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Armendáriz, Beatriz and Szafarz, Ariane

CERMi, University College London, Harvard University

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On Mission Drift in Microfinance Institutions*

Beatriz Armendáriz

Harvard University, University College London, and CERMi

Ariane Szafarz

Université Libre de Bruxelles (ULB),
Solvay Brussels School of Economics and Management,
Centre Emile Bernheim, and CERMi

This paper sheds light on a poorly understood phenomenon in microfinance which is often referred to as "mission drift": A tendency reviewed by numerous microfinance institutions to extend larger average loan sizes in the process of scaling–up. We argue that this phenomenon is not driven by transaction cost minimization alone. Instead, poverty-oriented microfinance institutions could potentially deviate from their mission by extending larger loan sizes neither because of "progressive lending" nor because of "cross-subsidization" but because of the interplay between their own mission, the cost differentials between poor and unbanked wealthier clients, and region-specific clientele parameters. In a simple one-period framework we pin down the conditions under which mission drift can emerge. Our framework shows that there is a thin line between mission drift and cross-subsidization, which in turn makes it difficult for empirical researchers to establish whether a microfinance institution has deviated from its poverty-reduction mission. This paper also suggests that institutions operating in regions which host a relatively small number of very poor individuals might be misleadingly perceived as deviating from their social objectives. Because existing empirical studies cannot differentiate between mission drift and cross-subsidization, these studies can potentially mislead donors and socially responsible investors pertaining to resource allocation across institutions offering financial services to the poor. The difficulty in separating cross-subsidization and mission drift is discussed in light of the contrasting experiences between microfinance institutions operating in Latin America and South Asia.

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1 Introduction

What is "mission drift"? In answering this question from a microfinance standpoint, we must start by looking into how the microfinance institutions (MFIs) advertize themselves. What is their main mission? Suppose for a moment, and for the sake of argument, that a particular MFI states that its main objective or mission is poverty reduction.[1] Let us assume again, for the sake of argument, that a good proxy for poverty is average loan size — the smaller the average loan size, the greater the depth of outreach, to use the microfinance parlance.[2] Then, instead of asking what is mission drift, we could simply ask: What prompts an MFI to increase its average loan size over time, thereby lowering outreach depth? There are two straightforward answers to this question. First, progressive lending, which, in the microfinance jargon, pertains to the idea that existing clients can reach up to higher credit ceilings after observing a "clean" repayment record at the end of each credit cycle.[3] Second, cross-subsidization, which entails reaching out to unbanked wealthier clients in order to finance a larger number of poor clients whose average loan size is relatively small. These two explanations are in line with the MFI social objective.

Rather, mission drift relates to a phenomenon whereby an MFI increases its average loan size by reaching out to wealthier clients neither for progressive lending nor for cross-subsidization reasons. Mission drift in microfinance arises when an MFI finds it profitable to reach out to unbanked wealthier individuals while at the same time crowding out poor clients. According to this definition, mission drift can only appear when the announced mission is not aligned with the MFI's average loan size minimization. Because this is often the case, our definition has the advantage of being a rather easily observable outcome, which can be measured empirically.

Building on a comprehensive literature review from individual MFI experiences by Fidler (1998), on pioneering theoretical work by Copestake (2007) and Ghosh and Van Tassel (2008), and on recent empirical work by Cull *et al.* (2008), this paper sheds light on a poorly understood phenomenon

[1]This is not an unrealistic assumption as shown in Section 2 of this article.
[2]See, for example, Mosley (1996), Armendáriz and Morduch (2010), and Cull *et al.* (2008). For a detailed discussion on the merits of this definition of poverty, see Schreiner (2001).
[3]See Armendáriz and Morduch (2010) for a more complete explanation on progressive lending and the rationale behind it.

in microfinance which is often referred to as "mission drift": A tendency reviewed by numerous microfinance institutions to extend larger average loan sizes in the process of scaling-up. We argue that this phenomenon is not driven by transaction cost minimization alone. Instead, poverty-oriented microfinance institutions can deviate from their mission by extending larger loan sizes neither because of "progressive lending" nor because of "cross-subsidization" but because of the interplay between their own mission, the cost differentials between poor and unbanked wealthier clients,[4] and region-specific parameters pertaining MFIs' clients.[5] Christen (2000) lists several factors such as strategy, and portfolio maturity. These may indeed make the loan size larger without MFIs necessarily deviating from their poverty-reduction.[6]

In a simple one-period framework, we pin down the conditions under which mission drift can emerge. The main point resulting from our framework is that there is a thin line between what constitutes mission drift and cross-subsidization, which in turn makes it difficult for empirical researchers to establish whether a microfinance institution has indeed deviated from its poverty-reduction mission.[7] This paper also suggests that institutions operating in regions which host a relatively small number of very poor individuals might be misleadingly perceived as deviating from their mission. Because existing empirical studies cannot differentiate between mission drift and cross-subsidization, these studies can mislead donors and socially responsible investors. The difficulty in separating cross-subsidization and mission

[4]Agency problems might also enter the picture (see Aubert *et al.*, 2009; Labie *et al.*, 2010).

[5]While the focus of this paper is on microfinance institutions which "drift" away from their poverty-reduction mission, where poverty is proxied by average loan size, we could also think of situations where such a drift is triggered by profit-oriented donors. As discussed below, the latter scenario has been analyzed by Ghosh and Van Tassel (2008). Mission drift could also be rooted in shareholders' pursuit of a self-sustainability objective which might take priority over their poverty-reduction objective (Hermes and Lensink, 2007).

[6]Henceforth, we use outreach maximization and poverty reduction mission/objective interchangeably.

[7]One way to assess empirically whether an institution has deviated from its mission is the following: In its growth process, does the MFI crowd out the poor as the size of its portfolio grows? However, a clean empirical analysis on this requires a well-defined notion of poverty, which further complicates the picture. Empirical researchers tend to associate mission drift with larger average loan size. As we will argue below, this is potentially misleading to begin with. This paper can thus be viewed as a "warning" on further empirical research without theoretical and empirically sound underpinnings.

drift is discussed in light of the contrasting experiences between microfinance institutions operating in Latin America and South Asia.

While our model is static for the sake of simplicity, it does shed light on the profitable scaling-up process whereby, in their efforts to avoid loan arrears and monitoring costs, MFIs tend to target better-off clients in priority. Simply put: relative to poor clients, unbanked wealthier clients cost less. MFIs' excessive focus on (relatively costless) unbanked wealthier clients might be motivated by profit-oriented donors, and drifting from their mission might be the only way to attract more resources, in the model by Gosh and Van Tassel (2008). Alternatively, the motivation for MFIs to drift from their mission might be because such institutions wish to attract socially responsible investors. Commercial MFIs are a typical example, which is often invoked in the empirical literature. This literature generally uses as a proxy of mission drift the larger loan sizes that commercial MFIs offer relative to the size of the loans offered by non-governmental organizations (NGOs), for example. In recent empirical work by Cull *et al.* (2009) across different MFIs operating in different regions, the proxy for poverty is average loan size, suggesting that mission drift results from the recent microfinance commercialization trend.

Taking average loan size as a proxy for poverty is gaining increasing empirical popularity. This paper will focus on the merits of this approach in the hope of offering some guidance for empirical researchers. Our main argument is closest in spirit to what Gonzalez-Vega *et al.* (1997) describe as a "loan size creep". That is, creeping up to larger loans to wealthier clients, rather than growing a larger numbers of small-loan customers. A straightforward interpretation of the loan size creep idea is that increased profitability by MFIs tapping wealthier clients — who typically request a larger loan size — is triggered by these institutions' efforts to minimize the transaction costs involved in dealing with small loans, which in turn hinders self-sustainability. In this paper, we dispel this view by showing that transaction cost minimization alone is not at the root of a mission drift phenomenon. Instead, MFIs serving the poor might be constrained by the number of poor clients that can potentially be served in a particular region, as well as other region-specific parameters. This, in turn, makes empirical efforts to detect mission drift across MFIs exceedingly difficult, if not impossible. From a policy standpoint, donors and socially responsible investors should be cautious in taking existing empirical efforts suggesting mission drift. These results

might bias donors and socially responsible investors' decisions against funding organizations that offer good financial prospects for the poor via cross-subsidization.

The paper is structured as follows. Section 2 describes some basic stylized facts on the top 10 MFIs worldwide, ranked from top to bottom in terms of clients reached, and their various missions. Four poverty-reduction mission-driven institutions are in Asia. The three MFIs which are based in Latin America do not advertise themselves as poverty-reduction mission-driven institutions. Nevertheless, social orientation is clearly there. Section 3 briefly discusses the theoretical concept of mission fulfillment in microfinance. Section 4 displays the basic model showing that a mission drift theory based on transaction cost minimization alone can be misleading. Section 5 shows that the most important region-specific parameters, which might differ quite widely across MFIs, are at the root of a potential mission drift. These parameters are decisive in any attempt to distinguish cross-subsidization from mission drift. In particular, this section shows that heterogeneity across MFIs and regions might explain why some institutions are more prone to deviate from their poverty-reduction/outreach maximization objectives. While it remains true that some institutions might give more weight to serving the poor, we show that there are at least two parameters which play an important role, namely, the relative cost of serving the poor relative to that of serving the unbanked wealthier on the one hand, and the scope for serving larger numbers of poor individuals on the other. The interplay of these key parameters can predict which MFIs will be more prone to deviate from their outreach maximization/poverty reduction objective. Section 6 discusses the model in light of the contrasting experiences in South Asia and Latin America. Section 7 concludes and opens avenues for future research.

2 The Poverty Reduction Mission in Perspective

Table 15.1 displays the top 10 microfinance institutions (MFIs) ranked by the Microfinance Information Exchange (MIX) market from highest to lowest in terms of number of clients reached. The second column delivers a proxy for outreach as a percentage of the total population which is being served by the MFI in question in a particular country. Bangladesh's Grameen Bank and Vietnam's VBSP rank highest in terms of outreach, most likely because the number of poor in those countries is the highest, a parameter to which

Table 15.1: Missions of the 10 largest microfinance institutions worldwide.

Institution	Outreach (as a percentage of country's population)	Country	Legal Status	Main Mission	Other Mission(s)
Grameen Bank	4.43	Bangladesh	Regulated Bank.	Poverty Reduction.	Focus on women.
ASA	3.31	Bangladesh	NGO.	Income Generation.	Integrate women.
VBSP	5.43	Vietnam	State-Owned Regulated Bank.	Poverty Reduction.	Low interest rates.
BRAC	2.92	Bangladesh	NGO.	Poverty Reduction.	Literacy & Disease.
BRI	1.44	Indonesia	Regulated Bank.	Wide Financial Services to small entrepreneurs.	Best Corporate Governance & Profits for Stakeholders.
Spandana	.08	India	Regulated Financial Institution.	Leading Financial Service Provider.	Marketable & Equitable Solutions for Benefit of Stakeholders.
SHARE	.07	India	Regulated Financial Institution.	Poverty Reduction.	Focus on Women.
Caja Popular Mexicana	.58	Mexico	Regulated Cooperative.	Cooperative for Improving Quality of Life of Members.	Offer Competitive Financial Products to its Members.
Compartamos	.55	Mexico	Regulated Bank.	Create Development Opportunities.	Develop "trust relationships".
BCSC	1.34	Colombia	Regulated Bank.	Leading in "popular" banking.	To develop social objectives among community members.

Source: Mix Market 2007 Report and Grameen Foundation.

we shall come back in greater detail later in the analysis as it captures the notion of poverty in a controversial manner, namely, via average loan sizes.[8]

The last two columns show the main mission of each MFI as well as other missions, as stated by the profile of each MFI by MIX.[9] At one end of the spectrum, we find institutions such as Bangladesh's BRAC, whose main mission is not just poverty reduction via the provision of financial services for income-generating activities, but also that of fighting illiteracy and diseases.[10] These three objectives accord well with a more comprehensive notion of poverty, as captured by the Human Development Index (HDI).[11] At the other end of the spectrum, we observe South Asian seemingly for-profit MFIs such as India's Spandana, whose main mission is to become the largest provider of financial services and to maximize stakeholders' welfare — poor clients could be potentially included as stakeholders but their welfare might be equally valued relative to that of wealthier clients. This simple comparison between two Asian MFIs takes us to the bottom of more serious empirical findings: BRAC's average loan size for the year 2007 is US$188, Spandana's $199. Can a difference of US$11 make Spandana a mission-drifting institution relative to BRAC?

Somewhat related and contrary to the "received wisdom", MFIs' legal status does not seem to appear as an important determinant of a poverty-reduction mission. The institutional characteristics are shown in column four. A case in point is the well-known Grameen Bank of Bangladesh, which does not advertise itself as an NGO despite the fact that its main mission is to alleviate poverty. In theory, the Grameen Bank is a cooperative, although

[8]Note, however, that outreach numbers can be misleading. While they deliver some indication of the number of clients served by institution, those numbers hide market structure considerations. For example, the Grameen Bank, ASA, and BRAC are the three main institutions serving nearly 20 million clients in Bangladesh. Compartamos, on the other hand, faces little competition, and does not even serve 600 thousand clients in Mexico, in the year 2007, according to the data provided by MIX.

[9]A notable example is that of the Grameen Bank, whose mission statement, as reported by MIX is N/A. The mission statement for this particular institution was obtained from the website of Grameen Foundation, headquartered in the United States.

[10]Our argument at this stage is on the main missions, as advertized by the institutions themselves, not on the means to attain those objectives. In the particular case of BRAC, the main mission is poverty reduction. The other missions are however advertized by BRAC itself even though it uses affiliates like Self-Employed Women's Association (SEWA).

[11]The Human Development Index (HDI) delivers a broader notion of poverty involving income, health, and education. For more on how this index is derived, see the Human Development Reports, published annually by the United Nations.

the bulk of the funds it mobilizes does not come from its members.[12] The Grameen Bank, quite independently of its legal status, is not the only MFI advertising itself as having poverty-reduction as its main mission. In particular, four out of the top 10 MFIs state quite explicitly that exact same poverty reduction mission. Interestingly, the four of them are located in South Asia. In particular, and according to recent estimates by the World Bank, South Asia continues to host the largest number of individuals living in poverty, and this fact alone should in principle attract massive numbers of poor into the microfinance industry. On the other hand, poor and middle-income countries in, for example, Latin America are known to have underdeveloped financial systems making MFIs an attractive source of funding for unbanked wealthier clients.

Identifying the notion of poverty with average loan size dates back to Mosley (1996) who explains that Bolivia's Bancosol deviates from its mission by serving larger loans to wealthier clients for the sake of self-sustainability, but at the expense of deviating resources away from the poor who request smaller loans.[13] Ever since, average loan size has become the most widely used proxy in quantitative studies showing that some MFIs like Bancosol might prioritize self-sustainability at the expense of their poverty-reduction or outreach maximization mission. Moreover, MFIs often advertize small average loan sizes as an important indicator pertaining to outreach, and as a reinforcing signal for their main mission. Mix (2008), for example, reports that the average loan size for the four poverty-reduction MFIs displayed in Table 15.1 for the year 2007 was estimated to be of around USD 175 compared with USD 1,065 for the remaining six.[14]

[12]We should note that the case of the Grameen Bank is rather peculiar in that it advertizes itself as a fully-regulated bank. In reality, however, while the Grameen Bank belongs to its members and can therefore be defined as a cooperative, the little savings it mobilizes from its members makes it look like a "hybrid", that is, a bank-cooperative institution.

[13]More precisely, the ratio of average loan size and per capita GDP. For a very comprehensive discussion on this, see Schreiner (2001) and Dunford (2002).

[14]Clearly, a per capita comparison is more meaningful. Mix does not report per capita average loan size for the year 2007. For the year 2006, however, percentage average loan size per capita for the four poverty-reduction MFIs was 24.94 compared to 34.6 for the remaining six. This approximation shows that while the gap is reduced, as expected, the 10 percentage points higher for the non-poverty reduction MFIs is not negligible. Interestingly, region-wise, the percentages for the year 2006 show consistency. In particular, the four poverty-reduction MFIs shown in Table 15.1, all in Asia, review an average per capita loan size of 23.94 compared to 28.31 for their non-poverty reduction counterparts, also in Asia. Not surprisingly, the average for three Latin American MFIs, namely, 40.89, is the highest of all.

Somewhat surprisingly, the literature on mission drift leaves aside interest rate considerations.[15] Even though interest rate considerations are beyond the scope of this paper, note that in Table 15.1, the four poverty-reduction-driven MFIs review an estimated average interest rate of approximately 17 percent, while the remaining six charge an average of 28 percent.[16] Out of these six, four are commercial MFIs.[17]

Thus, assuming that a good proxy of mission drift relates to the tendency by MFIs to serve unbanked wealthier clients who request relatively large average loan sizes can be a bit of a stretch indeed, but this is what empirical researchers do. And they might not be totally wrong. Table 15.1 appears to strengthen what empirical researchers might have in mind. At one extreme is Bangladesh's ASA, which reviews an average loan size (the lowest among all 10) of about US$ 67 which has remained pretty stable over the past four years. At the other extreme is Mexico's Banco Compartamos which is above average in terms of average loan size set at US$ 450. Banco Compartamos is often portrayed as an example of a mission-drifting MFI. ASA, on the other hand, is often praised as a cost-minimization institution, which has managed to be highly efficient while serving massive numbers of poor clients.

The above example illustrates rather well the meaning of mission drift so far. Generally speaking, mission drift is observed when an MFI transits from being a NGO to a commercial for-profit bank, and during this process it increases its average loan size.[18] A typical case in point is Banco

[15]For a comprehensive review on interest rates, see Hudon (2007).

[16]The proxy for interest rates was obtained from MIX MFIs profile. It is stated as "financial revenue ratio". This is roughly cash financial revenue divided by average gross portfolio, which is the proxy for average interest rate use by, for example, Cull *et al.* (2008). We should note, however, that unlike the MFIs that state poverty reduction as their main mission, the interest rate range for the remaining six is huge (16.12 percent for Caja Popular Mexicana to 68.48 percent for Compartamos).

[17]Cull *et al.* (2008) distinguish commercial MFIs and NGOs, however, showing that the latter charge higher interest rates. Their explanation relies on the fact that NGOs face higher costs while serving a relatively poorer clientele. In contrast, Ghosh and Van Tassel (2008) suggest that NGOs charge higher interest rates because these type of MFIs are funded by profit-oriented donors.

[18]The passage of an MFI from a NGO to a fully-regulated bank is not a necessary condition for an institution to deviate from its mission. As documented by González and Rosenberg (2006), and Cull *et al.* (2008), relative to fully-regulated commercial MFIs, NGOs often charge higher interest rates. Interest rate considerations should indeed be part of a more comprehensive notion of mission drift, as suggested by Ashta and Hudon (2009) in their work on Banco Compartamos. From a purely theoretical standpoint, and for the sake of simplicity, however, interest rate considerations are beyond the scope of our analysis. We nevertheless raise this important issue in the conclusion of this paper.

Compartamos (Ashta and Hudon, 2009). The question as to why Banco Compartamos and, more generally, Latin American MFIs have a tendency to be more commercially-oriented relative to those MFIs which are based in Asia, has never been raised in scholarly articles. We will try to elaborate on this question in Section 6.[19]

Column six in Table 15.1 shows that MFIs might have other missions, such as prioritizing women clients. This fits well with UNDP reports showing that women in developing economies are the poorest of the poor.[20] Thus, yet another indicator to assess if MFIs are being faithful to their poverty-reduction mission is related to gender. Both average loan size and gender are being considered in Cull *et al.*'s empirical investigation (2009) on the commercialization of microfinance, and its effects on poverty reduction. The authors conclude that recent commercialization trends are "bad" news for the poor because commercialization is being accompanied by larger loan sizes and less focus on women.

Cross-MFI empirical studies such as the Cull *et al.* (2009) study should be taken with a great deal of caution. To make our point, let's go back for a moment to Table 15.1 where outperformers are located in either South Asia or Latin America, with the former generally considered a low-income region while the latter a middle-income region. Both regions are thick in microfinance relative to, say, Sub Saharan Africa (Armendáriz and Vanroose, 2009). Average loan sizes are not surprisingly different in both these regions. However, common sense indicates that this is normal. In particular, according to the recent OECD report, average GDP per head in Latin America is nearly three times higher than its Asian counterpart. The main point of this article is that, whatever the interpretation of that such cross-MFIs regressions, researchers remain unable to distinguish whether higher average loan sizes are due to cross-subsidization or to mission drift.

Ghosh and Van Tassel (2008), on the other hand, suggest that the most accurate approach to deal with the mission drift issue is neither loan size nor gender, but the poverty gap ratio. Their model is most adequate for clarifying the notion of poverty reduction and mission drift. Their approach, however, delivers little guidance for empirical researchers, if only because poverty is more difficult to measure in practice, and because the poverty

[19]A notable example can be found in Rhyne (2001). However, her historical analysis focuses mostly on Bolivia on the one hand, and is not viewed through the lens of theory, on the other hand.

[20]See, for example, Armendáriz and Vanroose (2009) and Agier and Szafarz (2010).

gap ratio is based on poverty line estimates which are already controversial among econometricians.[21]

Another difference between the Cull *et al.* (2009) and the Ghosh and Van Tassel (2008) articles deserves attention. The former emphasizes commercial MFIs, and suggests that mission drift takes place because these institutions desire to attract more socially-responsible investors. The latter emphasizes for-profit NGOs, and suggests that mission drift results from MFIs' efforts to attract more capital from profit-oriented donors. In both papers, mission drift is perceived as a device for attracting more capital to fund MFIs. In both instances, the presence of a third party socially-responsible investors in the case of Cull *et al.* (2009), and for-profit donors in the case of Ghosh and Van Tassel (2008) is key. In what follows, we will argue that there is no need to complicate the picture by including donors or socially-responsible investors in order to explain why MFIs may deviate from their poverty-reduction mission. Simply put, the rather obscure notion of mission drift can be elucidated without the presence of a "third party" — be these donors or socially responsible investors.

3 Mission Drift from a Theoretical Standpoint

Somewhat surprisingly, the notion of "mission" in economics is rarely used and studied in great detail. Instead, the literature tends to identify mission with objective. A notable exception is a distinguished tradition in public policy, first started by Wilson (1989). His work focuses on incentives for government officials to adhere to an institution's mission. Following Wilson's tradition, Dewatripont *et al.* (1999) use a principal-agent model *à la* Holmstrom and Milgrom (1991) where agents pursue multiple missions. They show that while organizations might gain from pursuing multiple missions, they can lose focus leading to less autonomy being delegated to government officials (or agents).

From a purely theoretical standpoint, and with the notable exception of Ghosh and Van Tassel (2008), modeling MFIs' objective function adopts a principal-agent approach to highlight adverse selection and moral hazard issues, which can be potentially circumvented via contract design between an MFI and peer groups. Examples of this approach abound. See, for example, Stiglitz (1990), Banerjee *et al.* (1994), Besley and Coate (1995), Armendáriz

[21]For an in-depth discussion, see Blundell and Preston (1998).

(1999), Conning (1999), Ghatak (1999), Ghatak (2000), Armendáriz and Gollier (2000), Jain and Mansuri (2003), and Tedeschi (2006), Labie *et al.* (2010), and many others.

Without underestimating the merits of the principal-agent approach adopted by the vast majority of authors who have written sophisticated models in order to gain important insights into optimal financial contracting in the absence of collateral, our approach in this article differs widely in three important ways. First, and in contrast with Ghosh and Van Tassel (2008), our focus is in just one mission or objective to be maximized, and this maximizing objective function involves one and only one entity, namely, the MFI itself.[22] Second, that particular mission or objective is well-defined: a representative MFI is assumed to have a poverty reduction mission (henceforth: the representative MFI is assumed to maximize outreach).[23] Last but not least, our model shows that mission drift is the result of an optimization process by an outreach-maximizing MFI facing different costs while serving a heterogeneous clientele of poor and wealthier borrowers.

4 The Absence of a Transaction Cost-Driven Mission Drift

Transaction costs are typically at the heart of most discussions on mission drift. Using loan size as a proxy for the poverty level of clients, Cull *et al.* (2008)'s recent findings indicate that MFIs with the highest profit levels perform the weakest in terms of outreach. Also, larger loan sizes are associated with lower average costs, which supports the idea that those institutions that target poorest borrowers struggle in pursuit of financial sustainability. Do transaction costs play a crucial role at explaining why MFIs might drift from their outreach maximization objective? In what follows, we will show

[22]Simply put, donors or socially responsible investors do not play any role in our framework. While introducing them might help us gain important principal-agent insights in microfinance, our conjecture is that our main results will remain fundamentally the same.

[23]Outreach and poverty are different notions. However, we use these two terms interchangeably for two reasons: First, the notion of outreach is closely related to microfinance while poverty is much more general, and we wish to derive some testable implications which are simpler to deal with using the notion of outreach. Second, entering into a discussion on what is the most accurate definition of poverty and measures relying on fussy concepts such as the poverty line are beyond the scope of this paper. For a discussion, see Sen (1999).

that a mission drift phenomenon, which is solely based on transaction costs, lacks theoretical support, and is therefore misleading.

Consider an MFI which is endowed with an amount of capital, K, as its only source of funds for extending loans to poor clients. Suppose that the MFI serves N clients via loans of an identical amount s. Assume that the MFI faces fixed costs F (with $F < K$) and variable transaction cost $T(N)$. It follows that the MFI's total cost is given by:

$$C = F + T(N) = f(N), \quad \text{with } f(0) = F \quad \text{and} \quad f'(.) \geq 0 \tag{1}$$

Assume that the MFI's objective is to maximize outreach via micro-loans, that is, the MFI maximizes outreach, N, by controlling the loan size, s, subject to a budget constraint. Specifically, the MFI's maximization program is:

$$\begin{aligned} &\underset{s \geq 0}{\text{Max}}\, N \\ &\text{s.t. } K = sN + f(N) \end{aligned} \tag{2}$$

In the absence of costs, $f(N) = 0$, and the MFI's optimization function is simply:[24]

$$\underset{s \geq 0}{\text{Max}}\ \frac{K}{s} \tag{3}$$

and the trivial solution, for all possible values of K, is a corner solution: $s^* = 0, N^* = +\infty$.

Clearly, when $f(N) \neq 0$, total costs increase and, all things equal, higher costs reduce the amount of resources that the MFI can use for serving its clientele. Consider, for example, the case where transaction costs are linear, that is: $f(N) = F + yN, y > 0$. Then, the MFI's objective function becomes:

$$\underset{s \geq 0}{\text{Max}}\ \frac{K - F}{s + \gamma} \tag{4}$$

And the optimal solution is again reached at $s^* = 0$. We should note, however, that under this particular scenario, as $K = sN + F + \gamma N$, the number of (tiny) loans is finite.[25] In particular: $N^* = \frac{K-F}{\gamma}$. Thus, while linear transaction costs reduce outreach, such costs alone do not alter the optimal loan size. Moreover, as we show in the Appendix, this result is robust for

[24]Note that even if the MFI is a NGO receiving grants with amount linked to the size of its loans: $K = K(s)$, $K'(.) \leq 0$, the solution remains the same.

[25]The capital available for loans, K, is exogenous. Moreover, we ignore the repayment probability which, in the steady-state, could increase the value of K. Actually, at the optimum; we have a finite number of infinitesimal loans resulting in negligible repayments.

quadratic and other types of transaction cost functions. We thus have the following:

***Result 1*:** *When all loans are identical, transaction costs reduce the number of loans but do not increase their size. Therefore, the standard argument that a mission drift phenomenon is a direct consequence of transaction costs alone does not seem to be supported by theory.*

Now suppose that the MFI can choose between two types of clients or, equivalently, between two types of financial products, 1 and 2, respectively. Product 1 is available to the poor, its size, $s_1 \geq 0$, which is assumed to be chosen by the MFI.[26] Product 2, on the other hand, is made available to unbanked wealthier clients. Assume that the latter clients require a minimal size: $s_2 \geq \underline{s}$ to start up an investment project which can only be financed by the MFI.[27] The cost function $f(N_1, N_2)$ now depends on the number of loans for each product: N_1 for type 1 clients, and N_2 for type 2 clients. The MFI's objective function in this case is:

$$\begin{aligned} &\underset{s_1, s_2 \geq 0}{\text{Max}} (N_1 + N_2) \\ &\text{s.t. } K = s_1 N_1 + s_2 N_2 + f(N_1, N_2) \\ &\quad s_2 \geq \underline{s} \end{aligned} \tag{5}$$

As in the previous case, when $f(N_1, N_2) = 0$, the MFI's optimal solution is reached via extending an infinite number of tiny loans. But as type 2 loans are bounded by $\underline{s}$, the MFI will only serve type 1 clients, i.e., the poor. Note that in this setting outreach is being maximized, and that the optimal solution regarding loan size results from the model, and not from the MFIs' mission as such.[28]

The one reason which is often invoked to justify the existence of a shift from type 1 to type 2 clients seems to be intimately related to cost considerations. We consider here an asymmetric cost function making the clients

[26]Implicit in this assumption is that the MFI has all the bargaining power. This might be true for several large MFIs that enjoy monopoly power. An alternative justification to this assumption is that the size of the loan offered by the MFI is incentive-compatible.

[27]Implicit in this assumption is that there is only one MFI serving all clients in the loan market. Our results will not be altered if we were to assume that the MFI is perfectly competitive and, as long as the loan contract is incentive-compatible, both types of clients will face the exact same loan contract from all MFIs operating in the market.

[28]It could not be otherwise because mission drift (larger loans) is only conceivable when the optimization is held on another objective function.

of type 2 less costly to the MFI. We formalize this argument by assuming an additive cost function which gives more weight to loans of type 1.[29]

$$f(N_1, N_2) = \gamma_1 N_1 + \gamma_2 N_2, \quad \gamma_1 \geq \gamma_2 > 0 \tag{6}$$

And the objective of the MFI in this case is:[30]

$$\begin{aligned} &\underset{s_1, s_2 \geq 0}{\text{Max}} (N_1 + N_2) \\ &\text{s.t. } K = (s_1 + \gamma_1)N_1 + (\gamma_2 + s_2)N_2 \\ &\quad s_2 \geq \underline{s} \end{aligned} \tag{7}$$

The MFI now faces a trade-off: it can benefit by adhering to its mission via the provision of a large number of tiny loans to the poor clients at a unit cost γ_1 on the one hand, and it can profitably serve a clientele of unbanked wealthier clients who require larger loans at a lower unit cost γ_2 at the expense of drifting from its poverty reduction mission on the other. Serving clients of type 1 only will deliver, as before, a situation where s_1 is infinitesimal and $N_1 = \frac{K}{\gamma_1}$. At the other extreme, focusing on clients of type 2 only will result in $s_2 = \underline{s}$ (the threshold required by wealthier borrowers) and $N_2 = \frac{K}{\gamma_2 + \underline{s}}$. In this simple linear set-up, either solution is optimal, depending on the value of the parameters. In particular, if $\frac{K}{\gamma_2 + \underline{s}} > \frac{K}{\gamma_1}$, or equivalently $\gamma_2 + \underline{s} < \gamma_1$, then, the MFI will only serve clients of type 2:

$$N_1^* = 0, \quad N_2^* = \frac{K}{\gamma_2 + \underline{s}} \tag{8}$$

Clearly, this case results from a situation where serving poor clients is exceedingly expensive. The number of unbanked wealthier clients served, on the other hand, decreases with the cost of serving these borrowers, and with the start-up cost that each better-off borrower requests to make a profitable investment. But serving unbanked wealthier clients increases with the amount of capital that the MFI can raise from donors and/or socially-responsible investors.

[29]What we have in mind here is that serving the poor is more costly because more monitoring effort is needed, and this additional effort is costly for the MFI. More generally, this assumption may summarize all the reasons that make poorer clients less lucrative; i.e., the poor are financially illiterate, healthwise are less productive, have limited business savvy, require training sessions, etc. Because our model does not explicitly spell out loan — repayments, a simple and realistic way of interpreting this assumption is that the additional cost incurred by an MFI that serves the poorest comes at the expense of less capital for financial intermediation.

[30]In order to avoid cumbersome notations, we assume here that $F = 0$, or alternatively, that K stands for $K - F$.

When $\gamma_2 + \underline{s} > \gamma_1$, that is, when serving the poor is not too costly, we have:

$$N_1^* = \frac{K}{\gamma_1}, \quad N_2^* = 0 \tag{9}$$

The number of poor clients that the MFI will serve at the optimum will again decrease with the cost of serving the poor, but increase with the amount of capital that the MFI can raise. This analytical exercise delivers the following:

***Result 2*:** *In the presence of two types of clients, poor clients and unbanked wealthier clients, an MFI facing different transaction costs, high for the poor and low for the unbanked wealthier, will end up serving either the poor or the unbanked wealthier, but not both. Thus, MFIs that are faithful to their outreach maximization objective, do not derive any benefit from having a portfolio of poor and unbanked wealthier clients. Quite simply, MFIs do not gain anything from serving poor and unbanked wealthier clients simultaneously. Note that, when* $\gamma_2 + \underline{s} = \gamma_1$*, the MFI might be indifferent between serving either type of clients, but serving the unbanked wealthier might be detrimental to its poverty reduction mission. Hence, mission drift cannot result from just transaction cost differentials between the poor and the unbanked wealthier clients.*

5 MFI Heterogeneity-Driven Mission Drift

In the previous model, the two types of clients were identified with two different cost functions (high for the poor and low for the unbanked wealthier), but both type of clients' contributions to outreach maximization is identical. In other words, in the scenario described in the previous section, the MFI does not resolve its trade-off between serving poor and unbanked wealthier clients by having a "mixed" portfolio. While wealthier clients are cost-effective, these clients do not tangibly contribute *less* to the MFI's outreach maximization objective. Now suppose that unbanked wealthier clients weight less in a particular MFI's objective function. Then, unbanked wealthier customers are more cost-effective and therefore more profitable in that $\gamma_2 + \underline{s} < \gamma_1$ but they are also burdensome. As we shall soon show, this simple characterization of the MFI objective function can lead to mission drift and to cross-subsidization. Moreover, such an objective function is deliberately constructed with the use of quantifiable and observable variables such as the number of clients and average loan size. Specifically, the MFI maximization

program is:

$$\begin{aligned} &\underset{s_1,s_2\geq 0}{\text{Max}}\,(N_1+\delta N_2),\ 0\leq\delta\leq 1 \\ &\text{s.t. } K=(s_1+\gamma_1)N_1+(\gamma_2+s_2)N_2 \\ &\quad s_2\geq \underline{s} \end{aligned} \tag{10}$$

where parameter δ captures *the degree of concern that the MFI has as it deviates from its mission* via the inclusion of wealthier clients. While this concern is MFI-specific, it can be easily captured by differences in MFIs' profiles (see Table 15.1). Clearly, (10) is equivalent to (7) if one replaces N_2 by $\tilde{N}_2=\delta N_2$. Then: $(\gamma_2+s_2)N_2$ is to be replaced by $\frac{(\gamma_2+s_2)}{\delta}\tilde{N}_2$, which boils down to increasing the cost that the MFI incurs as it includes wealthier clients in its portfolio. In the particular case where δ is chosen such that $\frac{\gamma_2+\underline{s}}{\delta}=\gamma_1$, then both types of clients may coexist. And our main point here is that one might find it difficult in practice to distinguish if such co-existence of poor and unbanked wealthier clients is due to cross-subsidization or to mission drift.

If, on the other hand, we allow for unbanked wealthier clients to be less costly, that is, if $\gamma_2+\underline{s}<\gamma_1$ the inequalities linking the cost function parameters become $\gamma_1\geq 0, \gamma_1>\gamma_2$, and the sign of $\gamma_2+\underline{s}$ can be negative.[31] When $\gamma_2+\underline{s}<0$, then cross-subsidization is indeed possible. So, a plausible explanation of what is referred to as "cross-subsidization" for an outreach maximizing MFI could be attributed to a deliberate bias in favour of unbanked wealthier borrowers as these borrowers are *de facto* creating a positive externality on poor borrowers.

Typically, relative to rural clients, urban poor are more literate, fill in paperwork on their own more easily, and can even offer some form of collateral when requesting a loan to the MFI (Armendáriz and Morduch, 2000). Because their presence is not burdensome to the institution's mission, an overwhelming representation of unbanked wealthier borrowers in, for example, urban areas might not necessarily mean that urban MFIs deviated from

[31]This could well be the case if the credit risk is negligible because the borrowers are wealthy enough and the bank officers do not even bother spending time screening or monitoring their actions. In that case, these clients offer benefit to the MFI rather than costs. More generally, as our simplistic model considers K as a fixed exogenous budget, one can interpret γ_1 and γ_2 as net costs, i.e., the costs minus the benefits associated to expected reimbursements in a steady-state risk-neutral perspective. According to that view, assuming $\gamma_1\geq 0$ and $\gamma_2+\underline{s}<0$ means that the very poor clients are costly and served solely because of the MFI social mission while less poor clients are profitable to the MFI.

their poverty reduction mission. Distinguishing between mission drift and cross-subsidization in practice, however, might be difficult, if not impossible.

From a theoretical standpoint, however, we have just argued that cross-subsidization is only possible when unbanked wealthier clients are profitable. Moreover, it can also be the case that the population of potential clients that are very poor and unbanked is relatively small. Then, when looking at an MFI's profile which is serving a large number of unbanked wealthier clients does not necessarily mean that such an MFI is drifting from its mission. It may well be the case that, cost-wise, there is an upper bound to the number of poor that the institution can serve. Unbanked wealthier are relatively more abundant than unbanked poor in many middle-income regions too, which in turn justifies further the contrast between Asia and Latin-America discussed in greater detail below.[32]

Now consider the limit case where $\delta = 0$, that is, a situation where the MFI's objective is serving the poor only. Then, either the unbanked wealthier represent a profitable side business ($\gamma_2 + \underline{s} < 0$) that does not contribute to the mission, but offers additional capital for reaching the poor. Or, the unbanked wealthier clients are not profitable ($\gamma_2 + \underline{s} > 0$) and are simply neglected. In the polar case where $\delta = 1$, the MFI gives equal weight to both types of clients. This brings us back to equation (7). For intermediate cases, $\delta \in (0, 1)$, the MFI decision pertaining to the type of clients to be served depends on the direction of the inequality between the weight δ attributed to wealthier clients in the MFI's objective function, on the one hand, and on the cost ratio $\frac{\gamma_2+\underline{s}}{\gamma_1}$, on the other.

For any given value of $\delta \in (0, 1)$, in populations with a relatively large number of poor people, the size of an MFI's clientele in terms of depth of outreach can be potentially large indeed. In contrast, in regions where the number of unbanked poor is relatively small, depth of outreach is limited, and the poor can be more costly to reach, particularly in areas where population densities are low. Consequently, the threshold required to move from poor to unbanked wealthier clients may be region-specific. On the

[32]In particular (see Table 15.1), at the one end of the spectrum, we have low-income countries like Bangladesh where income per head in 2007 was US$1400. At the other end of the spectrum, there are upper middle-income countries like Mexico where income per head in 2007 was US$14,500. Not surprisingly, and according to the data published by MIX for that particular year, Grameen Bank Bangladesh alone had over six million active clients compared to just over eight hundred thousand for the case of Banco Compartamos in Mexico. Average loan size for the Grameen Bank was US$79, and for Compartamos was $450. (As explained in footnote 9, MIX does not publish data on average loan size in per capita for the year 2007 and beyond.)

Table 15.2: Possible outcomes depending on MFIs' concerns and region-specific parameters.

	$\gamma_2 + \underline{s} < 0$	$\gamma_2 + \underline{s} = 0$	$0 < \gamma_2 + \underline{s} < \gamma_1\delta$	$\gamma_2 + \underline{s} = \gamma_1\delta$	$\gamma_2 + \underline{s} > \gamma_1\delta$
$\delta = 0$	$N_1 = +\infty$ $N_2 = +\infty$ Cross-subsidization.	$N_1 = \frac{K}{\gamma_1}$ N_2 undeterm. Possible mission drift (up to discretion).	Impossible.	$N_1 = \frac{K}{\gamma_1}$, $N_2 = 0$ No mission drift.	$N_1 = \frac{K}{\gamma_1}$, $N_2 = 0$ No mission drift.
$0 < \delta \leq 1$	$N_1 = +\infty$ $N_2 = +\infty$ Cross-subsidization.	$N_1 = \frac{K}{\gamma_1}$ $N_2 = +\infty$ Mission drift.	$N_1 = 0$ $N_2 = \frac{K}{\gamma_2 + \underline{s}}$ Full mission drift.	$N_1 \in \left[0, \frac{K}{\gamma_1}\right]$ $N_2 = \frac{K - \gamma_1 N_1}{\gamma_2 + \underline{s}}$ Possible mission drift (up to discretion).	$N_1 = \frac{K}{\gamma_1}$, $N_2 = 0$ No mission drift.

surface, outreach penetration looks considerably larger in countries such as Bangladesh where the Grameen Bank alone reaches out to over six million clients whose average loan size is small, relative to, for example, Banco Compartamos in Mexico, which reaches at most 10 times *less* clients with an average loan size which is three times larger. Thus, if we are to take at face value the idea that a good proxy for an institution being faithful to its mission is given by average loan size alone, then all MFIs, except for those operating in South Asia and Sub-Saharan Africa, have deviated from their mission, which is confusing at best, misleading at worst.[33]

Table 15.2 summarizes the results. A good benchmark is provided by the set of points where the MFI is indifferent between its two types of clients: $\gamma_2 + \underline{s} = \gamma_1\delta$. In this set, when δ increases, the cost for the MFI as it deviates from its mission is offset by its gain in terms of the number of poor whose investment projects can be financed. For a given δ, increasing γ_1 (or alternatively, decreasing $\gamma_2 + \underline{s}$) makes the MFI deviate from its mission to finance the increasing costs of serving the poor.

What Table 15.1 shows is that the interplay between the weight that the MFI gives to serving the poor, as captured by δ, which is MFI-specific, the cost parameters γ_1, γ_2, and $\underline{s}$ which are region-specific, deliver myriad outcomes. Chief among these are (a) mission drift, (b) no mission drift, and (c) cross-subsidization.

Figure 15.1 represents the three possible outcomes of the model. In this figure, the parameter γ_1 has a fixed positive value while $\gamma_2 + \underline{s}$ can take any

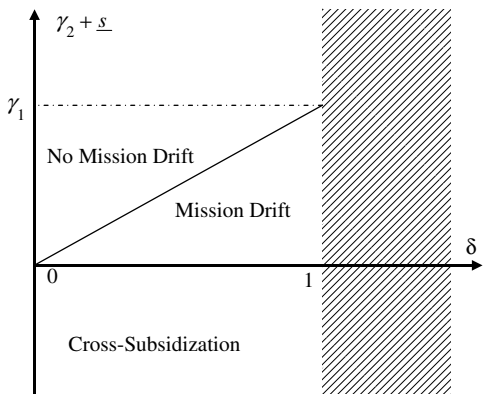

Figure 15.1: A representation of the possible outcomes.

[33]Pro Mujer in Latin America, for example, is one of the most poverty-oriented MFIs in the world.

real value, positive or negative, and δ varies in $[0, 1]$. The cost of burdensome wealthier clients ($\gamma_2 + \underline{s}$ on the vertical axis) is a crucial determinant of how far the MFI can continue serving the poor. The cross-subsidization zone corresponds to negative values of $\gamma_2 + \underline{s}$, or "profits" which the MFI can extract from unbanked wealthier clients. With the exception of the indifference line $\gamma_2 + \underline{s} = \gamma_1\delta$, the cross-subsidization zone is the only place in the graph where the two types of clients can coexist. An important prediction of our model can therefore be stated in the following:

Result 3: *Microfinance institutions which serve a significant number of unbanked poor and unbanked wealthier clients are not necessarily mission-drifting institutions. These institutions' commitment to contribute to poverty reduction may be compatible with having a side business with unbanked wealthier clients, as these clients allow for cross-subsidization for the sake of MFIs' outreach maximization objective.*

6 Contrasting Latin America and Asia

Microfinance started in the mid-1970s from parallel movements in sparsely populated Latin America and densely-populated Asia (Armendáriz and Morduch, 2010). It has recently been established that the two regions where microfinance activity is the highest are also Latin America and Asia (Armendáriz and Vanroose, 2009). This is somewhat captured in Table 15.1 above where the top 10 MFIs in terms of number of clients served are all located in either Asia or Latin America.[34] Regarding poverty, recent estimates by the World Bank (2004) suggest that South Asia hosts approximately 31 percent of the world's poor while a similar estimate for Latin America is only eight percent.

As seen in the previous section, if serving the poor is not too costly, an outreach-maximizer MFI is unlikely to drift from its mission. This might be the case of densely-populated South Asia where, relative to Latin America, the poor can be more easily served, if only because the number of individuals considered to be poor are four times larger.[35] The relative abundance of

[34]Christen (2000), however, point out that there is a huge difference across the very diverse Latin-American countries; some, like Nicaragua and Haiti, might be just as poor as some of their Asian counterparts.

[35]Vanroose (2009) finds a population density coefficient which is positive and significant in determining outreach.

poor individuals make γ_1 to be considerably smaller in Asia relative to the γ_1 in Latin America. This means that for the same δ, an MFI in Asia will find it easy to portray itself as an MFI with a considerably higher depth of outreach penetration.

On the other hand, the scope for cross-subsidization in Latin America is much higher, because all countries in Latin America (with the exception of Haiti and Nicaragua) have a GDP per head which is, on average, three times higher than the one observed in South Asia (OECD Report, 2005). Latin America as a whole remains a middle-income region. Its banking sector, however, is highly underdeveloped. Hence, our conjecture is that the relatively wealthier but unbanked individuals in Latin America are, by and large, being served by MFIs. And the prediction of our model is that if serving the unbanked wealthier individuals is profitable, there is ample scope for cross-subsidization, a conjecture worth exploring empirically. This conjecture suggests that judging an institution as having mission-drifted by looking at the average loan size alone is misleading indeed. More information is needed. Are such institutions *a priori* labeled mission-drifted institutions keeping an important number of poor clients in their portfolio? Are poorer clients being crowded out by wealthier clients? These are real challenges for empirical researchers.

However, a dynamic analysis would be needed in order to assess empirically if MFIs in Latin America are scaling up *and* crowding out poor clients as per González-Vega *et al.* (1996)'s definition. We strongly believe that this observation is worth exploring. As this paper goes to press, Armendáriz *et al.* (forthcoming) are making further inquiries in this direction. These inquiries should further guide empirical analysis, and deliver a clearer picture of whether MFIs are indeed deviating from their missions. Important questions are up for grabs here: Is the current commercialization of microfinance truly biased against the poor as the recent Cull *et al.* (2009) paper suggests?

7 Concluding Remarks

In this paper, we have delivered a very simple model where outreach-maximizing MFIs can deviate from their mission. The model predicts that mission drift will result from the interplay of MFI-specific parameters, such as the weight that the MFI gives to serving the poor, and from country-specific parameters pertaining to the cost of reaching the poor. From a

policy standpoint, our model highlights that donors and socially responsible investors can be easily misled by MFIs which are serving unbanked wealthier populations. This prediction is thought-provoking as retaining unbanked wealthier might represent a challenge for MFIs to better serve the poor. While our model is purposely simple to guide future empirical research on the subject, a more complete picture of mission drift should include interest rates and market structure considerations. However, data constraints are a major challenge here.

Besides, interest rates might be relatively high due to country-specific considerations as well. The fact that Sub-Saharan countries host a much larger population of poor individuals relative to Latin America, and that outreach is higher in the latter is a clear example. This might call for subsidies for MFIs which are operating in those sparsely-populated regions where access to poor households is time-consuming, where the scope for profitable projects is limited, and where microfinance expertise is lacking. Again, these region-specific considerations might offer crucial guidance for donors that prioritize social over self-sustainability objectives.

But interest rates might be also high due to monopoly power. And this raises the question as to whether the notion of mission drift is, once more, misleading empirical research. Monopolistic interest rates *together* with low average loan size can deliver a more transparent picture of what mission drift really means. This notion of mission drift merits further scrutiny. Ethical considerations aside, monopolistic pricing of microfinance products creates adverse selection and moral hazard inefficiencies. Shouldn't this be part of our notion of mission drift? From an empirical standpoint, going beyond average loan size as a proxy for mission drift by at least integrating interest rates into the picture while controlling for market structure is a step in the right direction.

Last but not least, insights can be gained by constructing a dynamic model. In a dynamic model, key questions as to why MFIs transit from being NGOs prioritizing poverty to commercial MFIs prioritizing profitability can be tackled. Is this truly the case? Is client heterogeneity a necessity that emerges over time? Why do MFIs wish to scale up in the first place if they risk deviating from their poverty-reduction objective? Region-specific considerations aside, should MFIs deliberately tap wealthier clients in their scaling-up process? Is this a viable solution for outreach growth for MFIs to fence themselves off from a situation where donor aid dries up? Is donor aid itself a variable which depends on outreach growth?

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Appendix

We consider the problem:

$$\begin{aligned} &\underset{s\geq 0}{\text{Max}}\, N \\ &\text{s.t. } K = sN + f(N) \end{aligned}$$

The equation $G(s, N) = K - sN - f(N) = 0$ implicitly defines the function g such that: $N = g(s)$ that is to be maximized. Therefore, thanks to the theorem of implicit functions:

$$g'(s) = -\frac{\frac{\partial G}{\partial s}}{\frac{\partial G}{\partial N}} = \frac{N}{s + f'(N)} > 0$$

Consequently, for the maximization problem, the solution will always be the corner solution $s^* = 0$ leading to:

$$K = f(N) \Rightarrow N* = f^{-1}(K).$$

For example, with a quadratic transaction cost, $f(N) = F + \alpha N^2, \alpha > 0$, the optimum is obtained for $s^* = 0$ and $K - F = \alpha N^2 \Rightarrow N^* = \sqrt{\frac{K-F}{\alpha}}$.