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Enhancing capabilities through credit access: Creditworthiness as a signal of trustworthiness under asymmetric information

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ABSTRACT

Creditworthiness and trustworthiness are almost synonyms because, under asymmetric information, the act of conferring a loan has the indirect effect of signaling the trustworthiness of the borrower. We test the creditworthiness/trustworthiness nexus in an investment game experiment on a sample of participants/non-participants in a microfinance program in Argentina and find that trustors give significantly more to (and believe they will receive more from) microfinance borrowers. The first- and second-order beliefs of trustees are also consistent with this picture. Our findings then show that MF participants appear more trustworthy and this may help microfinance to work. A related consequence is that, if (and only if) borrower's trustworthiness is not public information, the mere loan provision acts as a reputation enhancing signal increasing the borrower's attractiveness as a business partner. In such case we have a channel through which a private financial intermediary contributes to the provision of a public good like information, thereby reducing the adverse consequences of market failures on the creation of economic value.

1. Introduction

According to Sen poverty should be viewed as the "deprivation of basic capabilities,[1] rather than merely as a consequence of low income" (Sen, 1999, p. 20). In this perspective development has to provide people with greater freedom and choice which implies increasing capabilities. Welfare approaches must therefore focus not only on the means but also on people's ends and on the freedoms needed to satisfy these ends.

Sen identifies two types of (constitutive and instrumental) freedom. The first is the primary end while the second is the principal mean of development. Microfinance is in the category of instrumental freedom (Cabraal et al., 2006) involving freedom of access to credit for poor borrowers lacking of collateral. However, microfinance affects borrowers' capabilities and functionings in at least other two ways. First, if dignity and social reputation are two crucial pillars which enhance individual capabilities (or shift ahead the frontier of combination of functionings that individual are able to achieve), microfinance has a strong impact on them when it becomes, through credit concession, a channel of social inclusion.[2] Second, and not explored so far by the literature, we show with results of our paper that, if (and only if) the situation of imperfect information on individual characteristics of the experiment applies to real life business relationships,[3] microfinance enhances capabilities owing to a *horizontal positive externality* which stems from loan concession. More specifically, since loan concession occurs after a severe screen of the microfinance institution (from now on also MFI) and (in case of group lending) of group mates, it becomes a signal of trustworthiness which increases private and social outcomes of the borrower in the "investment games" (Berg et al., 1995) she plays in her professional and non professional life. Hence, by creating a positive trustworthiness externality microfinance improves the capacity of interpersonal relationships of enhancing individual capabilities.

As a starting point of our argument we observe that 'creditworthiness' and 'trustworthiness' are almost synonyms.[4] With the lending

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[1] For the development of the concept of capabilities see Sen (1985a,b). As it is well known capabilities are defined in the same contribution as "the alternative combinations of functionings that are feasible for a person to achieve" (p. 75) and, in turn, functionings as "various things a person may value being or doing." (p. 75).

[2] This is highly likely to have something to do with the high repayment rates observed in several microfinance projects: the temptation of strategic default is reduced by the cost of losing the additional capabilities conquered with the loans.

[3] The trustworthiness reputation enhancing effect does not apply in case of perfect information and if only trustworthy individuals are microfinance borrowers since the MF borrower trustworthiness is already known to the public and to potential business counterparts. In such case we have no signaling effect.

[4] Guinnane (2005) reminds us that the Latin root of "credit," *credere*, means, among other things, to trust, while in the German word *gläubiger* the two meanings of credit and trust coincide.

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decision, a financial intermediary is not just transferring money but also expressing confidence in the borrower's ability to use the money properly and pay back the principal and the interest to the bank after the success of her[5] investment project.

The act of conferring confidence has not just a private effect; it also has a social one. The lending relationship may be conceived as a bond in which the lender's trust contributes to a trustworthiness reaction by the borrower; that is, a bond which generates mutual trust. It is also understandable that a borrower's positive experience with the microfinance institution (MFI) may generate the trust of friends and relatives in the microfinance organization (a "vertical" individual/organization externality).[6] What is generally not explored, however, is the horizontal trust externality that the loan concession may generate. The loan reveals to all those who come to know about it that the borrower has been considered trustworthy by a financial institution which is conventionally regarded as having specific expertise in screening the qualities of projects and their proposers. In the case of microfinance with group lending and joint liability, the signal may be even stronger, because the borrower also passes the scrutiny of peers (groupmates), who are expected to be more informed than the bank about her type and project quality.

Hence, by providing a loan, the financial institution is also creating social capital in the form of trustworthiness.[7]

In an economic environment in which individuals operate within a framework of imperfect and incomplete information and cannot foresee (and regulate with contract clauses) all possible future contingencies arising from a business relationship,[8] the creation of trustworthiness has important economic effects. It makes it more likely that economic agents will accept the borrower as a business counterpart even though they do not have full information about her and the events which will affect the relationship in the future.

This is all the more so because many aspects of business relationships have an investment game structure[9] (Berg et al., 1995). The relationships between business partners, between an entrepreneur and her suppliers, have generally a sequential structure such that one of the two parties must take the initial initiative by sharing something (knowledge, physical or financial assets). After the first player move, the counterparty may be induced to do the same or to abuse the trust of the first mover. As in the investment game, the counterparts' joint decision to share (the trustor) and not to abuse (the trustee) generates superadditivity and therefore an outcome higher than the two suboptimal equilibria in which the first player shares and is abused or the first player decides not to share because she is afraid of the risk of being abused. In this framework, situations in which the second party is more trustworthy induce the trustor to give more, thereby increasing the total payoff of the game.

Hence, in some way, the mere act of giving credit, by creating trustworthiness, generates an indirect positive effect on the capacity of the borrower to repay the loan. This mechanism is all the more important in the context in which microfinance operates.

Microfinance loans are often uncollateralized. Hence the lender's expectations about the borrower's trustworthiness are of paramount importance. Even though the microfinance literature has shown that, in the absence of collateral, other incentives such as peer pressure under group lending (Banerjee et al., 1994), progressive loan mechanisms under individual lending, and social sanctions (Wydick, 1999; Karlan, 2005a) are at work, the question remains relevant, because all these incentives have drawbacks[10] and their effectiveness depends largely on the social environment in which a microfinance institution operates.

To our knowledge, the nexus between creditworthiness and trustworthiness has never been tested directly in microfinance. This paper reports such a test in the form of an experiment on the borrowers of a microfinance institution operating in the suburbs of Buenos Aires, and on a control group of eligible non-borrowers living in the same area and with no other banking relationship. The treatment and control groups play an investment game where the sole information possessed by a player has about her counterpart is whether or not she is a microfinance borrower (in their same institution). The investment game provides, in our opinion, a faithful reproduction of the dilemma of business partnerships where trust and trustworthiness are fundamental for the innumerable decisions in which one of the two parties anticipates something to the other (money, know-how, etc.) in a framework of imperfect information and incomplete contracts.

The hypothesis that MF loan concession may be a signal of this wider kind of trustworthiness should therefore be tested empirically. Note that our result is not trivial also because, given the characteristics of the game, the investment game's trustworthiness is not the same as that required in the actual microfinance relationship (in the former there is no social or pecuniary sanction on non-payback by the receiver).

The main result of our field experiment is that both treatment and control (MF and non-MF borrower) trustors give significantly more to MF than to non-MF trustees, and they believe that the former will repay significantly more than the latter. We interpret trustors' behavior in the sense explained in this introduction (they do so because the creditworthiness revealed by being clients of the MF institution is a signal of trustworthiness).

The behaviors and beliefs of trustors are validated by the actual behavior of trustees who pay back significantly more when they are MF borrowers. Trustees' first- and second-order beliefs are also consistent with this pattern: that is, when trustees are MF-borrowers they expect more from trustors (I-order beliefs) and believe trustors expect more from them (II-order beliefs).

The aim of the analysis is to contribute in an original way to important issues debated in the literature.

In a historical reconstruction of the factors responsible for the success or failure of credit programs for the poor, Guinnane (2005) argues that it is the quality of incentives and sanctions (and not a difference in the level of trust) which makes a program successful. However, without underestimating the fundamental role of incentives, our results show that microfinance borrowers are not trustworthy because of incentives alone. MF trustees give more even in the anonymous investment game experiment where no individual penalty or social blame is imposed on a lack of trustworthiness.[11]

Karlan (2005b) evaluates the predictive power of revealed trust and trustworthiness in investment games by looking at their impact on future borrowers' performance. He shows that borrowers' trustworthiness (but not trust) is a good predictor of their financial performance. On this basis, he concludes that investment games are valid in eliciting trustworthiness, and that the latter is important for the success of group lending programs. His concluding remark that his

5 We had both male and female borrowers in our experiment, but here we shall use the female pronoun and adjective for the sake of simplicity.

6 "You trust them and they too make a trust jump that is key to the institution" (Rodrigo Zarazaga, co-founder of *Protagonizar*, the microfinance institution involved in the experiment presented and discussed in this paper).

7 Social capital is a multifaceted concept which includes at least five dimensions: trust, trustworthiness, willingness to pay for public goods, civic sense, and trust in institutions Becchetti-Degli Antoni (2010). Here we refer only to the first two meanings.

8 The issue has been thoroughly debated in the incomplete contract literature originating from the pioneering contributions by Grossman and Hart (1986) and Hart and Moore (1988). The incomplete contract paradigm has been fruitfully applied to issues such as political economy, fiscal federalism, industrial organization, public procurement, regulation, privatization, transition economies, international trade, or law and economics.

9 For details on investment games see Section 4.2.

10 Group lending with joint liability may generate free riding on peer monitoring (Besley and Coate, 1995) when groups become large and borrowers' run (Bond and Rai, 2006) when they come to know before the lender about groupmates' inability to repay the loan. Furthermore, the joint liability imposes an extra burden on the borrower, who generally prefers individual lending. This explains the tendency of many MFIs (including the Grameen) to switch from group lending to progressive individual loans.

11 Of course, *Protagonizar* incentives may have helped in selecting trustees more trustworthy even in the absence of monetary or social sanctions.