximise profits, or they changed their profit status because they became regulated institutions. In the former case it is clear that the MFI in question adopts a profit motive and outreach might decrease because poorer clients are more costly and less profitable. In the latter case an MFI might not be trying to maximise profits at all. My dataset does not include information on changes in regulatory status; I do not know whether the MFIs that changed status or charter type became regulated institutions at the same time. This is likely, since the static information on regulation in the MIX database shows that Bank MFIs are always regulated institutions and NBFIs are regulated most of the time. But since not all NBFIs are regulated institutions, and some regulated MFIs still have NGO status, no conclusions can be drawn from my results with regards to the reason for adopting a for-profit status.

Cull et al.'s (2011) study shows that regulated MFIs facing onsite supervision have higher average loan sizes and a lower percentage of female borrowers than unregulated MFIs. These results suggest that the mission drift found in my study could be caused by becoming a regulated institution instead of by adopting a for-profit status; or it could be a combination of the two, since regulated MFIs usually have a for-profit status. Cull et al. (2011) conclude that for-profit MFIs that have to comply with supervision curtail their outreach to poorer segments of the population in order to absorb the cost of supervision. This implies that MFIs could experience mission drift not because they are trying to increase their profits, but because they are trying to keep profits at the same level or in order to not make a loss. Further research combining data on profit status, charter type and regulatory status changes is needed to examine more carefully the causes of mission

drift among transformed MFIs.

Average loan is the most widely used outreach variable in the literature on mission drift (Cull and Demirguc-Kunt, 2006; Schreiner, 2002), but it must be noted that there are weaknesses in using an average value. I include the percentage of female borrowers as an alternative measure. Future research could use better alternative measurements such as average loan for new borrowers.

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