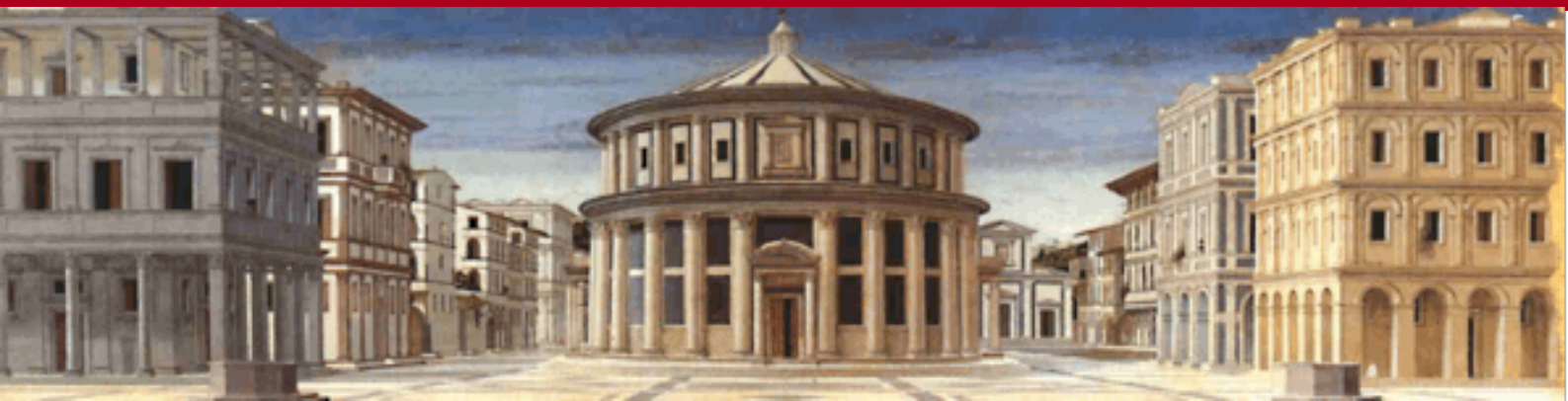N.17 December 2009

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Creditworthiness as a signal of trustworthiness: field experiment in microfinance and consequences on causality in impact studies

Working papers

Creditworthiness as a signal of trustworthiness: field experiment in microfinance and consequences on causality in impact studies.

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Abstract

Creditworthiness and trustworthiness are almost synonyms since 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 to a microfinance program in Argentina and find that trustors give significantly more to (and believe they will receive more from) microfinance borrowers. Trustees' first and second order beliefs are also consistent with this picture. Our findings identify a "horizontal trustworthiness externality" which creates a direct (loan-performance) causality nexus since the mere loan provision increases the borrower's attractiveness as a business partner.

Keywords: *field experiment, microfinance, investment game, trust, trustworthiness.*
JEL codes: *O16, C93, D03.*

1. Introduction

Creditworthiness and trustworthiness are almost synonyms[1]. With the lending decision a financial

intermediary is not just transferring money but also making an act of confidence on the borrower's

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[1] 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.

ability of using the money properly and paying back the principal and the interest to the bank after the success of her[2] investment project.

The act of conferring confidence has not just a private but also a social effect. The lending relationship may be conceived as a bond in which the trust of the lender contributes to a trustworthiness reaction of the borrower, that is, a bond which generates mutual trust. It is also understandable that a positive experience of the borrower with the microfinance institution (MFI) may generate trust of friends and relatives in the microfinance organization (a "vertical" individual/organisation externality).[3] What is generally not explored is however the horizontal trust externality that the loan concession may generate. The loan indeed 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 a specific expertise on screening qualities of projects and their proposers. In the case of microfinance with group lending and joint liability the signal may even be stronger since the borrower also passes the selection of peers (groupmates), which 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 under the form of trustworthiness[4].

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[5], the creation of trustworthiness has relevant economic effects. It indeed eases the possibility that economic agents 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.

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[2] In our experiment we have both male and female borrowers but we will use the female pronoun and adjective only for simplicity.

[3] "*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)

[4] Social capital is a multifaceted concept which includes at least five dimensions: trust, trustworthiness, willingness to pay for public goods, civic sense and trust on institutions (Degli Antoni, 2009). We refer only to the first two meanings here.

[5] 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 (1990). 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.

This is all the more so since many aspects of business relationships have an investment game structure[6] (Berg, Dickhaut and McCabe, 1995). The relationships between business partners, between an entrepreneur and her suppliers have generally a sequential structure such that one of the two parties has to take the initiative first by sharing something (knowledge, physical or financial assets). After her move the counterpart can be induced to do the same or to abuse of 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 a higher outcome 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 such framework situations in which the second part 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 and therefore lender's expectations on borrower's trustworthiness are of paramount importance. Even though the microfinance literature has widely shown that, in absence of collateral, other incentives such as peer pressure under group lending (Banerjee, Besley and Guinnane, 1994), progressive loan mechanisms under individual lending and social sanctions (Wydick, 1999; Karlan, 2005a) are at work, the question remains relevant since all these incentives have drawbacks[7] and their effectiveness largely depends from 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. We do it in this paper with an experiment on borrowers of a microfinance institution operating in the suburbs of Buenos Aires and on a control group of eligible non borrowers

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[6] For details on investment games see section 4.2

[7] 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 borrower about groupmate inability to repay the loan. Furthermore, the joint liability creates an extra burden on the borrower who generally prefers individual lending. This explains the tendency of many MFIs (including the Grameen) to move from group lending to progressive individual loans.

who live in the same area and do not have any other banking relationship. The treatment and control groups play an investment game where the unique information a player has about her counterpart is whether she is or not a microfinance borrower (in their same institution). The investment game provides, on 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 parts 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 needs therefore empirical testing. 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 for lack of payback from the receiver).

The neatest 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 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).

Behaviors and beliefs of trustors are validated by the actual behavior of trustees who pay back significantly more when being MF borrowers. Trustees' first and second order beliefs are also consistent with the picture, that is, they expect more from trustors who know they are playing with a MF trustee (I order beliefs) and believe that trustors believe that they will give more if they are MF trustees (II order beliefs).

Our results aim to contribute in an original way to important issues debated in the literature.

In a historical reconstruction of factors of success or failure of credit programs for the poor, Guinname (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. Without underestimating the fundamental role of incentives, our

results however show that microfinance borrowers are trustworthy not just because of incentives. MF trustees give more even in the anonymous investment game experiment where no individual penalty or social blame is posed on lack of trustworthiness.[8]

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 are important for the success of group lending programs. His concluding remark that his data "do not show whether trustworthiness can be created" opens the way for the investigation we are doing here.

Our findings provide an answer to Karlan (2005b) by illustrating a channel through which trustworthiness can be created, that is, by showing that creditworthiness in MF programs is a signal of trustworthiness which triggers trust from other individuals living in the neighborhood, independently of their MF borrower/non-borrower status.

Our results do not suffer from the almost unsolvable problem of endogeneity and reverse causality in microfinance impact studies where it is difficult to establish whether microfinance borrowers are better-off (where they are demonstrated to be) because of the microfinance "treatment" or due to their prior higher abilities with respect to the control group of non-borrowers[9].

Unlike studies aimed at evaluating the impact of microfinance on borrowers' outcome variables, in our field experiment we test whether the act of giving credit is a signal which triggers trustworthiness. If such a result is found, the mechanism works no matter whether trustworthiness preexists before or is created after the loan concession. In this light, also the usual heterogeneity argument about how different responses of individuals to the treatment (i.e., borrower status) may affect estimations of the average treatment effect is not an issue in our experiment; in facts, we are not interested in the *direct*

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[8] Of course, *Protagonizar* incentives may have helped in selecting trustees which can be more trustworthy even in absence of monetary or social sanctions.

[9] Among the first microfinance papers dealing with these issues see Hulme and Mosley (1996), Pitt and Khandker (1998) and Coleman (1999).

responses of individuals to microfinance in terms of trust/trustworthiness level, but – as it will be clear in the next sections – on how *microfinance indirectly signals for trustworthiness.*

We further argue that framing effects (if any) do not weaken the relevance of our findings. If trustors' choices were determined only by our emphasis on the only revealed element of the counterpart identity (the MF/non-MF borrower status) in the instructions given before playing the game, trustee responses and beliefs should also be affected by this information while we document that they are not. In facts, our evidence suggests that MF trustees send back more independently of the trustor's MF/non-MF status. However, and more importantly, our core finding is the signaling effect arising from the MF borrower's status and therefore, even if our result would be determined by a mere framing effect, it would nonetheless be relevant and have the important policy consequence that economic agents, in the particular economic environment analysed, should signal their MF borrower status in order to make their business relationship more successful.

We conclude by arguing that our findings, under the maintained assumption that business relationships have the form of investment games, by identifying a clear-cut causality effect between the loan concession and trustworthiness, find a causality nexus between loan concession and economic performance which is so difficult to identify in microfinance studies with non randomized experiments due to the traditional selection bias problem.

The paper is divided into eight sections (including introduction and conclusions). In the second section we sketch our theoretical framework. In the third section we describe the main features of the MF organization in which we perform our experiment. In the fourth section we illustrate the characteristics of the game and our specific design. In the fifth section we present descriptive evidence on trustor's and trustee's behavior. In the sixth section we present and comment econometric findings. The seventh section sheds more light on the causality nexus between trustworthiness and players' MF/non-MF borrower status. The eighth section concludes.

2. Theoretical framework

Our theoretical hypothesis is made of two parts. The first part asserts that, in a framework of asymmetric information, loan concession is a signal of creditworthiness which implies trustworthiness. The second part claims that, if most of business relationships have the form of investment games, trustworthiness may significantly increase business success of the borrower. Hence, the microfinance loan concession generates by itself an effect which may increase the probability of borrower's successful repayment

2.1 The Model

The population is composed of *A* and *B*-types. The two types differ for their degree of trustworthiness, measured in terms of the payback share ($p \in [0,1]$) when they are trustees in an investment game (Berg, Dickhaut and McCabe, 1995) (whose characteristics are explained in section 4). More specifically, $p_A > p_B$, that is, A-type individuals are more trustworthy. The trustor does not know the trustee type but may receive a signal on her trustworthiness. We define q the trustor's guess that the trustee is of A-type($q \in [0,1]$) and s a signal ($s \in [0,1]$) affecting that guess. Trustor's belief (*TrB*) on trustee's contribution and contribution (*TrC*) are a function of q, that is, $TrB'(q) > 0$ and $TrC'(q) > 0$. We assume that s is higher when the trustee has received a MF loan than when he has not. The loan concession event is a signal because when an individual becomes a borrower this implies that he has been regarded as trustworthy in the MF screening procedure and, in case of group lending, also by her group-mates. Hence $q(s)$ is such that $q(s_{MF}) > q(s_{N-MF})$.

The model is common knowledge so that trustees first order (*FOB*) and second order (*SOB*) beliefs are also consistent with this framework. More specifically, trustees believe that

i) trustors would give significantly more when they know that their counterpart is a MF borrower [$FOB(q(s))$] with $FOB'(q(.)) > 0$;

ii) trustors think that trustees will give more if they are MF borrowers [$SOB(q(s))$] with $SOB'(q(.)) > 0$.

2.2 Hypothesis testing

The above mentioned theoretical framework induces us to formulate the following hypotheses:

a)	Trustor contribution	H_{01}: $TrC(q(s_{MF})) = TrC(q(s_{N-MF}))$	vs.	H_{A1}: $TrC(q(s_{MF})) > TrC(q(s_{N-MF}))$
b)	Trustor belief	H_{02}: $TrB(q(s_{MF})) = TrB(q(s_{N-MF}))$	vs.	H_{A2}: $TrB(q(s_{MF})) > TrB(q(s_{N-MF}))$
c)	Trustee contribution	H_{03}: $TeC_{MF} = TeC_{NON-MF}$	vs.	H_{A3}: $TeC_{MF} > TeC_{NON-MF}$[10]
d)	Trustee first order belief	H_{04}: $FOB(q(s_{MF})) = FOB(q(0))$	vs.	H_{A4}: $FOB(q(s_{MF})) > FOB(q(s_{N-MF}))$
f)	Trustee second order belief	H_{05}: $SOB(q(s_{MF})) = SOB(q(0))$	vs.	H_{A5}: $SOB(q(s_{MF})) > SOB(q(s_{N-MF}))$

If these null hypotheses are rejected in favor of the alternatives, and if business relationships of the borrowers can be conveniently represented by investment games, this implies that the MFI loan provision allows the borrower to receive more trust from business partners and generate higher payoffs. Hence, the loan provision generates a positive indirect effect on the probability of borrower's success[11].

3. The main features of the MF institution under scrutiny

"[...] The help we received from Protagonizar was enormous. I felt that not everything was lost. On some occasions we tried to get a bank loan but they asked for a credit card and wages receipt; impossible. Here instead, we go with our word, they believe and trust us. This is beautiful and I feel we are not alone [...]". [12]

Protagonizar is a small and young organization which gave more than 3,000 uncollateralised loans in its six years of life. Located in the area of San Miguel (in second belt of Gran Buenos Aires,

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[10] If this null hypothesis is rejected in favor of the alternative the microfinance signal in terms of trustworthiness is truthful.
[11] We also analyse whether there are significant differences in MFI players' strategies according to the seniority of the borrower-bank credit relationship. Specifically, restricting the sample to MFI players only, the additional hypotheses we check are the following:

g)	Trustor contribution	$H_{01}^{(MFI)}$: $TrC(\bullet)_{VETERAN} = TrC(\bullet)_{NEW}$	vs.	$H_{A1}^{(MFI)}$: $TrC(\bullet)_{VETERAN} > TrC(\bullet)_{NEW}$
h)	Trustor belief	$H_{02}^{(MFI)}$: $TrB(\bullet)_{VETERAN} = TrB(\bullet)_{NEW}$	vs.	$H_{A2}^{(MFI)}$: $TrB(\bullet)_{VETERAN} > TrB(\bullet)_{NEW}$
i)	Trustee contribution	$H_{03}^{(MFI)}$: $TeC_{VETERAN} = TeC_{NEW}$	vs.	$H_{A3}^{(MFI)}$: $TeC_{VETERAN} > TeC_{NEW}$
l)	Trustee first order belief	$H_{04}^{(MFI)}$: $FOB(\bullet)_{VETERAN} = FOB(\bullet)_{NEW}$	vs.	$H_{A4}^{(MFI)}$: $FOB(\bullet)_{VETERAN} > FOB(\bullet)_{NEW}$
m)	Trustee second order belief	$H_{05}^{(MFI)}$: $SOB(\bullet)_{VETERAN} = SOB(\bullet)_{NEW}$	vs.	$H_{A5}^{(MFI)}$: $FOB(\bullet)_{VETERAN} > FOB(\bullet)_{NEW}$

As discussed in sections 5 and 6's footnotes, we never accept the alternative hypothesis. Such evidence suggests that – in our sample – credit seniority (defined as we do it) does not significantly affect trust and trustworthiness behaviour.
[12] Extracted from the "*microentrepreneurs' stories*" section of the *Protagonizar* handbook (2005)

Argentina), this non-profit foundation lends to support small businesses (bakeries, textile enterprises, beehives or basketworks) of poor microentrepreneurs[13]. To achieve its aims *Protagonizar* placed its agencies in the three "villas" (densely populated sub-urban areas) of *Santa Brigida, Barrio Mitre* and *Villa de Mayo.*

According to the organization its competitive advantage lies in the low operative costs (modest facilities, low installation and reduced functioning costs), in the closeness of the location to the borrowers and in the personalized attention to the borrowers of a group of motivated volunteers working together with the paid professional staff members.

Protagonizar is also an interesting case of an organization which followed an opposite direction with respect to that of the Grameen, starting with *staggered individual credits* and moving almost entirely, after its first period of life, to a *group lending mechanism* with *full joint liability*.

The *staggered individual credit* mechanism creates a group of three entrepreneurs with independent projects and gives credit sequentially to each member of the group conditional to the repayment of the member who borrowed before.

The *group lending* approach in *Protagonizar* is based on the creation of groups of 4-6 individuals to which money can be disbursed simultaneously. The full joint liability among members implies that, when one of them is unable to repay, the groupmates are called to cover that amount in full.

Eligibility criteria in group lending require that borrowers *i)* must have a minimum six month enterprise experience, *ii)* cannot be relative but *iii)* must live at a maximum of three blocks of distance from each other (a rule which facilitates peer monitoring) and, in order to diversify risk within the group, *iv)* must have different business activities (only one street vendor per group is allowed). Finally, the coordinator of the group (one of the group members) is responsible for getting the money from the foundation, distributing it to the other members and collecting the installments on behalf of the lender.

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[13] See section 5 comments to Table 1.

Under both (staggered individual and group) lending approaches, administrative costs charged by the Foundation are 5% monthly[14] over the debt balance. [15] Repayments take place on weekly basis.

Note that the *Protagonizar* group lending system has a three-sided screening process on the prospective borrower. The organization evaluates both the payment capacity of the client and the consideration that other bank borrowers (beyond groupmates) have of her. Finally, the group lending mechanism is expected to induce assortative matching so that, for groupmate-neighbours, trust on the borrower is not just declared in words but is demonstrated by accepting to create a group with her with a joint liability.

As far as the microlender screening/monitoring activities are concerned, before getting the loan potential borrowers receive the visit of credit advisors and fill a questionnaire with socio-demographic and business information. After this, they receive the visit of credit counselors/advisors who assess their credit capacity. Credit counselors/advisors then make a proposal to the Credit Committee which almost always accepted. Once the money is received, counselors/advisors carry out post-credit visits to verify the money is being used for the purpose it was asked; there are also additional pesonalized-monitoring visits on weekly basis.

4. The Experiment Design

In what follows we describe the experiment design by sequentially focusing at the sampling scheme, the characteristics of the game, the matching procedure and the implementation.

4.1 The sampling scheme prior to the experiment

From a list of all the *Protagonizar*'s beneficiaries, we randomly select 152 borrowers (in equal proportion from *Barrio Mitre*, *Santa Brigida* and *Villa de Mayo*) and split them into two equal-sized groups according to credit seniority (i.e. *new* vs. *veteran* MF borrowers) to enhance representativeness in this

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[14] Real interest rates seem high if we consider official but less if we consider unofficial inflation rates. Consider in fact that several authors judge Argentinean poverty lines grossly undervalued due to a downward bias in computing domestic inflation. One of the best known independent research centers, Ecolatina, estimates that prices rose 65 percent from Dec. 1, 2006, to July 31, 2009, compared with the 20 percent increase calculated by the statistical institute (to follow this debate see http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aKQUiLozzZko and http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a5joiySC_mXc).

[15] The average lending rate charged by moneylenders in the three villas is around 50 percent monthly.

respect[16]. We use the credit cycle information (while not the time distance from the first loan) for the definition of borrowers' seniority since the former is better suited to proxy for borrowers' *quality* in terms of solvency. As a control sample, from the three areas of interest and according to the *Protagonizar*'s eligibility rules, we randomly choose 152 eligible micro-entrepreneurs[17] who were neither borrowers of *Protagonizar* nor of any other MFI at the moment of the interview[18].

Following the standard notation in the impact analysis literature, the group composed by the 152 MF borrowers will be referred to as the "treatment group", whereas the group of the 152 eligible non-participants as the "control group". The selection of control group members according to the eligibility criteria allows us to reduce the potential heterogeneity between MF and non-MF individuals, thus moderating the impact of *selection bias* in our quasi-experimental framework.

However, as it will be better specified in the next sections, a potential selection on unobservable characteristics is crucial neither for the robustness of our main proposition nor for our results.

By focusing on the MF participation as a signal for trustworthiness, rather than on its general impact on welfare's quantitative indicators, the question of the exact direction of causality between trustworthiness and selection is not essential. In other terms, whether individuals were (or not) already trustworthy before joining *Protagonizar* does not alter the signaling effect that the loan concession generates on trustors.

4.2 The investment game

The experiment is based on a standard two-player Investment Game (Berg, Dickhaut and McCabe, 1995). At the beginning of the game both players are endowed with 10 tokens. The exchange rate is 1 token per 2.5 pesos which corresponds to 0.5 euros as average exchange rate between the two

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[16] Specifically, borrowers' seniority is evaluated according to their credit-cycle. Since borrowers must first reimburse the previous loan in order to ask for a new one, a higher credit cycle is a proxy of a higher degree of borrower's solvency. Given a median credit-cycle of 17, borrowers with a credit-cycle higher than or equal to 17 are categorized as "veteran" while borrowers with a credit-cycle below the median as "new".

[17] Eligibility criteria are those described in section 3. Those applying for our experiment are: i) residence in the three districts in which the bank operates; ii) minimum six month enterprise experience.

[18] The proportion of borrowers from the three areas (S. Brigida, Mitre and Villa de Mayo) is the same among borrowers and eligible non participants.

currencies during the experiment period (August-September 2009).

Differently from what usually happens in investment games played by students, and given the standard of living of borrowers in the area, the money at stake is not negligible. In facts, the maximum amount the trustor (trustee) can win in the game is 80 (85) pesos, which represents the 80% (85%) of the MF borrowers' average weekly installment (100 pesos)[19].

According to the standard version of the game, the first mover, the trustor, must decide how much of her endowment to send to the second mover, the trustee. The amount sent is tripled when delivered to the trustee, who must decide how much of the tripled sum to send back to the trustee (Figure 1). Assuming that players have purely self-interested preferences, the subgame perfect Nash equilibrium of this game is the strategy vector in which both players send zero to their counterpart.

Trustor's payoff = 10-x+y
Trustee's payoff = 10+3x-y
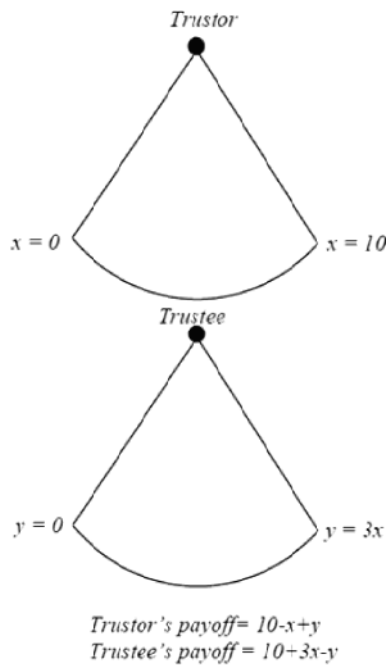
Our investment game has three specific features. First, players do not move simultaneously but, according to an *ex-ante* matching procedure which allows both of them to play twice, against a MF counterpart and against a non-MF one (see section 4.3). This allows us to capture *within* and not just

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[19] The realized average payoff of the game was 34.78 pesos, which is, in turn, around 35% of average weekly installment. Consider however that part of the payoff is not known to players before starting as it is represented by surprise questions on first and second order beliefs.

between effects. Second, we adopt the *strategy method* by asking to the trustee to illustrate her response conditional to any possible strategy chosen by the trustee. Third, we elicit through direct surprise questions first and second order trustee's beliefs and, finally, motivations of the choices of both players (see section 4.4).

We combine the experimental analysis of the investment game with a survey aimed at collecting socio-demographic characteristics and information about subjects' attitudes, habits, feelings, satisfaction with their life and work, etc.[20] The information collected is used to build up control variables for the econometric estimation.

4.3 The matching procedure

All the selected individuals have been randomly divided into two macro-groups according to the role played in the game (152 trustors and 152 trustees). Each individual plays twice and the round order is randomly alternated. The game is played in anonymity so that players do not know their counterpart with the exception of her MF/non-MF borrower status (and below/above median MF seniority) revealed by the experimenter before the beginning of the game. To sum up, as far as the matching scheme is concerned, among the 152 trustors:

- 76 are MF borrowers (38 *new* and 38 *veterans*) and each of them is matched with i) a non-MF trustee; ii) a MF trustee (randomly, *new* or *veteran*);

- 76 are non-MF borrowers and each of them is matched with i) a non-MF trustee; ii) a MF trustee (randomly, *new* or *veteran*).

Second, among the 152 trustees:

- 76 are MF borrowers (38 *new* and 38 *veterans*) matched with i) a non-MF trustor; ii) a MF trustor (randomly, *new* or *veteran*);

- 76 are non-MF entrepreneurs matched with i) a non-MF trustor; ii) a MF trustor (randomly, *new* or *veteran*).

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[20] Examples of studies based on this combination of classical surveys and experiments based on simple games are, among others, those of Glaeser et al.(2000) and Fehr et al. (2003).

The matching mechanism is summarized in the following table.

TRUSTOR	MF TRUSTEE	NON-MF TRUSTEE
76 MF	19 *Veterans*	38
(38 *New*+38 *Veterans*)	19 *New*	
76 Non-MF	19 *Veterans*	38
	19 *New*	

4.4 Implementation

The field-experiment (June-September 2009) has been carried out by two couples of experimenters, each of them composed by a foreign researcher and a local field-assistant. The survey is in two steps: i) a brief questionnaire with questions on qualitative and quantitative wellbeing which is administered before the game; ii) the investment game. The game is carefully explained to the interviewees through a series of standardized instructions (which do not include simulations in order to avoid that players frame on some specific solutions). In order to avoid confounding discount rate effects, each player knows that she will receive the payment according to her payoff from only one of the two rounds (randomly chosen) and in 45 days from the interview.[21] However, given the non-simultaneous structure of the game, neither the trustors nor the trustees know the exact payoff at the end of each round.

The player is informed about the role she plays (trustor or trustee) in the whole game and - in each round - about the characteristics of her counterpart (i.e. (*new* or *veteran*) MF or non-MF borrower). For instance, in the first round she can play against a veteran MF borrower whereas, in the second round, with a non-MF micro-entrepreneur. In each round the player specifies how much she is willing to *send* (if she plays as trustor) or *return* (if she plays as trustee) to the counterpart.

With regard to trustees we adopt the strategy method and ask in every round for their response strategy

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[21] Players were asked to come to *Protagonizar*'s office 45 days after the interview to receive their payoff.

in correspondence of any trustor's possible move[22]. This approach, typically used in many investment games[23], allows us to interview the trustees in a non-simultaneous framework and without a prior knowledge of the trustor choice. Moreover, this modification provides us also with a more accurate insight about the overall trustee's strategy not fully revealed when we just measure her response contingent to the actual trustor's play.

At the end of the two rounds, player's beliefs are elicited through an ex-post surprise question about how much they believe the counterpart has actually *sent* (if she plays as trustee) or *returned* (if she plays as trustor). Consistently with the literature, we will refer to the answers to those questions as *first order beliefs*. With another surprise question we ask trustees' to guess what are the counterparts' beliefs about their strategy, that is we elicit their second order beliefs[24]. Answers on beliefs of both orders are remunerated by an additional payoff of 5 tokens (10 pesos) in case of correct guess[25].

Finally, at the end of the game, both players are asked to select which motivation among the four listed alternatives better justifies their choices with respect to each round. With such a question we are able to grasp from an additional source of information the potential determinants of the players' strategy[26].

5. Descriptive findings and hypothesis testing

Two first introductory tables (Tables 1 and 2) illustrate characteristics of the respondents in our sample in aggregate and divided between MF borrowers and eligible non-participants.

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[22] The typical questions are: "How much do you send back to the trustor if he sends to you *2.5 pesos*? How much if he sends *5 pesos?*...How about if he sends all her initial endowment of *25 pesos*?"

[23] For a comparison of the strategy and game methods see, among others, Brandts and Charness (2000), Cason and Mui (1998), Oxoby and McLeish (2004) and Brosig et al. (2003).

[24] The question - repeated for every play - is: "*in your opinion, how much the trustor think you will actually send back to her?*"

[25] The literature is mixed on the use of point or interval elicitation of beliefs (see Blanco et al., 2008). Both of them have pros and cons. The limits of point elicitation is that the player may be discouraged to identify the correct guess when too many alternatives are provided. The limits of interval elicitation of beliefs is that it leads to strategic use of beliefs. Consider a case in which the range of the possible counterpart choices is $x \in [A,B]$ and the bonus is given if the deviation between belief and choice is not larger than $\pm \gamma$, if a player's point guess of the counterpart choice is B (the upper interval of player's choices) it is better to declare $B-\gamma$ rather than B. As a consequence it can be typically observed an abnormal peak at $B-\gamma$ in the distribution of beliefs and this will make difficult to interpret the belief distribution. We opted for point elicitation of beliefs to avoid strategic elicitation and because the range of possible answers is not too large.

[26] As potential determinants of trustor's strategy, we selected *i) trust; ii) strategic altruism; iii) inequity aversion; iv) pure altruism.* As determinants of trustee's strategy, *i) trustworthiness; ii) inequity aversion; iii) pure altruism; iv) (positive or negative) reciprocity.*

Overall sample statistics document that the average respondents' schooling level is quite low (8.4 years) and that of the partner is even lower (5.8 years). Average monthly household income is 4,096 pesos while median income is 3,000 pesos. This implies that half of sample household lives with around 100 pesos per day. Since the median number of members of the household is around 4, interviewed individuals live on with roughly 12.29 PPP US$ per day.[27]

The average amount of last monthly repayment for the microfinance loan among MF borrowers is 108 pesos, that is, 27 percent of median income.

In spite of it around 20 percent of income is saved. Respondents have no temporary employees. Average total productivity (considering main and other jobs) is around 17 pesos per hour.

When we decompose the sample in two groups (clients and eligible non participants), we find that eligible non participants have on average 73 percent of the monthly average household income of MF borrowers (the difference in means is however not significant at 95 percent).

MF borrowers' productivity[28] is 21 pesos per hour worked against 16 pesos of eligible non participants (again the difference in means is not significant at 95 percent).

Interestingly, MF borrowers save relatively more (313.84 pesos) than eligible non participants (78.48 pesos). Such a difference is perhaps due to the need MF borrowers have to save more in order to repay the debt.

5.1 Trustors

In both rounds of the game, the vast majority of trustors (81%) sent more than zero (the subgame perfect Nash equilibrium of the game).

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[27] During the survey period (July-Sept. 2009), the average malnutrition and poverty thresholds were set by the INDEC (National Statistical Agency of Argentina) at 4.88 and 11.04 pesos/day respectively, which are in turn equivalent to 3.84 and 8.70 PPP –US$ according the PPP country's factor evaluated by the World Bank in 2005. When considering the country's implied PPP factor in 2009 (US$ 2.033, source: IMF), both the malnutrition and poverty lines fall to 2.40 and 5.43 PPP-US$ per day respectively. However, if we correct these lines for the unofficial and more realistic inflation rates discussed at footnote 13 *Protagonizar* borrowers are much more closer to them.

[28] Measured as the ratio between respondent and her partner's monthly income (from all their activities) and the hours they spend in each activity.

In Table 3.1 we report matrices of the average trustor contribution and belief about trustee response by trustor/trustee type. The mean amount of money sent by all trustors (irrespective of their MF/non-MF type) is 10.05 pesos, whereas the mean amount they expect from trustees is 13.74 pesos (Table 3.1). The table also shows that trustors give more (around 50 percent more), whatever their type, when the trustee is a MF borrower (around 12 pesos against 8 as overall sample average, 11.7 against 8.8 if they are not MF clients and 12 against 7.6 if they are MF clients). It is also clear that MF trustors do not give unconditionally more than non-MF trustors (the difference is small and in favour of non-MF trustors). Results on beliefs go in the same direction. This second important finding provides one possible explanation to the first finding on trustors' choices. Trustors may give significantly more to MF trustees because they expect significantly more from them[29] (16 against 11 on average, with a similar difference when we consider only MF or non-MF trustors)[30].

Figures 3a-3b provide additional information on these findings showing that the distribution of trustors' contribution and expectations from MF and non-MF trustees first intersect at around 6 pesos. Our first two results on trustors behavior and beliefs are confirmed by within parametric as well non parametric tests. The difference for the same trustor when sending to a MF versus a non-MF trustee is 3.6 pesos and significantly different from zero. This leads to the rejection of the null hypothesis H_{01} with both parametric and on parametric tests (Table 3.3). *The trustor expects that such difference will pay* since, for the same trustor, the difference in the expected money returned by MF versus non-MF trustees is on average 5.42 pesos (rejection of the null hypothesis H_{02} with both parametric and non parametric tests, Table 3.3).

We repeat the analysis considering the differences in MF seniority. Despite the presence of a small horizontal discrimination effect on MF status (trustors give more to the trustees who share the same

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[29] Such a behaviour is consistent with Ashraf et. al. (2006) findings that trust is highly correlated with an *expectation* of reciprocity, that is *we give because we expect to receive.*

[30] We verified whether MF seniority has an effect which is independent from the MF/non-MF status but we did not find significant results. Estimates are in Appendix (Tables A.4-A.5).

MF status), the within tests do not show significant differences on trustor's contributions and expectations when both players' MF seniority is accounted for.[31]

If we examine the main revealed motivation of the trustor's choice we find that trust plus strategic trust (that is, the motivation that would be most suggested by choices and beliefs) does not exceed by far equality concerns. Data on revealed strategies are however less informative than those on beliefs and have the limit that only one motivation may be provided by each player. Even if a trustor reveals equality concerns as her main motivation, the fact of sending more and believing to receive more from MF trustee reveals that trustors, whatever their type, believe in the superior creditworthiness of MF versus non-MF trustee.

5.2 Trustees

Also for the trustee sub-population, the Nash behavior is seldom observed since players' response to nonzero trustor's contributions is zero only in two cases (1.3 percent of the sample). The *mean* amount returned by all the trustee-types as response strategy is 25.11 pesos, whereas the *mean* amount they expect from the trustor is 15.16 pesos (Table 4.1).

Trustees give substantially more when they are MF clients whatever the trustor type. Remember that in this case we use the strategy method and therefore what we calculate here is the average of the ten possible trustee's responses to the ten possible trustor's plays. More specifically, the trustees give on average 21.3 pesos when not client, 30.1 when young clients and 28 when old clients. The test on the difference sent when being a MF versus a non-MF trustee is significant (rejection of the null hypothesis H_{03} with both parametric and non parametric tests, Table 4.2).[32]

First order beliefs are consistent with the overall picture: trustees believe that trustors would give significantly more when they know that trustees are MF borrowers. Their belief is 12.5 in case of trustors knowing to play with non-MF trustees and rises to 17.3 and 18.3 when knowing to play with

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[31] Evidence is in Appendix (Table A.3).

[32] Again, we do not find here an increase in the contribution when moving from young to old clients. Neither we observe that the matching between old trustors and old trustees leads the trustees to give more; while an amount of discrimination on MFI status is present, it is small in magnitude and vanishes when the trustee is an MFI veteran. The non parametric tests which account for trustee's MFI seniority do not show significant differences in responses.

new and old MF trustees respectively. The MF/non-MF difference is significant in non parametric tests (rejection of the null hypothesis H_{04}, Table 4.2)

Second order beliefs are also consistent with the overall picture. Trustees believe that trustors believe that they will give more when being MF trustees. The difference is of more than 5 pesos (12.5 versus 17.8) and is significant in the non parametric tests (rejection of the null hypothesis H_{05}, Table 4.2).

Figures 4a-4c provide additional information on these findings showing that distributions of non-MF trustee's responses, first and second order expectations are always larger in the first part of the value interval and then smaller after the intersection (which occurs at 23 pesos for contributions, 16 and 17 for first and second order beliefs respectively).

Overall, these findings illustrate that trustees do not care about the trustor MF/non-MF characteristic in their choices[33] and beliefs. This result weakens the possible interpretation that the result on the higher trustors' contribution to the MF trustee is due to a mere framing effect (that is, the fact that the only information about the counterpart we give is about her MF/non-MF status may, by itself, influence the player choice).

What the trustees know when playing the game is whether the trustors are or not (*new* or *veteran*) borrowers of the MFI (see section 4.3). But this information does not seem to affect their beliefs as it occurs for trustors when they learn about the same characteristic regarding the trustees.

In essence, our result on trustees depends on their own characteristics and not on elements which are part of the description of the game. Hence the framing interpretation does not apply. And if the trustor behavior consistently anticipates a behavior of trustees, which does not depend on a framing effect, it is itself less likely to be affected by the framing effect as well[34].

6. Econometric findings

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[33] Obviously the use of the strategic method explains in large part why choices (but not why beliefs) are not affected.
[34] In other terms trustors should anticipate that trustees believe that they are affected by the framing effect and that trustees are not. This is quite implausible and however would limit the framing effect to the trustors' behavior.

With econometric estimates we want to check whether our results on our five variables of interest (amount sent and first order belief of trustors, mean trustee response[35] and first and second order belief of trustees) are affected by socio-demographic factors or other measured controls. For each dependent variable we propose four estimates.

The first estimate (Table 5, column 1) is specified as follows

$$TrustorSend_i = \beta_0 + \beta_1 HIncome_i + \beta_2 HComponents_i + \sum_{j=3}^{4} \beta_j Village_j + \beta_5 Age_i + \beta_6 Female_i +$$

$$+ \sum_{k=7}^{9} \beta_k CivilStatus_k + \beta_{10} JobExp_i + \beta_{11} Schooling_i + \varepsilon_i$$

$$(1)$$

with the amount sent by trustors (*TrustorSend*) being the dependent variable. Regressors are household's income measured as the sum of each family member's disposable income (*HIncome*), the number of individuals living in the house *(HComponents)*, two village dummies *(Village)*, the respondent's years of schooling *(Schooling), age,* gender dummy (*Female*, equal to 1 if the interviewee is female)*, civil status[36]* and job experience (*JobExp*), that is the number of years in the entrepreneurial activity financed by the loan[37].

In the second specification (Table 5, column 2), we add two dummy variables for the player's MF/non-MF status, *TrustorType* and *TrusteeType*, which are equal to 1 if the player is a member of a MF institution and 0 otherwise.

$$TrustorSend_i = \beta_0 + \beta_1 HIncome_i + \beta_2 HComponents_i + \sum_{j=3}^{4} \beta_j Village_j + \beta_5 Age_i + \beta_6 Female_i +$$

$$+ \sum_{k=7}^{9} \beta_k CivilStatus_k + \beta_{10} JobExp_i + \beta_{11} Schooling_i + \beta_{12} TrustorType_i + \beta_{13} TrusteeType_i + \varepsilon_i$$

$$(2)$$

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[35] The average of the ten possible trustee's responses to the ten possible trustor's plays.

[36] Specifically, the dummies used for civil status are *Married, Cohabitant* and *Single*; the banchmark dummy is *Separated*.

[37] Several studies have reported that socio-economic variables like the ones we include in our regression - age, gender, income, marital status, education and place of living - are correlated with trust (see, among others, Alesina and La Ferrara 2000, Bellamare and Kroeger 2007, Rainer and Siedler 2006, Sutter and Kocher 2007). In particular, Alesina and La Ferrara (2000) classify among the strongest factors that reduce trust the belonging to an historically discriminated group (such as minorities and women) and lack of success in terms of income and education. Sutter et al. (2006) argue that trust increases almost linearly from early childhood to early adulthood but stays rather constant within different adult age groups, whereas trustworthiness prevails in all adult age groups. Bellamare et al. (2006) find that heterogeneity in social capital behaviour is characterized by several asymmetries, that is men, the young and elderly, and low educated individuals invest relatively less, but reward significantly more investments. Finally, Moorman et al. (1993) argue that, among other interpersonal factors, expertise is a strong predictor for trust in market research relationships.

In the third and the fourth specifications, the last model is estimated in subgroups of MF (or non-MF) trustors only (Table 5, columns 3 and 4).

Results from model 2 show that the trustor type variable is strongly significant with a magnitude of 3.67 pesos (very close to the 4 pesos average effect in descriptive statistics) in the overall sample estimates. The effect is not only significant statistically but also economically since it corresponds to around 33 percent increase with respect the average contribution to a non-MF trustee. The variable remains significant in both sub-sample estimates. On the contrary, the MF borrower status does not matter when evaluating the trustor's behavior.

We propose the same four specifications when looking at the trustor's beliefs (Table 6, columns 1, 2, 3 and 4). More specifically, models 1 and 2 become:

$$TrustorExpect_i = \beta_0 + \beta_1 HIncome_i + \beta_2 HComponents_i + \sum_{j=3}^{4} \beta_j Village_j + \beta_5 Age_i + \beta_6 Female_i +$$

$$+ \sum_{k=7}^{9} \beta_k CivilStatus_k + \beta_{10} JobExp_i + \beta_{11} Schooling_i + \varepsilon_i$$

$$(3)$$

and

$$TrustorExpect_i = \beta_0 + \beta_1 HIncome_i + \beta_2 HComponents_i + \sum_{j=3}^{4} \beta_j Village_j + \beta_5 Age_i + \beta_6 Female_i +$$

$$+ \sum_{k=7}^{9} \beta_k CivilStatus_k + \beta_{10} JobExp_i + \beta_{11} Schooling_i + \beta_{12} TrustorType_i + \beta_{13} TrusteeType_i + \varepsilon_i$$

$$(4)$$

where *TrustorExpect* measures how much trustors expect to receive back from trustees.

Our findings show that trustors expect their higher donation to MF trustees will pay since they expect from MF trustors 5.14 pesos more. The result is robust in trustor's type sample splits (Table 6, columns 3 and 4). No other controls matter in these estimates with the exception of the weak significance of household income (higher income players expecting slightly less from trustees).

In Table 7 we repeat the same estimates for the trustee sample, considering as dependent variable the trustee's mean response (*TrusteeRESP*) (see below)[38].

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[38] Specifications with observations including each elements of the trustee strategy are also estimated clustering for individual player variance. Results are as expected confirmed and stronger and are omitted for reasons of space. We repeated all the

$$TrusteeRESP_i = \beta_0 + \beta_1 HIncome_i + \beta_2 HComponents_i + \sum_{j=3}^{4} \beta_j Village_j + \beta_5 Age_i + \beta_6 Female_i +$$

$$+ \sum_{k=7}^{9} \beta_k CivilStatus_k + \beta_{10} JobExp_i + \beta_{11} Schooling_i + \varepsilon_i \tag{5}$$

and

$$TrusteeRESP_i = \beta_0 + \beta_1 HIncome_i + \beta_2 HComponents_i + \sum_{j=3}^{4} \beta_j Village_j + \beta_5 Age_i + \beta_6 Female_i +$$

$$+ \sum_{k=7}^{9} \beta_k CivilStatus_k + \beta_{10} JobExp_i + \beta_{11} Schooling_i + \beta_{12} TrustorType_i + \beta_{13} TrusteeType_i + \varepsilon_i \tag{6}$$

Estimate results show that the mean trustee response is 7.50 pesos and higher if the trustee is a MF borrower (a 52 percent more with respect to what a non-MF trustee gives on average). The trustor's type is not significant, consistently with what shown in descriptive statistics and non parametric tests (Table 7, columns 1 and 2). The result is robust in the (counterpart) trustor's type splits (Table 7, columns 3 and 4). With regard to other controls it is interesting to see here that higher income trustees tend to give less, while females significantly more. The literature on gender effects in experimental games is quite mixed; however, a partial agreement seem to exist on the fact that women behave more socially in less risky situations[39].

Tables 8 and 9 show estimate results when trustees' first *(Belief(I))* and second order *(Belief(II))* beliefs are dependent variables

$$Belief(I)_i = \beta_0 + \beta_1 HIncome_i + \beta_2 HComponents_i + \sum_{j=3}^{4} \beta_j Village_j + \beta_5 Age_i + \beta_6 Female_i +$$

$$+ \sum_{k=7}^{9} \beta_k CivilStatus_k + \beta_{10} JobExp_i + \beta_{11} Schooling_i + \beta_{12} TrustorType_i + \beta_{13} TrusteeType_i + \varepsilon_i \tag{7}$$

specifications saturating the model with an interaction term between trustee and trustor MFI/non-MFI status. The additional regresssor was insignificant in all the specifications; results are omitted but are available from the authors upon request.

[39] For a non-exhaustive discussion on gender effects, look at Becchetti, et al. (2009) experiment based on traveller's dilemma, where women in the sample reveal to be less trustful than men; Solnick (2001) shows that both women and men expect higher offers by a female proposer; Andreoni and Vesterlund (2001) show that in a dictator game with asymmetric information men are more selfish; on the basis of Eckel and Grossman (1998) findings that women are more socially oriented in less risky situation, Croson and Buchan's (1999) experiment based on a trust game reveals that they behave like men when they play as trustors but they are more generous when play as trustees. The last result, however, is not comparable with ours (in which women behave more generously) because participants to the Croson and Buchan's (1999) (lab) experiment are undergraduate students at University of Melbourne, a very different sample from the one we have in our field experiment.

and

$$Belief\,(II)_i = \beta_0 + \beta_1 HIncome_i + \beta_2 HComponents_i + \sum_{j=3}^{4} \beta_j Village_j + \beta_5 Age_i + \beta_6 Female_i +$$

$$+\sum_{k=7}^{9} \beta_k CivilStatus_k + \beta_{10} JobExp_i + \beta_{11} Schooling_i + \beta_{12} TrustorType_i + \beta_{13} TrusteeType_i + \varepsilon_i \tag{8}$$

First order belief estimates are also consistent with descriptive statistics since trustees believe that trustors would give significantly more when they know that they are MF borrowers. The magnitude of the effect is 5.6 pesos (Table 8, columns 1 and 2). This finding is robust when we re-estimate the model in the two (MF and non-MF trustees) subsamples (Table 8, columns 3 and 4).

The second order belief effect is again significant and robust in subsamples. Trustees believe that trustors believe that they will give more if they are MF trustees (Table 9, columns 1, 2, 3 and 4). Its magnitude (around 9.5 pesos) is around 2 pesos larger than the actual difference between the MF and non-MF trustee behavior. An interesting finding here is that this is the only case in which the trustor MF status seems to matter. Hence, trustees' second order beliefs are significantly and positively affected by the MF trustor status.

One might object to the interpretation of our findings that the presence of unknown interviewers leads (skeptical) players to react less truthfully in a game with pecuniary payoffs. Even if such an effect is present, it does not however explain why trustors - whatever type - give more to (expect more from) MF trustees and MF trustees' response, I and II order beliefs are higher in comparison with their non-MF peers.

The same reasoning applies to the objection that in field experiments players tend to protect their reputation or impress the experimenter. This would not be able to explain the observed differences in players' strategies based on MF/non-MF status. [40]

7. The causality nexus between being trustworthy and becoming a MF borrower

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[40] Finally, we repeat all the estimates introducing seniority dummies as additional regressors but the latter are not significant. Results are omitted for reasons of space and available from the authors upon request.

Even though we claimed above that the causality nexus in the relationship between being trustworthy and becoming a MF borrower does not matter, we are however interested to know more about this nexus with IV estimates. In facts, one might object that trustworthiness stays the same before and after trustees enter microfinance and that our estimates overstate the MF-participation effect when trustor and trustee knew each other in advance. On the contrary, if they do not know each other, the horizontal trustworthiness externalities is fully determined by the MF loan concession whatever the causal link between trustworthiness and the loan. Hence, the objection applies only to cases in which there are no informational asymmetries between two individuals in the area.

In this section we show the robustness of MF-trustee effect to IV estimations when controlling for selection on unobservables and reverse causality problems.

The instrument we select is the geographical distance from the MFI. On logical grounds this variable does not affect directly borrowers trustworthiness while it affects her decision of becoming a MF borrower. To this respect consider that one of the rules in *Protagonizar* is that group borrowers must not live at a higher distance than three blocks from each other (and all of them must be in the three *barrios* in which *Protagonizar*'s local agencies work). Hence being closer to *Protagonizar* raises the probability of being included in a group but it is not expected to affect trust and trustworthiness. Consider that a possible objection that those who are closer to *Protagonizar* will be monitored more and this would affect their trustworthiness is highly implausible. Distances between borrowers are not so large and the *Protagonizar* program includes the same number of post loan visits for all borrowers, irrespective of their location. Consider also that borrowers' job place often does not coincide with their home.

From a statistical point of view we observe that the instrument is relevant since the F-test of the excluded instrument in the first stage regression rejects the null confirming that the instrument has a significant impact on the instrumented variables, net of the effect of other regressors (Table 10).

The Stock and Yogo (2005) statistics allows us to test whether our instrument is weak. In essence, we test the null of a distortion of a given percentage (5, 10, 15 percent) with a Wald test on the TSLS estimator due to a downward bias of the estimated variance. The test value falls between the 15 percent

and the 10 percent threshold so that we have to reject the null that the size of the bias is at most 10 percent but we do not reject that it is at maximum 15 percent.

Due to the presence of these biases, we perform the Anderson – Rubin (1949) Wald test of robustness to the presence of weak instruments, where the null hypothesis is that the coefficient of the endogenous regressor in the structural equation is equal to zero. We reject the null that the coefficient is zero at 3 percent.

Note that with a just identified model it is impossible to test for validity, that is, lack of correlation of the instrumental variable with the structural equation error. We must therefore proceed with intuition on this point as we did arguing about the intuitive absence of reverse causality or third omitted factors affecting both the instrument and the dependent variable.

After these tests we find that the instrumented variable (MF borrower status of the trustee) is significant in the second stage estimate confirming the significance of the MF status effect on trustee's response (Table 10) when endogeneity problems are taken into account.

8. **Conclusions**

A fundamental characteristic of investment games is that trustees hold private information about their type, that is, trustors cannot discern the type of a trustee (Diekmann and Przepiorka, 2008). It is therefore clear that, if the trustee could signal her good quality type, this would potentially increase the total payoff of the game. In our field experiment on microfinance borrowers and eligible non-participants we show that the problem can be solved by a "signaling technology" based on the revelation of the MF borrower status.

We start from a theoretical framework in which loan concession may give a signal of trustworthiness of the MF borrowers and test this hypothesis finding results on players' choices and beliefs which do not reject it.

We further argue that, if we reasonably consider the total payoff of the trust investment game as a proxy of the value added that can be created in business relationships, we may conclude that the MF loan concession is also a signal of trustworthiness that has, by itself, positive effects on economic activity and on the same capacity of the borrower to repay the loan.

We believe that our findings illustrate one possible methodological solution to endogeneity problems in this kind of research. If we add an investment game experiment to the impact study on the effects of microfinance and test successfully that becoming a MF borrower generates trustworthiness (of the investment game type), we know that an important mechanism of direct causality between getting a MF loan and improving one's own well being is at work. In other terms, if the MF loan concession event is something which produces a trustworthiness effect in the trust investment experiment, it is highly likely that the correlation we observe between loan concession and the actual borrower performance from the impact study contains that causal relationship from the first to the second fact. This implies that, even though we cannot exclude other direct or reverse causality patterns (or correlation with third omitted factors) in such correlation we have *at least one causal relationship* documenting that microfinance matters.

In this respect however, an important question which can be assessed by future analyses following the same approach is whether our results rely on the specific group lending features of *Protagonizar* or can be generalized[41]. As we know from the literature (Ghatak, 1996) the mechanism of giving credit to groups of 4-6 individuals with joint liability and commitment of the group to cover fully the inability to pay of groupmates is a very strong incentive to assortative matching. In the framework in which microfinance operates, with the impossibility of using scoring mechanisms used by traditional banks, peer monitoring reinforces bank screening and may create a much stronger trustworthiness effect.

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[41] It is important, however, to underline that in our experiment non-MF players are shortly informed before starting the game about the main characteristics of the MF institution (specifically about the group-lending mechanism and the interest rate). In doing that, a standardized written set of instruction is prepared in order to limit potential experimenters' discretionality in selecting information on the MFI's main features.

For this reason and to enrich the debate, implementation of other field-experiments are welcome in order to verify whether the same significant trustworthiness effect may be generated in presence of an MF institution using individual instead of group lending.

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Table 1 – Summary statistics of Socio-Demographic and Economic Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	361	43.19114	12.74666	17	79
Household Income (pesos)	361	4096.097	4922.754	150	65000
Household Food expenditure (pesos)	361	38.85286	30.12302	6.666667	400
Total Productivity*	361	17.3678	22.59894	0	312.5
Job Experience (years)	350	8.340974	8.728824	0.6	50
Savings/month (pesos)	361	186.0295	525.4139	0	5000
N. of persons in the house	360	4247911	1920876	1	15
N.of children	361	2.99169	2.135009	0	13
Schooling years (Respondent)	359	8.477716	3.054131	1	18
Schooling years (Partner)	361	5.587258	4.503548	0	18
Credit cycle	361	6.614958	8.687712	0	26
Total amount of last microcredit received	209	1086.158	647.1381	150	3000
Amount of last repayement	209	108.3245	64.54202	11	354
Duration of the microcredit (weeks)	209	10.85167	3.185304	4	30

Income from first and second activity per hour worked

Table 2 – Descriptive statistics for MF borrowers and eligible non participants

	Eligible non participant					Clients				
Variable	Obs	Mean	Std. Err.	[95% Conf. Interval]		Obs	Mean	Std. Err.	[95% Conf. Interval]	
Age	152	43.68421	1.104722	41.5015	45.86692	150	42.53333	0.9579838	40.64034	44.42632
Household Income	152	3662.599	462.1428	2749.497	4575.7	150	4982.687	387.5127	4216.956	5748.417
Household Food expenditure	152	42.29793	3.249835	35.87691	48.71895	150	35.89159	1.725943	32.4811	39.30207
Total Productivity	152	15.79351	2.223757	11.39981	20.18721	150	20.60705	1.636741	17.37283	23.84127
Job Experience (years)	152	7.447368	0.684113	6.095699	8.799038	147	9.390476	0.7362667	7.935359	10.84559
N. of temporary employess	152	0.0263158	0.0130265	.000578	.0520536	150	0.06	0.0254358	.0097385	.1102615
Savings/month	152	78.48684	25.43209	28.23815	128.7355	150	313.8444	57.65782	199.9118	427.7771
N. of persons in the house	150	4.013333	0.1608108	3.695569	4.331098	150	4.44	0.1529662	4.137737	4.742263
N.of children	152	2.519737	0.1600503	2.20351	2.835964	150	3.253333	0.169797	2.917812	3.588854
Schooling years (Respondent)	150	8.9	0.2614278	8.383415	9.416585	150	8.403333	0.2370445	7.93493	8.871736
Schooling years (Partner)	152	5.828947	0.3903659	5.057663	6.600232	150	5.28	0.3360675	4.615926	5.944074
Credit cycle						150	15.76	0.4911458	14.78949	16.73051
Total amount of last microcredit received						150	1209.513	52.15598	1106.452	1312.574
Amount of last repayment						150	121.1681	5.290582	110.7139	131.6224
Duration of the microcredit (weeks)						150	10.84	0.1938841	10.45688	11.22312

Table 3.1 - Trustor's contributions and expectations

Trustor	Trustee		
	Non-MF	*MF*	*Total*
Non-MF	8.83	11.70	*10.26*
	11.53	16.46	*14.06*
MF	7.57	12.07	*9.82*
	10.65	15.87	*13.41*
Total	*8.21*	*11.88*	*10.05*
	11.10	*16.16*	*13.74*

The first number in the cell is the amount in pesos sent by trustors, whereas the second is the amount expected back from trustees.
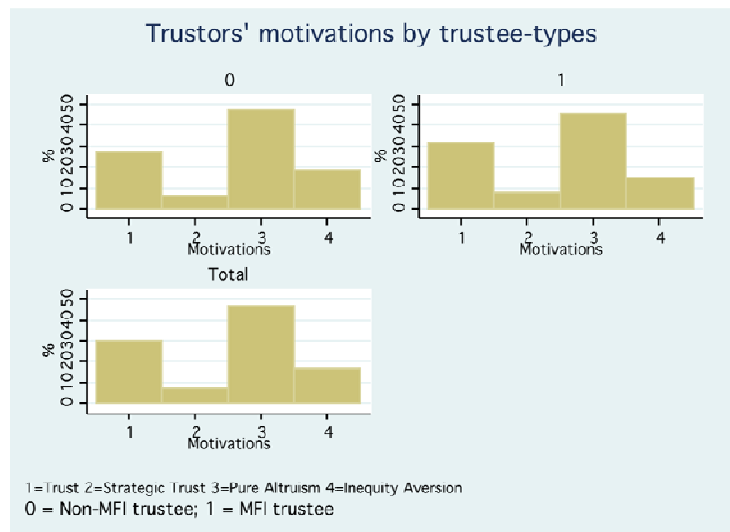
Figure 2 - Distribution of trustor's motivations

Table 3.2 - Hypothesis testing on trustors' contribution and beliefs

Test type	Average difference	z- stat	p-value
Parametric tests			
Within test on trustor contribution to a MF vs. a non-MF trustee (Hyp. H_{01})	3.76	4.64	(0.00)
Within test on trustor expectations from a MF vs. a non-MF trustee (Hyp. H_{02})	5.42	4.86	(0.00)
Non parametric tests			
Wilcoxon rank-sum equality test on trustor's contribution to a MF vs a non-MF trustee (Hyp. H_{01})		-4.26	(0.00)
Wilcoxon rank-sum equality test on trustor's expectation from a MF vs a non-MF trustee (Hyp. H_{02})		-3.77	(0.00)

Figures3a-3b - Distribution of trustor's contributions and expectations by trustee type
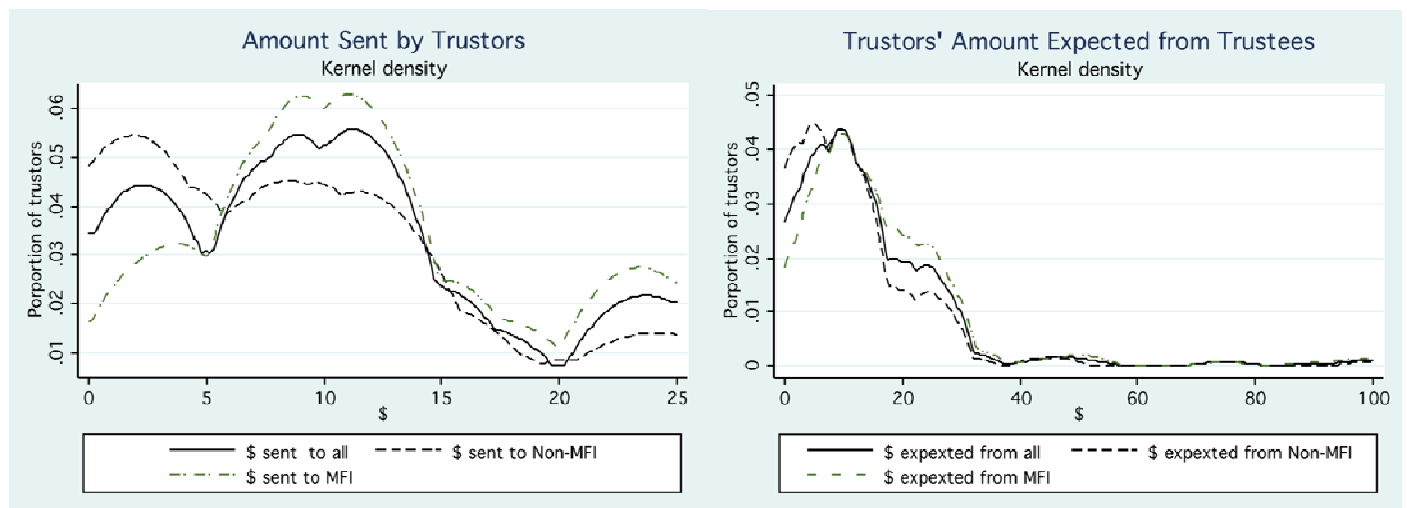
Table 4.1–Trustee's response, I and II order beliefs

Trustee	Trustor		
	Non-MF	*MF*	*Total*
Non-MF	21.54	20.80	*21.17*
	11.46	13.53	*12.49*
	12.17	16.53	*14.35*
MF	29.58	28.51	*29.04*
	17.15	18.47	*17.81*
	21.93	24.51	*23.24*
Total	*25.56*	*24.66*	*25.11*
	14.30	*16.02*	*15.16*
	17.26	*20.75*	*19.02*

The first number in the cell is the trustee's response in pesos to trustors' hypothetical strategies, whereas the second and the third one represent the I and the II order beliefs respectively (in pesos)

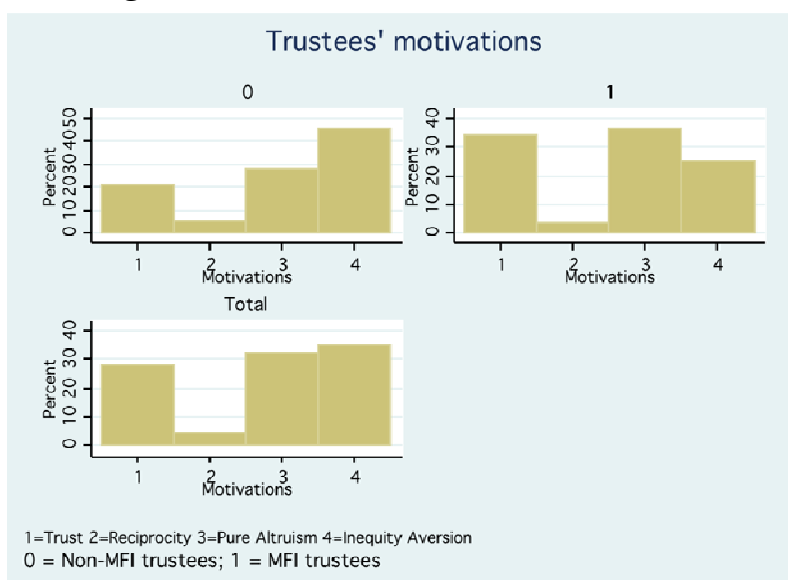**Figure 4 - Distribution of trustee's motivations**

1=Trust 2=Reciprocity 3=Pure Altruism 4=Inequity Aversion
0 = Non-MFI trustees; 1 = MFI trustees

Table 4.2 -Hypothesis testing on trustee's response, I and II order beliefs

Test type	Average difference	z- stat	p-value
Parametric tests			
Within test on trustee's response to a MF vs. a non-MF trustor (Hyp. H$_{03}$)	-0.90	-1.48	(0.14)
Within test on trustee's I-order belief on a MF vs. a non-MF trustor move (Hyp. H$_{04}$)	1.81	1.64	(0.10)
Within test on trustee's II-order belief on a MF vs. a non-MF trustor move (Hyp. H$_{05}$)	3.56	1.32	(0.007)
Non parametric tests			
Wilcoxon rank-sum equality test on trustee's response by MF vs a non-MF trustee (Hyp. H$_{03}$)		-4.73	(0.00)
Wilcoxon rank-sum equality test on trustee's I order belief by MF vs a non-MF trustee (Hyp. H$_{04}$)		-4.139	(0.00)
Wilcoxon rank-sum equality test on trustee's II order belief by MF vs a non-MF trustee (Hyp. H$_{05}$)		-3.635	(0.0003)

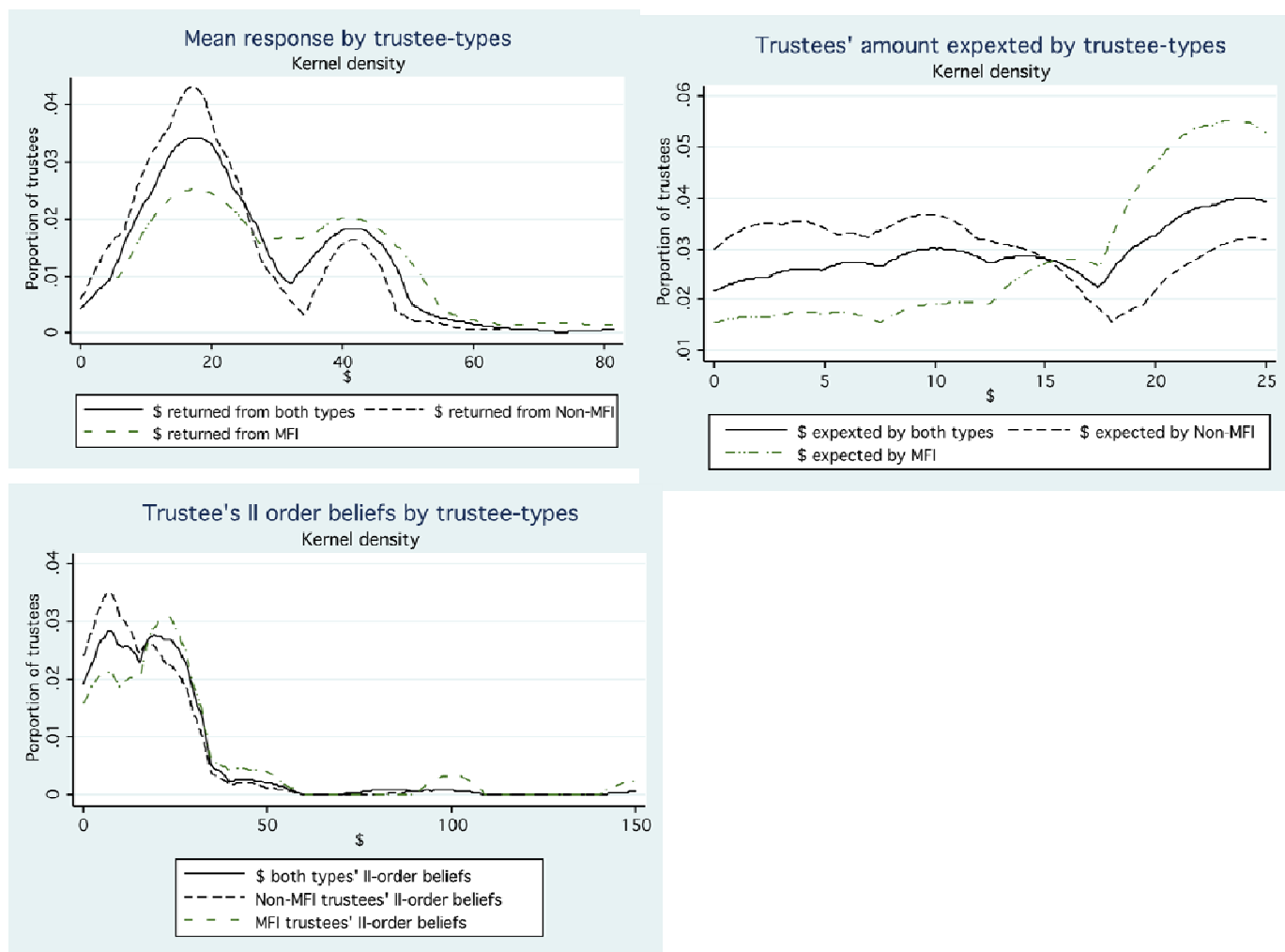**Figures 4a, 4b, 4c - Distribution of trustor's contributions, I and II order beliefs by trustee type**

Table 5 – Determinants of trustor's contribution (OLS estimates)

	Whole sample		Non –MF Trustors only	MF Trustors only
	1	2	3	4
Age	0.0449	0.0444	0.0202	0.0705
	(0.0514)	(0.0520)	(0.0647)	(0.0789)
Female	-0.596	-0.535	0.556	-1.771
	(1.207)	(1.233)	(1.518)	(2.115)
Single	-0.640	-0.626	1.106	-2.883
	(2.065)	(2.078)	(3.550)	(2.617)
Married	-1.878	-1.883	0.938	-4.403*
	(1.699)	(1.709)	(2.689)	(2.442)
Cohabitant	-1.219	-1.222	0.292	-2.542
	(1.904)	(1.914)	(2.851)	(2.603)
JobExp	0.0123	0.0147	0.0752	-0.0853
	(0.0631)	(0.0643)	(0.0898)	(0.0996)
Villa de Mayo	0.886	0.653	0.859	
	(1.526)	(1.647)	(1.789)	
S. Brigida	1.479	1.476	1.672	1.338
	(1.253)	(1.254)	(2.005)	(1.947)
Schooling	-0.0673	-0.0676	-0.206	-0.0122
	(0.191)	(0.192)	(0.272)	(0.274)
HIncome	-0.000143*	-0.000140*	-0.000114	-0.000101
	(8.15e-05)	(8.22e-05)	(0.000196)	(9.91e-05)
HComponents	0.517	0.507	0.852*	0.185
	(0.331)	(0.337)	(0.454)	(0.527)
TrustorType		-0.351		
		(1.230)		
TrusteeType		3.670***	2.862***	4.500***
		(0.705)	(1.053)	(0.969)
Observations	300	300	152	148
R-squared	0.032	0.087	0.092	0.146

Robust clustered standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6 – Determinants of trustor's expectations (OLS estimates)

	Whole sample		Non –MF Trustors only	MF Trustors only
	1	2	3	4
Age	0.0190	0.0181	0.0754	-0.0632
	(0.0960)	(0.0935)	(0.0972)	(0.201)
Female	-1.339	-1.533	1.820	-4.835
	(2.731)	(2.968)	(2.673)	(5.762)
Single	2.629	2.667	6.782	-2.931
	(5.753)	(5.777)	(6.540)	(7.966)
Married	-2.854	-2.927	2.922	-8.857
	(3.651)	(3.626)	(3.870)	(6.246)
Cohabitant	-3.296	-3.311	2.050	-8.994
	(4.479)	(4.466)	(3.631)	(8.122)
JobExp	0.0590	0.0505	0.200*	-0.174
	(0.0835)	(0.0860)	(0.115)	(0.137)
Villa de Mayo	3.824	4.359	4.824	0
	(3.291)	(3.431)	(3.572)	(0)
S. Brigida	3.298	3.285	4.658	1.957
	(2.262)	(2.255)	(3.020)	(2.691)
Schooling	-0.233	-0.239	-0.462	-0.241
	(0.406)	(0.408)	(0.455)	(0.822)
HIncome	-0.000258**	-0.000257*	-3.87e-05	-0.000210
	(0.000122)	(0.000130)	(0.000301)	(0.000133)
HComponents	0.740	0.779	1.511	0.0784
	(0.686)	(0.688)	(1.035)	(0.882)
TrustorType		0.575		
		(2.377)		
TrusteeType		5.144***	4.955**	5.569***
		(1.213)	(1.997)	(1.403)
Observations	278	278	140	138
R-squared	0.039	0.069	0.123	0.100

Robust clustered standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1*

Table 7 – Determinants of trustee's response (OLS estimates)

	Whole sample		Non –MF Trustor only	MF Trustor only
	1	2	3	4
Age	0.0437	0.0422	0.0639	0.0206
	(0.104)	(0.104)	(0.112)	(0.107)
Female	5.975***	4.967**	5.012**	4.923**
	(2.170)	(2.079)	(2.307)	(2.176)
Single	1.280	1.663	1.728	1.598
	(4.232)	(4.194)	(4.482)	(4.400)
Married	3.450	4.050	3.982	4.117
	(3.757)	(3.700)	(3.973)	(3.904)
Cohabitant	1.232	0.580	1.920	-0.759
	(4.224)	(4.125)	(4.492)	(4.344)
JobExp	-0.0759	-0.135	-0.159	-0.112
	(0.139)	(0.140)	(0.149)	(0.141)
Villa de Mayo	-7.744**	-2.371	-4.913	0.171
	(3.643)	(3.949)	(4.334)	(4.118)
S. Brigida	-1.277	0.297	0.923	-0.329
	(2.543)	(2.490)	(2.636)	(2.578)
Schooling	0.282	0.250	0.277	0.222
	(0.353)	(0.336)	(0.383)	(0.330)
HIncome	-0.000257**	-0.000296***	-0.000272***	-0.000320***
	(0.000106)	(0.0000994)	(0.000103)	(0.000112)
HComponents	0.676	0.327	0.498	0.156
	(0.720)	(0.735)	(0.772)	(0.751)
TrustorType		-0.903		
		(0.601)		
TrusteeType		7.501***	6.756***	8.246***
		(2.295)	(2.442)	(2.382)
Observations	304	304	152	152
R-squared	0.087	0.142	0.141	0.153

Robust clustered standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1*

Table 8 – Determinants of trustee's I-order beliefs (OLS estimates)

	All sample		Non –MF Trustor only	MF Trustor only
	1	2	3	4
Age	-0.0550	-0.0551	0.0123	-0.122
	(0.0806)	(0.0809)	(0.0886)	(0.0903)
Female	-0.861	-1.632	-2.027	-1.247
	(1.615)	(1.432)	(1.489)	(2.015)
Single	-0.791	-0.676	-1.726	0.373
	(2.914)	(2.872)	(2.952)	(3.602)
Married	0.272	0.703	-1.934	3.331
	(2.552)	(2.599)	(2.382)	(3.893)
Cohabitant	-0.877	-1.303	-1.556	-1.051
	(2.679)	(2.676)	(2.876)	(3.193)
JobExp	0.0458	0.00252	0.0804	-0.0757
	(0.113)	(0.116)	(0.0995)	(0.186)
Villa de Mayo	-2.730	1.353	4.819	-2.110
	(2.340)	(2.437)	(2.981)	(3.503)
S. Brigida	-2.341	-1.064	-0.117	-2.017
	(1.802)	(1.645)	(1.557)	(2.371)
Schooling	0.0146	-0.00630	0.236	-0.248
	(0.268)	(0.253)	(0.247)	(0.352)
HIncome	1.00e-04	7.05e-05	0.000142*	-1.56e-06
	(6.85e-05)	(5.97e-05)	(7.62e-05)	(0.000123)
HComponents	0.145	-0.114	0.496	-0.724
	(0.395)	(0.439)	(0.327)	(0.743)
TrustorType		1.695		
		(1.140)		
TrusteeType		5.626***	5.423***	5.838**
		(1.735)	(1.550)	(2.663)
Observations	299	299	149	150
R-squared	0.019	0.069	0.147	0.076

Robust clustered standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 9 – Determinants of trustee's II-order beliefs (OLS estimates)

	All sample		Non –MF Trustor only	MF Trustor only
	1	2	3	4
Age	-0.138	-0.141	-0.193	-0.0865
	(0.146)	(0.144)	(0.158)	(0.167)
Female	-1.942	-3.192	-1.332	-5.087
	(3.447)	(3.273)	(3.366)	(3.782)
Single	-7.296	-7.948	-8.474	-7.370
	(5.024)	(5.019)	(5.263)	(5.843)
Married	-2.538	-2.018	-3.634	-0.433
	(4.559)	(4.390)	(4.680)	(4.790)
Cohabitant	-0.492	-1.063	-6.225	4.111
	(7.006)	(6.773)	(6.851)	(7.933)
JobExp	0.200	0.119	0.0188	0.222
	(0.230)	(0.235)	(0.200)	(0.344)
Villa de Mayo	-5.895*	1.015	2.684	-0.593
	(3.450)	(3.826)	(5.280)	(4.432)
S. Brigida	0.00511	1.768	0.156	3.376
	(3.375)	(3.552)	(4.095)	(3.692)
Schooling	0.182	0.0714	0.0368	0.121
	(0.414)	(0.427)	(0.469)	(0.519)
HIncome	8.57e-05	5.54e-05	0.000139	-2.65e-05
	(0.000103)	(0.000142)	(0.000103)	(0.000220)
HComponents	-0.00783	-0.541	-0.198	-0.831
	(0.585)	(0.687)	(0.701)	(0.842)
TrustorType		3.442***		
		(1.301)		
TrusteeType		9.388**	8.654**	10.21**
		(3.715)	(4.167)	(3.987)
Observations	278	278	140	138
R-squared	0.032	0.081	0.060	0.122

Robust clustered standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
In these specifications we have fewer observations since trustees who believe the trustor to have sent nothing have not included.

Table 10– Determinants of trustee's response (2SLS estimates)

Instrumented Variable: *TrusteeType*	Instrument: *Distance from the MF institution*
TrusteeType	33.73*
	(19.03)
Age	0.0371
	(0.112)
Female	1.443
	(3.601)
Single	3.002
	(4.385)
Married	6.146*
	(3.715)
Cohabitant	-1.700
	(4.245)
JobExp	-0.343
	(0.210)
Villa de Mayo	16.42
	(13.93)
S. Brigida	5.803
	(4.677)
Schooling	0.136
	(0.328)
HIncome	-0.000432*
	(0.000236)
HComponents	-0.895
	(1.124)
TrustorType	-0.903
	(2.032)
Observations	*304*
R-squared	*-0.518*
Exogeneity Test	
Chi-Square	*1.771*
P-Value	*0.183*
Test of Excluded Instruments (Weak Ident. Test)	
F-Stat.	*3.704*
Weak-Instrument-Robust Inference (A.&R. Test)	
Chi-Square	*2,775*
P-Value	*0.0958*

Distance is measured in *cuadras*. 1 *cuadra* = 0.13 *Km*
Robust clustered standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1*

APPENDIX

a) ANALYSIS OF MF-SENIORITY EFFECTS

Table A.1

Trustor	Trustee			Total
	Non-MF	*New-MF*	*Senior-MF*	
Non-MF	8.83	11.84	11.51	*10.27*
	11.53	14.87	18.43	*14.06*
New-MF	8	11.25	11.13	*9.53*
	9.54	8.75	13.58	*11.41*
Senior-MF	7.23	12.60	15.62	*10.07*
	11.80	18	20	*15.32*
Total	*8.21*	*12.17*	*11.58*	*10.05*
	11.10	*16.13*	*16.28*	*13.75*

Table A.2

Trustee	Trustor			Total
	Non-MF	*New-MF*	*Senior-MF*	
Non-MF	21.54	21.68	20.80	*21.175*
	11.46	11.92	13.53	*12.49*
	12.17	14.13	16.53	*14.35*
New-MF	30.40	36.18	29.25	*30.10*
	14.87	22.5	19.64	*17.34*
	24.93	72.5	24.04	*25.90*
Senior-MF	28.80	27.55	23.95	*28.04*
	19.25	17.84	10	*18.25*
	19.40	23.55	9.17	*25.90*
Total	*25.56*	*24.95*	*24.35*	*25.11*
	14.30	*14.96*	*17.15*	*15.16*
	17.26	*20.64*	*20.85*	*19.02*

Table A.3

Wilcoxon rank-sum equality test	z- stat	p-value
on trustor's contribution to a MF trustee by trustee's seniority	0.216	(0.8289)
on MF trustor's contribution by trustor's seniority	1.374	(0.1695)
on trustee's response to a MF trusteor by trustor's seniority	0.759	(0.4476)
on MF trustee's response by trustee's seniority	0.189	(0.8502)

Table A.4 - Determinants of Trustors' game: analysis of MF seniority.

Dep. Variables	TrustorSend	TrustorExpect	TrustorSend	TrustorExpect
Sample restricted to:	MF Trustors	MF Trustees	MF Trustees	MF Trustors
Age	0.0621	0.0925	-0.0588	0.0970
	(0.0775)	(0.0627)	(0.200)	(0.113)
Female	-1.801	-0.423	-4.820	-3.462
	(2.079)	(1.535)	(5.811)	(3.858)
Single	-2.655	-0.331	-3.031	3.807
	(2.713)	(2.400)	(8.177)	(6.663)
Married	-4.141	-1.998	-8.958	-2.617
	(2.488)	(1.904)	(6.473)	(4.028)
Cohabitant	-2.348	-0.856	-9.083	-2.016
	(2.712)	(2.183)	(8.311)	(5.026)
JobExp	-0.0853	0.0357	-0.173	0.0347
	(0.0984)	(0.0662)	(0.138)	(0.104)
Villa de Mayo		1.592		8.941*
		(2.120)		(5.322)
S. Brigida	0.610	2.434	2.302	5.436*
	(1.911)	(1.545)	(3.404)	(2.894)
Schooling	-0.0426	-0.169	-0.220	-0.677
	(0.285)	(0.220)	(0.859)	(0.571)
HIncome	-8.42e-05	-0.000272***	-0.000218	-0.000409***
	(9.80e-05)	(7.85e-05)	(0.000140)	(0.000140)
HComponents	0.161	0.390	0.0942	0.949
	(0.520)	(0.371)	(0.867)	(0.967)
TrusteeType	4.500***		5.550***	
	(0.972)		(1.411)	
TrustorSenior	-2.212		1.028	
	(1.997)		(3.996)	
TrustorType		0.902		2.985
		(1.512)		(2.885)
TrusteeSenior		-0.957		-0.968
		(1.302)		(2.971)
Observations	148	150	138	145
R-squared	0.156	0.090	0.100	0.081

Robust clustered standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1*

Table A.5 - Determinants of Trustees' game: analysis of MF seniority.

Dep. Variables	TrusteeRESP	Beliefs(I)	Beliefs(II)	TrusteeRESP	Beliefs(I)	Beliefs(II)
Sample restricted to:	MF Trustors	MF Trustees	MF Trustors	MF Trustees	MF Trustors	MF Trustees
Age	0.0635	0.155	0.0160	-0.0339	-0.192	-0.128
	(0.112)	(0.175)	(0.0889)	(0.115)	(0.165)	(0.273)
Female	5.011**	6.725*	-1.998	-2.142	-1.320	-2.425
	(2.316)	(3.387)	(1.474)	(2.331)	(3.478)	(6.592)
Single	1.749	6.055	-1.891	2.366	-8.513*	-13.25
	(4.520)	(6.017)	(2.932)	(4.574)	(5.137)	(8.929)
Married	4.001	11.38**	-2.101	3.040	-3.652	-5.748
	(4.011)	(5.018)	(2.393)	(4.909)	(4.641)	(7.878)
Cohabitant	1.947	6.734	-1.825	0.280	-6.254	0.847
	(4.531)	(5.918)	(2.827)	(4.083)	(6.652)	(12.34)
JobExp	-0.157	-0.296	0.0668	-0.127	0.0161	0.153
	(0.150)	(0.182)	(0.0996)	(0.183)	(0.218)	(0.328)
Villa de Mayo	-4.948		5.117*		2.744	
	(4.380)		(2.953)		(5.436)	
S. Brigida	0.850	1.123	0.555	0.136	0.257	5.035
	(2.759)	(3.413)	(1.481)	(2.156)	(4.755)	(6.397)
Schooling	0.276	-0.425	0.244	-0.115	0.0357	-0.189
	(0.386)	(0.547)	(0.247)	(0.372)	(0.475)	(0.726)
HY	-0.000271**	-0.000142	0.000133	-1.50e-05	0.000138	-0.000337
	(0.000106)	(0.000598)	(8.24e-05)	(0.000266)	(0.000101)	(0.000635)
Components	0.502	0.484	0.457	-0.801	-0.207	-1.693
	(0.769)	(1.482)	(0.338)	(0.849)	(0.746)	(1.267)
TrusteeType	6.737***		5.560***		8.691**	
	(2.457)		(1.552)		(4.286)	
TrustorSenior	-0.208		1.963		0.312	
	(2.366)		(1.388)		(4.339)	
TrustorType		-1.068		1.320		2.459
		(0.925)		(2.064)		(1.870)
TrusteeSenior		-2.072		0.334		-4.608
		(3.190)		(2.162)		(5.855)
Observations	152	152	149	150	140	146
R-squared	0.141	0.149	0.158	0.028	0.060	0.077

Robust clustered standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1*

b) SOCIO-DEMOGRAPHIC QUESTIONNAIRE

		CUESTIONARIO *PROTAGONIZAR*												
1	**Numero en lista**													
2	**Grupo_____**	Eligible no-participantes - no otra imf (1)												
		clientes 2)												
		salieron de *Protagonizar* (3)												
3	**Barrio**	Mitre (1)												
		Santa Brígida (2)												
		Villa de Mayo (3)												
4	**Sexo**	Masculino (0)												
		Femenino (1)												
5	**Edad**													
6	**Estado Civil**	Soltero (1)												
		Casado (2)												
		Viudo (3)												
		Divorciado (4)												
		Separado (5)												
		Concubino (6)												
7	**Distancia (cuadras) de *Protagonizar* (o la IMF más cercana en caso de non-imf)**	cuadras												
8	**Distancia del negocio a la calle principal**	cuadras												
9	**Usted cuánta estatura mide?**	cm												
		SATISFACCIÓN DE VIDA												
10	**Comparado con sus vecinos del barrio, cómo considera su nivel de vida?**													
		Mucho mejor (4)												

		Mejor (3)												
		Igual (2)												
		Más bajo (1)												
		Mucho más bajo (0)												
11	**Qué tan satisfecho se encuentra con su vida? (1- totalmente insatisfecho, 10- totalmente satisfecho)**	0-10												
12	**Qué tan satisfecho está con las condiciones de su vivienda?**	0-10												
13	**Qué tan buen trabajador se considera?**	0-10												
14	**En su opinión, cuánto debería ser su salario mensual para vivir satisfactoriamente?**	$												
	CAPITAL SOCIAL													
15	**En cuáles de los siguientes grupos participa?**													
		Grupos deportivos (1)												
		Grupos vecinales (2)												
		Grupos o asociaciones religiosas (3)												
		Organizaciones comunitarias / civiles (ONGs) (4)												
		Grupos culturales (música, danza, etc) (5)												
		Partidos políticos (6)												
		Otro (especifique cual) (7)												
		Nada (0)												
16	**Votó en la elección anterior (local o nacional)?**	Si [1] No [0]												
17	**Alguna vez ha pedido a sus vecinos que cuiden de sus niños?**	Si [1] No [0]												
18	**Alguna vez ha pedido ayuda a sus vecinos?**	Si [1] No [0]												
	CARACTERÍSTICAS Y ACTIVOS DEL HOGAR													

19	**Cuántas personas viven regularmente en su casa?**	n.											
20	**Usted es:**	Propietario de la vivienda y el terreno (1)											
		Propietario de la vivienda pero ocupante del terreno (2)											
		Ocupante de la vivienda y el terreno (3)											
		Alquila (4)											
		Ocupante por prestamo (5)											
		Otro (6)_____											
21	**Como es su vivienda (la casa)?**	Casa de ladrillo o bloques sin terminar (1)											
		Casa de ladrillo o bloques terminada (2)											
		Casilla de madera (3)											
		Chapas (4)											
		mixta terminada (5)											
		mixta noterminada (6)											
22	**Cuántas habitaciones se usan para dormir?**	n.											
23	**Qué tipo de piso tiene la casa?**	Tierra (1)											
		Cemento (2)											
		Tabas de madera (3)											
		Ceramica (4)											
		Otro (5)_____											
24	**Qué combustible usa su familia para cocinar?**	Gas de garrafa (1)											
		Electricidad (2)											
		Kerosene (3)											
		Leña o carbón (4)											
		Gas natural (5)											
		Otro (Especifique) (6)_____											
25	**La vivienda tiene baño**	Con arrastre de agua (1)											
		Letrina (sin arrastre de agua) (2)											

		No tiene baño (3)														
		Comparte el baño con vecinos (4)														
		Otro (5)_____														
26	**Cuáles de los siguientes objetos posee su familia?**															
	a	Reloj	Si [1] No [0]													
	b	Radio / reproductor CD	Si [1] No [0]													
	c	heladera	Si [1] No [0]													
	d	TV	Si [1] No [0]													
	e	Reproductor DVD/VCR	Si [1] No [0]													
	f	Máquina de coser	Si [1] No [0]													
	g	Herramientas	Si [1] No [0]													
	h	Bicicleta	Si [1] No [0]													
	i	Motocicleta	Si [1] No [0]													
	j	Automóvil	Si [1] No [0]													
	k	Camion	Si [1] No [0]													
	l	Computadora	Si [1] No [0]													
	m	Teléfono de linea	Si [1] No [0]													
	n	Celular (móvil)	Si [1] No [0]													
	o	Conexión a internet	Si [1] No [0]													
		SALUD Y EDUCACIÓN														
27	**Sabe usar la computadora?**	Si [1] No [0]														
28	**Es usuario de internet?**	Si [1] No [0]														
	tabla de educacion	**Entrevistado**	**Pareja**													
29-30	**Cuántos años asistió a la escuela?**															

				1 = Primario completo		2 = secundario completo		3 = terciario completo							
31-32	**Cuál es el máximo grado que alcanzó?**														
33	**Cuántos hijos tiene? (llenar la tabla abajo)**	Número													
		34	35	36	37	38	39	40	41	42	43	44	
								Actividades			Horas al día	Distancia de la	
	TABLA DE HIJOS	Sexo = Hombre (0) - Mujer (1)	Edad	Edad al iniciar la escuela	Cuántos años asistió a la escuela?	Máximo grado alcanzado	Cuántos grados repitió	Ayuda en el hogar	Trabaja fuera de casa	No trabaja	dedicadas a las dos actividades	casa a la escuela (cuadras)	
a	*Primero*												
b	*Segundo*												
c	*Tercero*												
d	*Cuarto*												
e	*Quinto*												
f	*Sexto*												
g	*Séptimo*												
h	*Octavo*												
45	**Dónde nació su último hijo?**												
	En casa (1)												
	En una clínica privada (2)												
	En el hospital (3)												
	Otro (Especifique) (4)_____												
46	**Su último hijo fue vacunado?**	Si [1] No [0]											
47	**Perdió a algunos de sus hijos?**	n.											
48	**Usted se ha lastimado seriamente en el último año? (acc. de trabajo)**	Si [1] No [0]											
49	**Cuántas veces ha asistido al doctor en el último año?**	n.											
50	**Cuántos días ha estado enfermo sin poder ir a trabajar en el último año?**												

	GASTOS DEL HOGAR														
51	**¿Cuánto gastó durante el último mes en que sus hijos asistieron a la escuela (cuotas, uniformes, libros, materiales escolares, transporte, etc)**	*$ por mes*													
52	**Cuánto gastó en cuestiones de salud durante el último mes o año? (incluir medicinas, médico, etc)**	*$ por mes o ano*													
53	**¿Cuánto gastó el último año en cuidado dental para la familia?**	*$ por ano*													
54	**¿Comúnmente cuánto gasta en comida para la familia diariamente?**	*$ por dia*													

	INGRESO DEL HOGAR														
55	**Cuál es su principal ocupación?**														
	Nada/desempleado (1)														
	Tabajo ocasional / changas (2)														
	Trabajo asalariado (3)														
	Negocio proprio (4)														
	Otro (especifique,ej. Plan trabajar) (5) _____														
56	**Si 55 = Negocio propio, especificar el rubro del negocio**	NÚMERO													
	1. Albañil/pintor	2. Cestería														
	3. Cocinero/gastronómico	4. Talabartería														
	5. Remis	6. Electricista														
	7. Herrero	8. Jardinero/parquista														
	9. Mecánico	10. Modista/costurera														
	11. Tejedora	12. Revendedora ropa														
	13. Peluquería	14. Plomero/gasista														
	15. Kiosco	16. Almacen														
	17. Peluches	18. Escobas														

			58	59	60	61										
	19. Reventa art limpieza	20. Pasto														
	21. Apicultura	22. Otros_____														
57	**Además de ésta, tiene otra actividad? (si tiene más de una, registrar la que genere la mayor parte del ingreso mensual)**															
		Nada/desempleado (1)														
		Tabajo ocasional / changas (2)														
		Trabajo asalariado (3)														
		Negocio proprio (4)														
		Otro (especifique) (5)_____														
			58	59	60	61										
	Tabla de actividades del <u>entrevistado</u>	**Años**	**Ingreso mensual**	**Días trabajados por mes**	**Horas trabajadas al día**											
a	*Principal actividad*															
b	*Actividad Secundaria*															
62	**Cuál es la principal ocupación de su pareja?**															
		Nada/desempleado (1)														
		Tabajo ocasional / changas (2)														
		Trabajo asalariado (3)														
		Negocio proprio (4)														
		Otro (especifique) (5)_____														
63	**Además de ésta, tiene otra actividad? (si tiene más de una, registrar la que genere la mayor parte del ingreso mensual)**															
		Nada/desempleado (1)														
		Tabajo ocasional / changas (2)														
		Trabajo asalariado (3)														
		Negocio proprio (4)														
		Otro (especifique) (5)_____														

			64	65	66	67								
	Tabla de actividades de la <u>pareja</u>	Años	Ingreso mensual	Días trabajados por mes	Horas trabajadas al día									
a	*Principal actividad*													
b	*Actividad Secundaria*													
68	**Cuál es el ingreso mensual de la familia?**													
a	Entrevistado	$												
b	Pareja	$												
c	Hijos e hijas	$												
d	Otros miembros	$												
69	**Tiene otras fuentes de ingreso? (donaciones, subsidios, etc)**													
	no (0)													
	De la comunidad (1)													
	Del gobierno (2)													
	De personas privadas (3)													
	De organizaciones civiles (ONGs) (4)													
	Alquiler (5)													
	Otro (Especifique) (6)_____													
70	**Recibe donaciones en especie de:**													
	no recibo (0)													
	Programas de gobierno (ej. Tarjeta del plan) (1)													
	ONGs (2)													
	Familiares (3)													
	Amigos / vecinos (4)													
	Otro (Especifique) (5)_____													

		71	72	73	74	75	76	77	78	79	80	81	82

SERVICIOS FINANCIEROS

		71	72	73	74	75	76	77	78	79	80	81	82
	Ha recibido o pedido préstamos en los últimos tres años? De quién?	Solicitado	Recibido	Cuál es la tasa de interés mensual que le han cobrado?	Monto del último préstamo recibido	Monto de cuota	Duración del crédito	Le pidieron garantia?	El préstamo es otorgado por grupos?	El monto del crédito es suficiente?	Si no, sugiera un rango para el crédito	Razones para obtener crédito de esa fuente	Cuantas cuotas le quedan para terminar el credito?
		Si [1] No [0]	Si [1] No [0]	% semanal	$	$	semanas	Si [1] No [0]	Si [1] No [0]	Si [1] No [0]	$	*ver categorías abajo*	*n. cuotas pendientes*
a	*Protagonizar (Si el entrevistado es participante)*												
c	*Familiares*												
d	*Conocidos / vecinos/ amigos*												
e	*Cooperativas de ahorro y crédito*												
f	*ONGs*												
g	*Comerciante o proveedor*												
h	*Banco Privado*												
i	*Instituciones financieras de gobierno*												
l	*Otros prestamistas privados*												
m	*Otros prestamistas financieras*												
n	*Otro (especifique)*												

Razones para obtener crédito de esa fuente (pregunta n. 90 de arriba)													
1= accesible / cercano a la vivienda		*2 = trámite del crédito ágil*	*3= baja tasa de interés*	*4= es la única fuente de crédito en mi área de operación*		*5 = no requieren trámites*		*6= conoce o tiene información sobre la fuente de crédito*		*7= puede otorgar un crédito más alto*		*8= no requiere garantía*	
9 = servicio amable		*l0 = no requisitos difíciles*											
83	**Usted ahorra? Cuánto por mes?**	*$/mes*											

	EMPRESA																
84-85	**Cuántos empleados tiene?**	Número	Salario diario														
a	*Empleados permanentes*																
b	*Empleados temporales*																
86	**Cuánto invirtió en materiales de trabajo el año anterior? (activo fijo)**																
	MEJORAMENTO DE LA VIVIENDA																
87-88	**Pudo realizar mejoras en su casa?**							-	-	-	-	-	-	-
	Especificar los tipos de mejoras (por lo menos 2)	*Año*						-	-	-	-	-	-	-
a								-	-	-	-	-	-	-
b								-	-	-	-	-	-	-
c								-	-	-	-	-	-	-
d								-	-	-	-	-	-	-
e								-	-	-	-	-	-	-
f								-	-	-	-	-	-	-
	CLIENTES DE *PROTAGONIZAR*																
89T	**Cuánto obtendría hoy por la venta de su negocio?**	$															
90T	**¿Cuánto ganaba antes del crédito? $**																
		1	*Muchisimo (mas de $500)*														
		2	*mucho (entre 200/ 500)*														
		3	*poco (entre 100/200)*														
		4	*muy poco (menos de 100)*														
		0	*Igual que ahora*														

91T	**¿Cuánto ganó después? $**												
		1	*Muchisimo (mas de $500)*										
		2	*mucho (entre 200/ 500)*										
		3	*poco (entre 100/200)*										
		4	*muy poco (menos de 100)*										
		0	*igual que ahora*										
93T	**Que tipo de crédito tiene usted?**												
	solidario (1)												
	escalonado (2)												
	individual (3)												
94T	**Si el crédito es solidario, ¿Cómo le parece que funcionó su grupo?**												
	Muy bien (3)												
	Bien (2)												
	Regular (1)												
	Mal (0)												
95T	**Repetiría la experiencia de pedir crédito en grupo:**	Si [1] No [0]											
96T	**SI 95 = Si Lo haría con la misma gente?**	Si [1] No [0]											
97T	**Si 95 = No, preguntar si pediría crédito sólo:**	Si [1] No [0]											
98T	**Fue fácil fue incorporarse al programa de *Protagonizar*?**	Si [1] No [0]											
100T	**Tiene usted parientes que participaron en *PROTAGONIZAR* antes de usted? Cuantos?**		n.										
101T	**si la repuesta es si, cuanto pidieron inicialmente?**												
a		*pariente 1*	$										
b		*pariente 2*	$										
102T	**Tiene usted amigos/conocidos que participaron a *PROTAGONIZAR* antes de usted? Cuantos?**		n.										
103T	**si la repuesta es si, cuanto pidieron inicialmente?**												
a		*amigo 1*	$										
b		*amigo 2*	$										

104T	**Durante el año anterior, asistió a las actividades de capacitación?**		Si [1] No [0]											
105T	**En qué año comenzó a recibir crédito de *Protagonizar*?**													
106T	**Ha salido del programa alguna vez?**		Si [1] No [0]											
107T	**Si = Si, porqué salió?**													
	Incapacidad para pagar el crédito (1)													
	No necesita el crédito (actividad autosustentable) (2)													
	Cerró el negocio (3)													
	mora (4)													
	problemas con el grupo (5)													
	problemas familiares (hijos, enfermedades, etc.) (6)													
	Otro (Especificar) (7)_____													
108T	**Qué le parecen las condiciones de *Protagonizar* comparado con otros prestamistas?**													
	Mejores (3)													
	Iguales (2)													
	Peores (1)													
	No conoce otros prestamistas (0)													
109T	**¿Tiene planes de invertir en su negocio el próximo año? (activo fijo)**		Si [1] No [0]											
110T	**Que tipo de problema ha tenido con su negocio?**	numero												
	Falta de capital (1)	*Falta de crédito para bienes de capital (3)*	*Baja demanda de los productos vendidos (5)*	*Alto costo del crédito (13)*	*Otro (Especifique) (17)____*									
	Falta de créditos para capital de trabajo (2)	*Carencia de habilidades de marketing (4)*	*Dificultad para competir en el mercado (6)*	*Altos costos de materia prima (14)*	*Nada (0)*									
	Falta de capacidades o técnicas de administración (7)	*Deficiente empaquetado y diseño de producto (9)*	*Falta de habilidades básicas de contabilidad (11)*	*Falta de dispon. de insumos (15)*										
	Falta de habilidades técnicas (producción) (8)	*Escases de personal entrenado (10)*	*Falta de acceso a mercados (12)*	*Economía local débil (16)*										
SOLO PARA ELIGIBLES NO PARTICIPANTES DE *PROTAGONIZAR*														

89C	**Conoce *Protagonizar*?**	Si [1] No [0]												
90C	**Conoce a otra persona con crédito de *Protagonizar*? Cuantas?**	n.												
91C	**¿Piensa que ellos están en mejores condiciones económicas?**													
		Si [1] No [0]												
		no conoce ninguno de *Protagonizar* (-)												
92C	**Le gustaría tener crédito de *Protagonizar*?**													
		Si [1] No [0]												
		no conoce ninguno de *Protagonizar* (-)												
93C	**Desde que *Protagonizar* u otra microfinanciera comenzaron a trabajar aqui, piensa que su situación ha:**													
		Mejorado (2)												
		Empeorado (1)												
		Es la misma (0)												
94C	**¿Por qué no se ha integrado al programa de *Protagonizar*?**	numero												
	No conoce el programa (1)	*Es muy riesgoso (3)*	*Las condiciones y términos del programa son muy estrictos (5)*		*otro (especifique cual) (7)__*										
	No necesita crédito (2)	*No tiene tiempo para este tipo de programas (4)*	*Solicitó entrar al programa pero no fue aceptado (6)*		*Non consiguió grupo (8)*										
	SOLO PARA LO QUE SALIERON DE *PROTAGONIZAR*													
89D	**Cuánto obtendría hoy por la venta de su negocio?**	$												
90D	**¿Cuánto ganaba antes del crédito? $**													
	1	*Muchisimo (mas de $500)*												
	2	*mucho (entre 200/ 500)*												
	3	*poco (entre 100/200)*												
	4	*muy poco (menos de 100)*												

91D	**¿Cuánto ganó después? $**															
	1	*Muchisimo (mas de $500)*														
	2	*mucho (entre 200/ 500)*														
	3	*poco (entre 100/200)*														
	4	*muy poco (menos de 100)*														
93D	**¿Cómo le parece que funcionó su grupo?**	numero														
	Muy bien (3)															
	Bien (2)															
	Regular (1)															
	Mal (0)															
94D	**Repetiría la experiencia de pedir crédito en grupo:**	Si [1] No [0]														
95D	**SI 94 = Si Lo haría con la misma gente?**	Si [1] No [0]														
96D	**Si 94 = No, preguntar si pediría crédito sólo:**	Si [1] No [0]														
97D	**Fue fácil fue incorporarse al programa de *Protagonizar*?**	Si [1] No [0]														
98D	**Antes de pedir el crédito en *Protagonizar*, realizó alguna actividad entre la siguientes?**															
	nada (0)															
	participacion a un curso (1)															
	empezar una empresa (2)															
	buscar otras personas que necesitaban un credito 3)															
	otro (especifique cual) (4)															
99D	**Tiene usted parientes que participaron a *PROTAGONIZAR* antes de usted? cuantos?**	n.														
100D	**si la repuesta es si, cuanto pidieron inicialmente?**															
a	*pariente 1*	$														
b	*pariente 2*	$														
101D	**Tiene usted amigos/conocidos que participaron a *PROTAGONIZAR* antes de usted? Cuantos?**	n.														
102D	**si la repuesta es si, cuanto pidieron inicialmente?**															
a	*amigo 1*	$														

b		*amigo 2*	$									
103D	**En qué año comenzó a recibir crédito de *Protagonizar*?**											
104D	**Cuando salió del programa de *Protagonizar*?**											
105D	**Porqué salió?**											
	Incapacidad para pagar el crédito (1)											
	No necesita el crédito (actividad autosustentable) (2)											
	Cerró el negocio (3)											
	mora (4)											
	problemas con el grupo (5)											
	problemas familiares (hijos, enfermedades, etc.) (6)											
	Otro (Especificar) (7)_____											
106D	**Que tipo de problema ha tenido con su negocio?**											
	Falta de capital (1)	*Falta de crédito para bienes de capital (3)*	*Baja demanda de los productos vendidos (5)*		*Alto costo del crédito (13)*		*Otro (Especifique) (17)____*					
	Falta de créditos para capital de trabajo (2)	*Carencia de habilidades de marketing (4)*	*Dificultad para competir en el mercado (6)*		*Altos costos de materia prima (14)*		*Nada (0)*					
	Falta de capacidades o técnicas de administración (7)	*Deficiente empaquetado y diseño de producto (9)*	*no habilidades de contabilidad (11)*		*Falta de dispon. de insumos (15)*							
	Falta de habilidades técnicas (producción) (8)	*Escases de personal entrenado (10)*	*Falta de acceso a mercados (12)*		*Economía local débil (16)*							

INSTRUCCIONES PARA ENCUESTADORES

NO MOSTRAR A ENREVISTADOS

Para el juego, los miembros "NO IMF" *(IMF=institución de microcredito)***no deben ser miembros de** *Protagonizar* **ni de otros bancos o Instituciones Microfinancieras (si tienen créditos de prestamistas locales no hay problema).**

Para el estudio de impacto los entrevistados deben ser personas elegibles pero no miembros de *Protagonizar***.**

Ambas necesidades se satisfacen si encontramos personas elegibles Y que no sean clientes de otra IMF o banco privado.

Los clientes que han desertado sirven para el estudio de impacto pero no para el experimento de confianza. Se deben entrevistar fuera de la muestra necesaria para el experimento.

EL EXPERIMENTO

Los participantes (la mitad miembros de *Protagonizar* y la mitad no IMF) han sido divididos aleatoriamente en 152 pares. Cada par está compuesto por un cesionario (A) y un administrador (B).

Al iniciar el juego ambos jugadores reciben 10 fichas (1 ficha = .5 euros).

Jugador A decide cuántas de las 10 fichas <u>dará al jugador B</u>, debe elegir un entero entre 0 y 10. El entrevistador anota el número en la casilla del cuestionario.

Las fichas otorgadas por el jugador A serán multiplicadas por 3 y otorgadas al jugador B. Si **x** es el número de fichas otorgadas, el jugador B recibirá **3x** fichas.

Jugador B responderá condicionalmente cuántas fichas <u>entregaría al jugador A</u>, si éste le dió entre 0 y 10, sabiendo que el máximo número de fichas es el triple de la cantidad entregada por el jugador A.

Si **x** es el número de fichas otorgadas por el jugador A al jugador B, B recibirá **3x** fichas y <u>decidirá cuántas de esas 3x fichas dará al jugador A de regreso</u>.

La <u>ganancia</u> de cada jugador será la siguiente:

Ganancia del Jugador A = 10 fichas – fichas otorgadas al jugador B + fichas otorgadas por el jugador B de regreso
Si **x** es el número de fichas *otorgadas por el jugador A* al jugador B, y **y** es el número de *fichas otorgadas de regreso por el jugador B* al jugador A, al final del experimento el <u>jugador A recibirá</u>:
$$10 - x + y$$

> **Ganancia del jugador B =** 10 fichas + triple de fichas otorgadas por A – fichas devueltas al jugador A
> Si **x** es el número de fichas *otorgadas por el jugador A al* jugador B, y **y** es el número de fichas *otorgadas de regreso por el jugador B al jugador A*, al final del experimento el <u>jugador B recibirá</u>:
> $$10 + 3x - y$$

INSTRUCCIONES PARA EL JUGADOR A: <u>CESIONARIO (TRUSTOR)</u>

Muchas gracias por participar en esta sesión, tendrá una duración aproximada de 15 minutos.

Siendo un juego en el cual se gana <u>dinero real</u>, podrás retirar el dinero que ganes en <u>45 días</u>en las oficinas de *Protagonizar*.

La sesión experimental es <u>anónima</u>, te asignaremos un código y eso mantendrá en secreto tu nombre.

<u>A ti y al otro jugador vamos a dar un patrimonio de 10 fichas (1 ficha = .5 euros = 2,5 pesos), por un total de 25 pesos.</u>

Tú debes decidir <u>cuántas das</u> a tu contraparte (administrador) que tiene algunas características que te diremos [*por ej., el jugador B puede ser IMF-antiguo / nuevo o No IMF].*Esta cantidad <u>será multiplicada por 3</u> y luego <u>el otro jugador decidirá a su vez cuanto restituirte</u>.

Tú jugarás<u>dos veces</u>: la primera con un jugador con unas ciertas características y luego con otro con distintas características.

El otro jugador verá lo que recibe y a su vez podrá decidir cuanto restituirte de la cantidad que le enviaste. Esta será lo que ganas en la ronda.

<u>El pago por el juego será elegido aleatoriamente entre las dos rondas, puede ser la primera o la segunda.</u>

¡Empezamos!

JUEGO: PRIMERA RONDA
1. **En esta primera ronda estarás jugando con una persona que ha sido miembro de una IMF llamada *Protagonizar*_____**(*más/menos*) **tiempo que el promedio. De tu patrimonio inicial, cuánto le darías al otro jugador**? *(esta cantidad será multiplicada por 3 y del total el otro jugador podrá decidir cuanto restituirte) - Escribir la respuesta en el cuestionario*

JUEGO: SEGUNDA RONDA
2. **En esta segunda ronda estarás jugando con una persona que no es miembro de la IMF *Protagonizar* y no tiene crédito de ninguna otra institución financiera. De tu patrimonio inicial, cuánto le darías al otro jugador**? *(esta cantidad será multiplicada por 3 y del total el otro jugador podrá decidir cuanto restituirte) - Escribir la respuesta en el cuestionario*

FIN DELAS RONDAS. *De las siguientes 2 preguntas, seleccionaremos al azar una respuesta y recibirás 5 fichas (=10 pesos) si es correcta.*

1. **En la primera ronda, cuanto esperas**que la persona que pertenece a *Protagonizar* te devuelva?

2. **En la segunda ronda, cuanto esperas que la persona que no es miembro de ninguna IMF le devuelva?**

FINE JUEGO. *Preguntas generales*
3. **Por qué le diste dinero a la otra persona (miembro de IMF *Protagonizar*) en la primera ronda? (es posible hacer respuestas múltiples en orden de prioridad)**
   a) Confío en él
   b) Espero que me devuelva lo mismo o más de lo que le di
   c) Me hace sentir bien que él tenga una ganancia
   d) No me gusta el trato desigual entre él y yo

4. **Por qué le dio dinero a la otra persona (miembro de ninguna IMF) en la segunda ronda? (es posible hacer respuestas múltiples en orden de prioridad)**
   a) Confío en él
   b) Espero que me devuelva lo mismo o más de lo que le di
   c) Me hace sentir bien que él tenga una ganancia
   d) No me gusta el trato desigual entre él y yo

Gracias por su disponibilidad.

INSTRUCCIONES PARA EL JUGADOR B: <u>ADMINISTRADOR (TRUSTEE)</u>

Muchas gracias por participar en esta sesión, tendrá una duración aproximada de 15 minutos.

Siendo un juego en el cual se gana <u>dinero real</u>, podrás retirar el dinero que ganes en <u>45 días</u> en las oficinas de *Protagonizar*.

La sesión experimental es <u>anónima</u>, te asignaremos un código y eso mantendrá en secreto tu nombre.

<u>A ti y al otro jugador les vamos a dar un patrimonio de 10 fichas (1 ficha = .5 euros = 2,5 pesos), por un total de 25 pesos.</u>

Usted jugará <u>dos veces</u>, el pago será elegido <u>al azar</u> entre esas dos rondas.

Un jugador (cesionario) con algunas características que te diremos [*puede ser IMF-antiguo / nuevo o No IMF]*te ha <u>enviado una parte de su patrimonio</u> (de 0 a 10). La cuantidad elegida por él ha sido <u>multiplicada por 3</u> a la hora de llegarte.

Tú debes decidir <u>cuánto de lo que has recibido restituirle</u>. Lo que queda será tu ganancia final.

Tú <u>jugarás dos veces</u>: la primera vez recibes dinero desde un jugador con unas ciertas características y luego desde otro con distintas características.

El pago por el juego será elegido aleatoriamente entre las dos rondas, puede ser la primera o la segunda.

¡Empezamos!

JUEGO: PRIMERA RONDA
En esta primera ronda jugarás con una persona que no es miembro de la IMF *Protagonizar* y no tiene crédito con otra institución financiera.

1. **Cuánto dinero da de vuelta en cada caso:**
   Si la otra persona envió 2,50   y a usted le llegó   7,50,   usted le daría ___
   Si la otra persona envió 5   y a usted le llegó   15,   usted le daría ___
   Si la otra persona envió 7.50   y a usted le llegó 22.50,   usted le daría ___
   Si la otra persona envió 10   y a usted le llegó   30,   usted le daría ___
   Si la otra persona envió 12,50 y a usted le llegó 37.50,   usted le daría ___
   Si la otra persona envió 15   y a usted le llegó   45,   usted le daría ___
   Si la otra persona envió 17,50 y a usted le llegó 52.50,   usted le daría ___
   Si la otra persona envió 20   y a usted le llegó   60,   usted le daría ___
   Si la otra persona envió 22,50 y a usted le llegó 67.50,   usted le daría ___
   Si la otra persona envió 25   y a usted le llegó   75,   usted le daría ___

JUEGO: SEGUNDA RONDA

En esta segunda ronda jugarás con una persona que es un cliente de la IMF *PROTAGONIZAR*que ha pertenecido al programa_____(*más/menos*) tiempo que el promedio[42].

2. **Cuánto dinero da de vuelta en cada caso:**
   Si la otra persona envió 2,50   y a usted le llegó   7,50,   usted le daría ___
   Si la otra persona envió 5   y a usted le llegó   15,   usted le daría ___
   Si la otra persona envió 7.50   y a usted le llegó 22.50,   usted le daría ___
   Si la otra persona envió 10   y a usted le llegó   30,   usted le daría ___
   Si la otra persona envió 12,50 y a usted le llegó 37.50,   usted le daría ___
   Si la otra persona envió 15   y a usted le llegó   45,   usted le daría ___
   Si la otra persona envió 17,50 y a usted le llegó 52.50,   usted le daría ___
   Si la otra persona envió 20   y a usted le llegó   60,   usted le daría ___
   Si la otra persona envió 22,50 y a usted le llegó 67.50,   usted le daría ___
   Si la otra persona envió 25   y a usted le llegó   75,   usted le daría ___

FINDEL JUEGO.

I) *Preguntas con ganancias*

De las siguientes 2 preguntas, seleccionaremos al azar una respuesta y recibirás 5 fichas si es correcta.

1. **Cuánto dinero crees que la otra persona**(no miembro de IMF *Protagonizar*) **te envió en la primera ronda?**

2. **Cuánto dinero crees que la otra persona**(miembro de ninguna IMF) **te envió en la segunda ronda?**

De las siguientes 2 preguntas, seleccionaremos al azar una respuesta y usted recibirá 5 fichas si es correcta.

3. **Le pedimos a la otra persona que adivinara tu elección sobre cuánto dinero dar de regreso, únicamente sabiendo si usted es miembro de una IMF o no, y hace cuanto. Cuál crees que fue su repuesta en la primera ronda**(en la cual jugaste con una persona que no está en ningún proyecto de microcrédito)**?**

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[42] *la mitad de los juegos decir más tiempo que el promedio, la otra mitad que menos tiempo que el promedio*

4. **Le pedimos a la otra persona que adivinara tu elección sobre cuánto dinero dar de regreso, únicamente sabiendo si usted es miembro de una IMF o no, y hace cuanto. Cuál crees que fue su repuesta en la segunda ronda**(en la cual jugaste con un cliente de la IMF *PROTAGONIZAR*)**?**

II) *Preguntas generales*

5. **Por qué le dio dinero de vuelta a esta persona en la primera ronda?**
   a) Soy una persona en quien se puede confiar (los demás pueden contar conmigo)
   b) No me gusta que él tenga mucho menos que yo
   c) Me hace sentir bien que él tenga una ganancia
   d) No me gusta el trato desigual entre él y yo

6. **Por qué le dio dinero de vuelta a esta persona en la segunda ronda?**
   a) Soy una persona en quien se puede confiar (los demás pueden contar conmigo)
   b) No me gusta que él tenga mucho menos que yo
   c) Me hace sentir bien que él tenga una ganancia
   d) No me gusta el trato desigual entre él y yo