



Micro-finance competition: Motivated micro-lenders, double-dipping and default



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ABSTRACT

We develop a tractable model of competition among socially motivated MFIs, so that the objective functions of the MFIs put some weight on their own clients' utility. We find that the equilibrium involves double-dipping, i.e. borrowers taking multiple loans from different MFIs, whenever the MFIs are relatively profit-oriented. Further, double-dipping necessarily leads to default and inefficiency, and moreover, borrowers who face relatively higher transactions costs optimally decide to double-dip. Interestingly, an increase in MFI competition can increase the extent of double-dipping and default. Further, the interest rates may go either way, with the interest rate likely to increase with more competition if the MFIs are very socially motivated.

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1. Introduction

One of the salient features of the micro-finance movement is its rapid expansion. In India, for example, the average year-on-year increase in the portfolio of the Indian micro-finance sector over the period 2004–2009 was 107% (as compared to a 4% increase in commercial bank lending in 2008–09, see Parameshwar et al., 2009). Other countries also witnessed similar expansions.¹ With increased micro-finance penetration, there has been a concomitant increase in competition among micro-finance institutions, with many areas being served by multiple MFIs.

One of the central issues in this context, and the one we focus on in this paper, is that of 'double-dipping', i.e. borrowers taking loans from several MFIs, and the closely connected issue of borrower default. Several studies confirm the importance of double-dipping, and also find evidence to suggest that double-dipping may be linked to the phenomenon of borrower default.

In the South Indian state of Karnataka, for example, there were 7.31 million micro-finance accounts by the end of 2009 (Srinivasan, 2009). Even assuming that all the poor were covered, this comes to 2.63 accounts per household. In fact Srinivasan (2009) argues that such an increase in MFI competition is happening all across India, including the Northern and Eastern states, and not just in the South (which traditionally lead in micro-finance development) and, moreover, that borrowers often use loans from one MFI to repay other MFIs.² In the context of Bangladesh, the Wall Street Journal (27.11.2001) reports that "Surveys have estimated that 23% to 43% of families borrowing from micro-lenders in Tangail borrow from more than one."³ For Bangladesh, McIntosh and Wydick (2005) find that in spite of the fact that competitive pressures among microlenders reduced interest rates for some borrowers, 32% of the Grameen Bank's loan portfolio in Tangail was overdue by 2 years or more.

One motivation for this paper comes from the fact that recently MFI competition appears to have triggered extreme reactions from

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¹ Between 1997 and 2005, the estimated number of microfinance institutions (MFIs) worldwide grew from 618 to 3133 (Hermes and Lensink, 2007).

² A survey by the Grameen Koota staff covering 200 borrowers (including 105 defaulters), suggests that 25% of these borrowers had taken loans from 6 or more MFIs. In another extreme example, one woman was found to have borrowed Rs. 4 million from different MFIs (Srinivasan, 2009).

³ McIntosh and Wydick (2005) provide evidence of increased MFI competition in Uganda and Kenya in Africa, and Guatemala, El Salvador and Nicaragua in America.

borrowers. In the Indian state of Andhra Pradesh, there were recent claims that over-indebtedness and aggressive loan recovery procedures led to farmer suicides, leading to public outcry and politicians urging borrowers not to repay. Similarly, in Nicaragua there was a “No Pago” (I am not paying) movement in 2009 (see de Quidt et al., 2012). A theoretical motivation comes from the fact that the effect of an increase in MFI competition, and the resultant double-dipping, is conceptually not very clear-cut, especially in so far as the efficiency and welfare implications are concerned. It is of course clear that such double-dipping can weaken borrower discipline and increase default (Hoff and Stiglitz, 1997). Others have argued though that competition, by reducing interest rates, may improve borrower welfare.⁴ As we argue later, this paper provides a partial reconciliation of these divergent viewpoints.

In this paper we seek to develop a tractable model of MFI competition that incorporates two facts, first, that money is fungible, thus allowing for double-dipping,⁵ and, second, that the MFIs are *socially motivated*, i.e. not only interested in their own profits, but also in the utility of the borrowers. That many NGOs (including MFIs) are socially motivated is well known in the literature. The United Nations Interagency Committee on Integrated Rural Development for Asia and the Pacific (1992) (henceforth UNICIRDAP) for example, defines NGOs as organizations with six key features: they are voluntary, non-profit, service and development oriented, autonomous, *highly socially motivated and committed*, and operate under some form of formal registration.⁶

Formally we adopt a variation of the Salop circular city model populated by borrowers, as well as socially motivated MFIs, where the distance between an MFI and a borrower captures the transactions cost incurred by the borrower in accessing a loan from the concerned MFI. We consider a framework with asymmetric information, in that there is fungibility of money; the MFIs cannot ascertain whether, in addition to investing, which is socially efficient, the borrowers are also spending on consumption, which is not. This in turn generates a moral hazard problem whereby a borrower can borrow from multiple MFIs without the concerned MFIs being aware of this. Since borrowers have no assets, only the return from the productive project can be claimed by MFIs; however, under the present framework, this amount is insufficient to cover the interest payment to two MFIs. Thus double-dipping necessarily leads to default. There is another asymmetric information which arises out of the fact that the MFIs are unaware of the transaction costs facing different borrowers, and hence cannot offer loan contracts which are tailored to the needs of the individual borrowers. Note that in our framework, MFIs will never deliberately encourage double dipping. This is because they know that the borrower's returns from investment are insufficient to cover the interest charges of two MFIs, so that double dipping will necessarily lead to default and losses for the MFI.

Turning to the results, we find that the implications of an increase in MFI competition are quite nuanced. Consider equilibria with double-dipping (henceforth DDE). We demonstrate that increased MFI competition necessarily leads to an increase in default, both at the aggregate level, as well as in default per MFI. This shows that we need to qualify the popular wisdom that an increase in competition would, by causing a lowering of interest rates, necessarily reduce default. We find that an increase in competition increases default, irrespective of whether the interest rate increases, or decreases. In fact in the present framework, note that an increase in competition actually *reduces* transactions costs, thus making single-dipping more attractive. Why should then default increase? The intuition has to do with the fact that while a reduction in transactions costs makes both single-dipping and double-dipping more

attractive, double-dipping becomes relatively more so as multiple loans are involved. This increases double-dipping, and consequently default, and also reduces efficiency since consumption increases. Furthermore, it should be emphasized that given that there is full market coverage in equilibrium, this result does *not* rely on the argument that, with increased competition, the MFIs reach out to less credit-worthy borrowers, thereby reducing the average quality of the borrower pool.

Second, turning to the effect of increased competition on the equilibrium interest rate under a DDE, we find that the interest rate is *increasing* in the level of competition if the MFIs are sufficiently socially motivated, and decreasing in the level of competition otherwise. The fact that the interest rate is decreasing in competition for profit oriented MFIs, is of course because of the standard industrial organization argument that the business-stealing effect gets stronger with an increase in competition. Given the business stealing effect however, the fact the interest rates may *increase* for socially motivated MFIs is however somewhat surprising. This follows from an interaction of the business stealing effect with a second effect that arises because increased competition leads to an increase in default (as argued earlier), which in turn increases the negative externality that borrowers exert on the MFIs, providing an incentive to increase the interest rate.⁷ Further the second effect dominates when the MFIs are highly socially motivated because in this case the interest rate is going to be low to begin with, so that the MFIs will be just breaking even, and the business-stealing effect is kept in check by feasibility considerations.⁸ This argument also shows the importance of allowing for motivated agents, as this effect cannot arise in case the MFIs are very profit oriented.

Given the preceding results regarding the impact of increased MFI competition on interest rates, it is therefore intriguing that the empirical evidence also appears to be mixed. For example, Porteous (2006) and Fernando (2006) provide evidence of a decrease in MFI interest rates in response to increased MFI competition (over the 1990s in Bolivia in Porteous (2006), and over 2003–2006 in Cambodia for Fernando (2006)). On the other hand, Porteous (2006) finds that interest rates increased with competition at certain points of time in Bangladesh and Uganda. Interestingly, in this context he mentions that “the strong poverty alleviation focus of the major Bangladeshi MFIs...ensured that initial microlending rates were relatively low...so there was not much headroom for rate reductions...”. This is in line with our theoretical finding that, for more socially motivated MFIs, the business-stealing effect is kept in check by feasibility considerations.

Turning to the welfare implications of an increase in competition, we find that there are several effects at play here. While there is a reduction in aggregate transactions costs, which benefits borrowers on average, the interest rates may, as argued earlier, also go up in some cases. Thus the single-dipping borrowers may be adversely affected in case competition leads to an increase in the rate of interest. The double-dipping borrowers however necessarily gain since, with all their verifiable income being taken up in loan repayments, the interest cost effect is absent.

Thus our analysis provides a partial reconciliation of the two conflicting viewpoints on MFI competition. Given the plausible assumption that increased competition lowers transactions costs for borrowers, we however find that this apparently positive affect can have negative implications, in that there will be increased double-dipping, with resultant loss in efficiency. At the same time, the utility of all double-dipping borrowers will increase. The impact on the utility of the single-dipping borrowers is, however, ambiguous.

We then discuss some properties of a double-dipping equilibrium, i.e. DDE. First, we demonstrate that a DDE exists whenever the MFIs are not too socially motivated. Intuitively, the MFIs are likely to charge higher interest rates when they are relatively more profit-oriented.

⁴ See the Malegam Committee Report, 2011, pp. 16, for an example of the first stance, and the Malegam Committee Report, 2011, pp. 32, for an example of the second stance.

⁵ Policy makers acknowledge that it is difficult for MFIs to assess whether borrowers are borrowing from other sources or not (Srinivasan, 2009). Similarly, Janvry et al. (2010) also find, using Guatemalan data, that borrowers did not disclose past defaults or total liabilities to lenders on their own.

⁶ See Besley and Ghatak (2005, 2006), and Ghatak and Mueller (2011) for studies on incentive provision to socially motivated agents.

⁷ The negative externality exerted by agents in the presence of non-exclusive contracts has been examined in the literature, viz. Kahn and Mookherjee (1995, 1998). We relate the present paper to this literature in somewhat greater details later on.

⁸ As mentioned in the next paragraph, there is some evidence suggesting such effects.

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