Journal of Behavioral Economics for Policy, Vol. 4, Issue 1, 29-42, 2020

When the context backfires: Experimental evidence on Reciprocity

Irani Arráiz[1]*, Syon P. Bhanot[2], Carla Calero[3]

Abstract
In a randomized field experiment in Ecuador, we tested whether triggering the norm of reciprocity increases participation in a business training program. The sample included 793 microentrepreneurs in the provinces of Pichincha and Guayas in Ecuador who were randomly assigned to either receive or not receive a premium chocolate with their invitation to participate. Bank officers personally delivered the invitations/chocolate gift. Surprisingly, we find a negative and significant effect of 8.3 percentage points of the chocolate gift on participation rates. We argue that an unexpected, temporary change in the context triggered a negative response from the entrepreneurs to the gift, which changed the direction of the expected result; thus, the intervention induced negative rather than positive reciprocity.

JEL Classification: C93; D91; O12; I38

Keywords
behavioral economics — randomized experiment — field experiment — reciprocity

[1] *IDB Invest; 1350 New York Ave NW, Washington, DC 20577*
[2] *Swarthmore College. 500 College Ave, Swarthmore, PA 19081*
[3] *Videnza Consultores. Av. Alberto Alexander 2695, Lima, Peru*
***Corresponding author**: iarraiz@iadb.org

Introduction

From vaccination campaigns to training programs, the issue of low takeup of development and social programs is an enduring challenge (Currie, 2006; McKenzie and Woodruff, 2014; Remler et al., 2001; Riphahn, 2001). Low takeup is not only damaging to the welfare of eligible populations who fail to take advantage of programs, but it also reduces the cost effectiveness and overall efficacy of such programs. In recent years researchers have increasingly explored this issue, often using the tools and techniques of psychology and behavioral economics to develop and test interventions aimed at boosting takeup of beneficial programs (Bertrand et al., 2004; Bhargava and Manoli, 2015; Milkman et al., 2011). However, the body of evidence in this area is small, particularly in the developing world where takeup is an important issue for practitioners and the barriers to program participation are higher.

There are many possible explanations for low takeup, including insufficient knowledge of program benefits, failure of organizations to design programs that meet the needs or targeted populations, stigma, inertia, inconvenience (e.g., having to fill in a form) and a lack of trust amongst beneficiaries in service providers (Currie, 2006; Remler et al., 2001; Rinehart and McGuire, 2017). In this paper, we directly test the impact of an intervention based on behavioral science, an area of research built on the idea that people sometimes fail to make rational choices. Many of the practical tools of behavioral science rely on low-cost interventions and minor contextual changes to influence behavior without necessarily changing people's minds; in the context of takeup, this might mean changing the decision making environment, triggering social norms, or simplifying the signup processes required for participation.

In collaboration with a partner bank in Ecuador, we tested a strategy to increase participation in a business training program aimed at micro entrepreneurs –these micro entrepreneurs, in addition to their primary business activity, provide basic financial services in their communities through a contract with the bank. McKenzie and Woodruff (2014) show that the average participation rate in this type of training programs, offered for free, is only about 65 percent; takeup rates are below 100 percent even in cases when training is "mandatory" or when offered to groups who expressed interest in attending. The strategy we used to increase takeup was designed to evoke a sense of reciprocity, a norm that has been shown to encourage individuals to enter into mutually beneficial relationships in a variety of domains (Gouldner, 1960; Kirchler and Palan, 2017; Rand et al., 2014; Sanders, 2015). Specifically, we randomly assigned the provision of a premium chocolate gift as a token of appreciation to entrepreneurs who were invited to participate in the business training. The invitations (and the chocolate gift) were delivered by bank officers who serve as the primary liaisons between the entrepreneurs and the bank. Our ex-ante hypothesis was that entrepreneurs who randomly received the chocolate gift with their invitation would be more inclined to participate in the training than entrepreneurs who only received the invitation. Our work represents (to our

knowledge) the first piece of causal evidence on the use of gifts as a tool for inducing reciprocity in development programs.

Our main finding is a surprising one: entrepreneurs who received a chocolate gift participated at a statistically-significantly lower rate (8.3 percentage points) than entrepreneurs who did not receive a chocolate gift. These results suggest that context matters when it comes to using gifts to trigger the norm of reciprocity.

While we are not able to definitively tease out the underlying mechanisms behind our results, we argue that an unexpected and temporary technical issue, which negatively affected the ability of entrepreneurs to process financial transactions for our partner bank, triggered a negative response to the chocolate gift. More specifically, the technical issue may have caused annoyance amongst entrepreneurs with the partner bank, which triggered a desire amongst entrepreneurs to "punish" someone who they perceived as having harmed them –in other words, the bank officers' perceived unresponsiveness to a situation affecting the entrepreneurs' bottom line. Our argument hinges on the idea that the chocolate gift may have served as a "signal" to treated entrepreneurs that the bank officer wanted them to participate in the training, and therefore saw attendance as a "reward" to the bank officer (and failure to attend as a way to "punish" the bank officer). We present evidence in line with this possible explanation, namely that entrepreneurs who scored highly on measures of the propensity to reciprocate and the propensity to act rashly in response to situations perceived as unfair were those most likely to not attend in the chocolate gift condition.

From a practitioner perspective, this suggests that implementers need to take into consideration the nature of the existing relationship between themselves and their beneficiaries when seeking to trigger reciprocity. Furthermore, it shows the continued importance of using randomized evaluations as a practical tool to generate evidence regarding policy interventions; intuition about the effectiveness of program initiatives often drives policy in the real world, but intuition can lead us astray.

The paper proceeds as follows. Section 2 provides background information and our hypotheses. Section 3 outlines the experimental setup. Section 4 provides the empirical strategy and Section 5 presents our results. Section 6 provides a brief discussion and concludes.

Context, literature and hypotheses

The norm of reciprocity is an important element of human interaction and of healthy social systems. Indeed, reciprocity is taught around the world to children who are told that they should help those who have helped them in the past, even without incentives to do so, and should not hurt those who have helped them. Reciprocity has been known to guide citizen's conduct since the time of Hammurabi, and evolutionary psychologists have viewed reciprocity as a naturally-selected strategy that modulates reasoning about social exchanges (Hoffman et al., 1998; Trivers, 1971).

In a reciprocal arrangement, when one party receives a benefit or favor from another party, the exchange creates an obligation and the recipient remains "indebted" to the donor until she repays, with the debt being contingent on the benefit or favor received (Gouldner, 1960). The norm also allows for a negative form of reciprocity, or retaliation, which entails returning harm or unfavorable treatment when harm is received (Fehr and Gachter, 2000, 2002; Helm et al., 1972). As in the case of positive reciprocity, negative reciprocity would postulate that people should harm those who have harmed them in the past, even at a cost, and should not help those who have injured them. Both positive and negative forms of reciprocity serve the purpose of encouraging cooperation and discouraging mistreatment to maintain balanced social systems based on equitable interpersonal exchanges.

There is evidence that a non-trivial fraction of people are driven by reciprocity: work in experimental social science finds that between 40-50 percent of the population respond kindly to gifts and kindness, and retaliate if they are hurt (Gachter and Falk, 2002). This behavior occurs even when it is costly for the respondent to reciprocate (Fehr and Gachter, 2000; Sanders, 2015), and under a variety of different conditions including one-shot and anonymous situations (Charness and Gneezy, 2008; Charness et al., 2007; Gallucci and Perugini, 2000). Reciprocity has been observed in high-stakes situations (Cameron, 1999; Fehr et al., 2014), and even when favors are provided by someone not liked (Regan, 1971).

The use of gifts to exploit the norm of reciprocity is often used in economic exchanges as well (Malmendier and Schmidt, 2017): for example, charities soliciting contributions sometimes mail personalized address labels to potential donors, and supermarkets and stores often offer free samples or products to customers. Some of these exchanges have been studied by academics, who find that givers often obtain reciprocal benefits after giving an initial "gift." For example, Strohmetz et al. (2002) find that by giving chocolate to each person in the dining party when delivering the check, servers were able to increase their average tip percentage, and that this was more effective when more chocolate was provided. Similarly, Friedman and Rahman (2011) show that after being greeted and receiving a small gift upon entering a restaurant, customers spent more. In the domain of charitable giving, Falk (2007) finds that by including gifts in solicitation letters to potential donors, a charitable organization was able to increase the relative frequency of donations. Furthermore, the effect of the gift on donation behavior was larger for bigger gifts than smaller gifts. More recently, Sanders (2015) found that investment bankers who received a small packet of sweets from a volunteer are more likely to donate a day of their salaries to charity than investment bankers who received a flier or who were not greeted by a volunteer.

Our intervention was designed to test if this same reciprocity norm could be put to work in the context of program

takeup. That is, we study whether we can improve attendance at a business training by giving entrepreneurs a premium chocolate gift as part of the invitation package. Our ex-ante hypothesis was that entrepreneurs who received an invitation and a chocolate gift would be more likely to participate than entrepreneurs who received only the invitation but did not receive a chocolate gift, because entrepreneurs who received a chocolate gift would feel obliged by the small gift. Importantly, our context is different than much of the existing work in this area; specifically, in our case there was an existing relationship between the bank officer and the entrepreneur, which could affect the results.

Experiment overview

Experimental design

Our intervention targeted a sample of 793 entrepreneurs who run businesses in a variety of sectors in Ecuador, including small retail stores, pharmacies, bakeries, barbershops, fruit stores, hardware stores, cybercafés, and restaurants. In addition to their primary business, these entrepreneurs serve as "non-bank correspondents" with the largest financial institution in Ecuador. This role involves the entrepreneurs partnering with the financial institution to provide some basic financial services to the institution's clients (in much the same way that many convenience stores offer ATM, money transfer, or check deposit services through a collaboration with large banks). Entrepreneurs collect fees from the financial institution for facilitating these basic financial transactions, and also benefit from higher customer traffic due to these partnerships.

As part of this partnership with the financial institution, each entrepreneur is visited by a bank officer every other week. The officer delivers bank-related materials, discusses any issue related with the non-bank correspondence part of the business, and provides support and maintenance for the bank's point-of-sale terminal. Generally, a given entrepreneur only interacts with their one assigned bank officer (the officers do not rotate often across businesses).

Our intervention was part of a broader business training effort, whereby entrepreneurs were invited to participate in a voluntary business training program free of charge. The training consisted of a single four-hour session to take place in early December 2015. The day and time of the session was chosen specifically to be convenient for entrepreneurs, namely midweek and later in the day when business volume is generally lower. Prior to being invited to the business training, each business owner (or manager, in case the owner was not the primary decision maker) that agreed to participate in the study was administered a face-to-face, comprehensive baseline questionnaire about business characteristics, business practices, business operational results, and access to finance. In addition, the questionnaire collected information about the business owner's characteristics, personality traits, household composition, and use of time. The baseline survey was conducted between August and early October 2015. An endline survey was then conducted between November and December 2016 after the training was completed. Both surveys were conducted by a professional survey firm unaffiliated with the financial institution.

All 793 entrepreneurs received a personalized, written, formal invitation with the date, time, and address of the location of the training (the locations of the training were chosen to minimize travel time for the invited entrepreneurs). The invitation stated that the financial institution was offering a ride to the training location and back to the home/business after the training—the financial institution insisted on offering transportation to all entrepreneurs to increase participation. The entrepreneurs received the invitation roughly 10 days prior to the training, and it was hand delivered to them by their designated bank officer. Bank officers were instructed to tell the entrepreneurs when hand-delivering the invitations that they had been selected by the bank to receive the training thanks to their positive results as a non-bank correspondent, that the training was aimed to help them manage their business, and that the chocolate gift was a token of appreciation. In addition to receiving the written invitation, all entrepreneurs were contacted via telephone to verify that they received the invitation, to remind them about the training, and to arrange their taxi to the training if needed.

Our intervention used a randomized design that slightly manipulated the standard invitation. Specifically, we used a stratified randomization (stratifying by bank officer –12 bank officers in total with an average of 66 entrepreneurs per bank officer) to allocate entrepreneurs to the experimental condition. The first group ("Control") received the standard invitation as described in the previous paragraph. The second group ("Treatment") received, in addition to the invitation, a premium chocolate gift from the bank officer as a token of appreciation and intended to elicit the norm of reciprocity as in Strohmetz et al. (2002) and Friedman and Rahman (2011). The price of the chocolate gift in the market was US$5.5, equivalent to about one-tenth of an average profit's day for these entrepreneurs.[1] The provision of the gift of a premium chocolate bar was randomized across the sample. In the end, 396 entrepreneurs were assigned to the control group, and 397 entrepreneurs were assigned to the treatment group.

We conducted an ex-ante power calculation to determine the minimum detectable effect of our intervention. Using 80% power, a significance level of 5%, an assumption of equal-sized groups of 400 entrepreneurs receiving the chocolate gift, and control participation rates ranging from 20-80%, we estimated that we could detect increases in participation rates between groups ranging from 7.9 to 9.9 percentage points.

We chose a premium chocolate, instead of a regular chocolate, to signal to the entrepreneurs that the training was of high quality and expecting to elicit a better response to the gift (Falk (2007) shows that larger gifts elicit better responses in terms of charitable donations). Under the assumption that at least

[1] The chocolate brand used is a local brand well known in Ecuador because it has won many international awards for quality. The price of an average chocolate bar of similar size is less than US$1.0.

some entrepreneurs do not participate in the training because of an information failure –entrepreneurs do not realize how poorly they run their firms and underestimate the value they can get from attending the training– signaling the quality of the training via the quality of the chocolate could help them appreciate the value of participating. Existing research suggests that when people assess the value of a target attribute (or more generally evaluate a person, situation, product, service, etc.) whose value does not come to mind immediately, people often base their assessment on the value of a readily available (evoked) attribute that is conceptually and associatively related to the target attribute (Kahneman and Frederick, 2002). Therefore, we posited that when entrepreneurs receiving the chocolate gift assess the training (which they arguably cannot easily evaluate), they might use the "premium" trait of the chocolate as a substitute characteristic and thus view the training as high quality. In other words, they might substitute a hard question whose answer is computational complex and not readily available ("Is it worth attending the training?") with a simpler, and now associated, question they can answer easily ("Is this a quality chocolate?").

We measure the impact of the treatment on one outcome variable: whether entrepreneurs participate or not in the training program. The mean participation rate in the sample overall was 54%. This participation rate is comparable to those found in other randomized trials of business training programs –McKenzie and Woodruff (2014) report that the average participation rate across a group of business training programs (which offer free training) was about 65%.

To better understand the surprising results, we study heterogeneous effects using individual-level measures of entrepreneur propensity to reciprocate and to respond impulsively. Specifically, to generate a measure for how internalized the norm of reciprocity is for a given entrepreneur (and how likely they are to follow that norm), we use the questionnaire developed by Perugini et al. (2003), which relates to: 1) beliefs in reciprocity, concerning the widespread use of reciprocity-based behaviors and the expectation that others are likely to follow reciprocity norms; 2) positive reciprocity, which measures the sensitivity to react and willingness to respond positively following others' kind actions; and 3) negative reciprocity, which measures the sensitivity to react and willingness to respond negatively following others' unkind actions.[2]

Following the work of Knoch et al. (2006) and Perugini et al. (2003), we also use a measure of impulsivity derived from the five-factor model of personality (Big 5) to assess the propensity of individuals to control emotional responses to (un)fairness or self-interest. According to Knoch et al. (2006), when individuals decide to reciprocate an unkind act, they trade off competing goals: a fairness goal achieved by punishing an unkind, unfair, or inequitable act, and a self-interest goal related to the cost of the punishment. In the context of the classic Ultimatum Game, for example, when responders receive a low offer from a proposer they face a conflict between their economic self interest (accepting any non-zero offer) and their sense of fairness (costly punishment of the proposer from rejecting a non-zero offer).[3]

One reason for including a measure of impulsivity is that around the same time that the invitations were distributed, the financial institution upgraded the electronic devices used by non-bank correspondents to process financial transactions. The upgrade generated problems in the system as a whole, which temporary disrupted the entrepreneurs' ability to process financial transactions. Importantly, this had financial implications for entrepreneurs, who lost income from missed transaction fees and from disgruntled consumers choosing to shop elsewhere –Arráiz (2020) shows that non-bank correspondents gain between 8.7 and 13.2 percent in sales due to traffic of clients completing financial transactions. Using administrative data from our partner bank, we observe a 8.9% reduction in the number of transactions carried out in November 2015, the month the invitations were distributed, relative to the average number of transactions carried out between August and October 2015. Although the entrepreneurs were told to contact a call center to address any technical difficulties when they signed their initial contracts with the financial institution, the bank officer was ultimately responsible for solving any problems, especially those associated with hardware (which had to be fixed on-site) rather than software (which could be fixed remotely). This issue with the system at the time of the invitations may have engendered a tense, adversarial relationship between bank officers and entrepreneurs that could have affected the entrepreneurs' responses to the gift.

Using these individual-level measures of reciprocity and impulsivity, we construct two indexes for reciprocity and impulsivity.[4] To construct the reciprocity index, we pool the entrepreneurs' responses to the Perugini et al. (2003) questionnaire regarding reciprocity beliefs, the positive reciprocity scale, and the negative reciprocity scale (inverted), and standardized it. The negative reciprocity scale is inverted such that high positive values are associated with high propensities to cooperate and low propensities to retaliate, while high negative values are associated with low propensities to cooperate and high propensities to retaliate (see the appendix for a

[2] We ruled out the possibility that the chocolate gift is crowding out intrinsic motivation to attend the training because the gift is offered ex-ante, independently of effort (attending or not the training). For a discussion on how monetary incentives might crowd out intrinsic motivation, see the survey in Frey and Jegen (2001). Note that many papers on intrinsic motivation, for example Bénabou and Tirole (2003) and Gneezy and Rustichini (2000), focus on cases in which rewards are state contingent (unlike in this case).

[3] In the Ultimatum Game two individuals, a proposer and a responder, must agree in the division of a certain amount of money, for example $10. The proposer makes an offer on how to divide the money ($10-X for herself, and $X for the responder), and the responder then can either accept the offer and get her proposed share ($X), or reject the offer, in which case both receive $0. Rejection rates tend to be high, up to 80%, when offers are below 25% of the available money (Knoch et al., 2006).

[4] We applied the five-factor model (Big 5) questionnaire between August and October 2015 and the reciprocity questionnaire between November and December 2016.

detailed explanation). To construct the impulsivity index, we select different facets of the five-factor model (Big 5) following the work of Whiteside and Lynam (2001). Specifically, we focus on sensation seeking (the tendency to seek out novel and thrilling experiences), lack of deliberation (the tendency to act without thinking), lack of persistence (the inability to remain focused on a task), and urgency (the tendency to act rashly in response to distress). We also included lack of trust (the tendency to assume that most people are unfair, selfish, and potentially dangerous) and anger (sensitivity about being treated fairly and the tendency to feel resentful and bitter when one feels cheated) –see Eisenberger et al. (2004). These impulsivity measures were chosen to reflect behavioral aspects that may affect the entrepreneurs' response to the gift if the entrepreneurs interpreted the chocolate gift as a "signal" of the banks officer's interest in their participation in the training. To generate the impulsivity measure, we pool the entrepreneurs' responses to the questions noted, and standardized it. High positive values in this impulsivity index are therefore associated with high propensities to act rashly in response to situations perceived as unfair (i.e., the hassles for the entrepreneurs associated with the technical difficulties the financial institution had with the upgrade), while high negative values are associated with low propensities to act rashly in these situations. Since both indexes are standardized, "average" entrepreneurs have scores of zero in each. In the appendix we present additional information about these measures.

Data and baseline characteristics

Table 1 summarizes the basic characteristics of entrepreneurs and their businesses in each of the groups. Entrepreneurs in our study are on average 39 years old, with 12.5 years of schooling and two children. Sixty-eight percent of our sample are women. Approximately 73% of the sample operate in the retail trade sector, while 22.4% are in the services sector. Mean daily business profits for the businesses are around US$53 and most businesses are microenterprises (not including the owner, the average number of additional employees is only 0.5). The average distance from businesses in the sample to the training location is six kilometers.

Entrepreneurs were also classified into four categories based on the number of financial service transactions they completed per month for our partner bank's clients (i.e. bank deposits, withdrawals, utility payments, etc.): Bronze (up to 150 transactions); Silver (151-300 transactions); Gold (301-600 transactions); and Diamond (601 or more transactions). Around two thirds of the businesses fall into the Bronze category. Another important characteristic of the bank-entrepreneur relationship is the length of time that the specific bank officer had been interacting with the entrepreneurs. On average, bank officers had been interacting with the entrepreneur for 5.2 months when the entrepreneurs received the invitation.

Randomization check

To test for balance across conditions, we run a linear regression model of the treatment on the characteristics of the entrepreneurs and their businesses and test the joint hypothesis that $\theta_1 = \theta_2 = ... = \theta_n = 0$; i.e. that the n characteristics of the entrepreneurs and their businesses are not correlated with the randomly-assigned groups. The econometric model is as follows:

$$T_i = \theta_0 + \theta_1 X_{1i} + \theta_2 X_{2i} + ... + \theta_n X_{ni} + \nu_i \quad (1)$$

where T_i is the group assignment of entrepreneur i; θ_k represents the coefficient of characteristic k tested; X_{ki} represents entrepreneur i's characteristic k (or his/her business' characteristics); and ν_i is the error term.

The null hypothesis that all coefficients jointly equal zero cannot be rejected at the 10% significance level; the F-test for joint orthogonality has a p-value of 0.501. The test suggests that we do have balance on observables across conditions.

Empirical strategy

Based on the experimental design, we compare participation rates in the training program under different specifications to explore the causal impact of our intervention. First, we compare participation rates for entrepreneurs who received the chocolate gift with rates for those who did not receive the chocolate gift. The basic specification for these analyses is a simple regression of our binary outcome variable, participation y_i, for entrepreneur i, on a dummy variable for the treatment condition T_i, as shown below in equation 2. The parameter β_0 gives us an estimate of the treatment's average effect on participation y.

$$y_i = \alpha + \beta_0 T_i + \sum \delta_s 1(i \in s) + \varepsilon_i \quad (2)$$

In equation (2) we include stratum dummies (denoted by δ_s) following Bruhn and McKenzie (2009). The variables used for stratification are dummies for the bank officer s assigned to work with the entrepreneur i –for a total of twelve strata. In other specifications we also include the number of transactions processed by the business the month before the invitations were sent X_{1i}, and the reciprocity and impulsivity indexes, X_{2i} and X_{3i}, as well as interactions of these two variables with the treatment as shown in equation 3 for the reciprocity index (specification 4 in Table 2). Standard errors are not clustered since the randomization was done at the entrepreneur level (see Abadie et al. (2017)).

$$y_i = \alpha + \beta_0 T_i + \beta_1 X_{1i} + \beta_2 X_{2i} + \gamma_2 X_{2i} T_i + \beta_3 X_{3i} + \sum \delta_s 1(i \in s) + \varepsilon_i \quad (3)$$

As in equation (2), in equation (3) the parameter β_0 gives us an estimate of the treatment's average effect on participation y. Parameters β_1, β_2, and β_3 give us estimates of how

	Full Sample	Control (1)	Chocolate (2)	Difference (1)-(2)	p-value	
Female	0.680	0.664	0.695	-0.031	0.349	
	(0.467)	(0.473)	(0.461)			
Age	39.346	39.232	39.458	-0.226	0.773	
	(11.016)	(10.977)	(11.068)			
Years of schooling	12.509	12.859	12.161	0.697	0.007	***
	(3.637)	(3.542)	(3.701)			
Number of children	2.014	1.98	2.048	-0.068	0.486	
	(1.373)	(1.376)	(1.371)			
Opportunity entrepreneur	0.291	0.29	0.292	-0.002	0.956	
	(0.455)	(0.455)	(0.455)			
Manufacturing	0.024	0.018	0.03	-0.013	0.248	
	(0.153)	(0.132)	(0.171)			
Retail trade	0.729	0.73	0.728	0.002	0.954	
	(0.445)	(0.445)	(0.446)			
Wholesale trade	0.023	0.018	0.028	-0.010	0.344	
	(0.149)	(0.132)	(0.164)			
Services	0.224	0.235	0.214	0.021	0.485	
	(0.417)	(0.424)	(0.411)			
Capital invested in business	11981	12294	11668	625.7	0.674	
	(20497)	(22678)	(18079)			
Profits on a regular day	53.263	51.236	55.284	-4.049	0.578	
	(101.37)	(100.46)	(102.36)			
Number of employees	0.493	0.465	0.521	-0.057	0.535	
	(1.286)	(1.332)	(1.240)			
Distance to training	6.172	6.424	5.92	0.504	0.218	
	(5.758)	(5.763)	(5.749)			
Months with officer	5.214	5.235	5.192	0.044	0.817	
	(2.638)	(2.589)	(2.690)			
Bronze (<=150 transactions per month)	0.649	0.659	0.640	0.019	0.570	
	(0.477)	(0.475)	(0.481)			
Silver (151-300 transactions per month)	0.155	0.149	0.161	-0.012	0.635	
	(0.362)	(0.357)	(0.368)			
Gold (301-600 transactions per month)	0.110	0.104	0.116	-0.012	0.579	
	(0.313)	(0.305)	(0.320)			
Diamond (>600 transactions per month)	0.086	0.088	0.083	0.005	0.792	
	(0.280)	(0.284)	(0.276)			
Transactions per month (log)	4.654	4.628	4.680	-0.052	0.596	
	(1.368)	(1.391)	(1.346)			
Reciprocity index	-0.004	-0.035	0.025	-0.060	0.434	
	(1.001)	(1.033)	(0.970)			
Impulsivity index	-0.001	-0.010	0.007	-0.018	0.802	
	(1.000)	(1.007)	(0.995)			
Number of Observations	793	396	397			
Joint Orthogonality Test (p-value)†		0.501				

Note: Standard errors in parentheses. * Denotes difference between means significant at the 10%-level, ** at the 5%-level, and *** at the 1%-level. † p-value for F-test of null hypothesis that all coefficient jointly equal zero.

Table 1. Balance of Observable Characteristics at Baseline

participation changes depending on the number of transactions processed by the business the month before the invitations were sent, the value of the reciprocity index, and the value of the impulsivity index. The parameter γ_2 in equation (3) give us estimates of heterogeneous treatment effects for different values of the reciprocity index.

Results

Table 2 shows the impact of the intervention on participation under different specifications. Specification 1 in the table (column 1) shows that receiving a chocolate gift was associated with an 8.3 percentage point reduction in the participation rate. We also see large, heterogeneous participation rates ranging from 0 to more than 30 percentage points for different bank officers – given by the dummy coefficients corresponding to the 12 strata. Since the randomization was stratified by bank officer and assignment to treatment occurred at the individual level, the result cannot be attributed to differential participation rates for entrepreneurs working with different bank officers. The effect of the chocolate gift is robust to different specifications shown in the table. The fact that the chocolate gift has a negative and significant effect on participation was surprising and unexpected: based on the model of reciprocity, we might have anticipated that triggering the norm of reciprocity would see a positive change, if any, in the participation rate.

In specification 2 (column 2) we included in the model the number of financial transactions completed by the business on behalf of the financial institution. As mentioned before, in addition to their primary business activity, these businesses serve as "non-bank correspondents" with the largest financial institution in Ecuador and process financial transactions for the institution's clients. There is a positive relation between number of transactions processed and attendance. The average non-bank correspondent classified as diamond, who completes 1,212 financial transactions per month is 16.7 percentage points more likely to attend the training than the average non-bank correspondent classified as bronze, who completes 74 financial transactions per month. This coefficient is robust to different specifications (see Table 2).

Given the unexpected sign of the result, in specification 3 (column 3) we included in the model the reciprocity index and the impulsivity index. Impulsivity is negatively associated with attendance; i.e. entrepreneurs with high propensity to act rashly in response to situations perceived as unfair were less likely to attend the training – a reduction of 3.6 percentage points for entrepreneurs one standard deviation above the average in the index measure. The reciprocity index in specification 3 does not strongly correlate with the participation rate.

In specification 4 (column 4) we interact the reciprocity index with the chocolate treatment, since ex-ante we expected the chocolate treatment to have a differential impact on attendance for those more inclined to reciprocate. We find that for entrepreneurs who did not receive a chocolate gift, the reciprocity index is positively associated with attendance; i.e. entrepreneurs with high propensities to cooperate (and low propensities to retaliate) were more likely to attend the training – an increase of 4.6 percentage points for entrepreneurs one standard deviation above the average on the index measure. However, the relationship is flipped for entrepreneurs who did receive a chocolate gift; that is, for those in the chocolate treatment higher reciprocity index scores are associated with a lower probability of attending the training, as reflected by the net effect when both coefficients are considered: the magnitude of the coefficient on the interaction term (-8.4) and that of the coefficient on the reciprocity index term (4.6). This is also visually apparent in Figure 1, which shows a large gap in attendance across conditions for those with high reciprocity index scores. The difference in attendance, however, is not statistically different between entrepreneurs who received the chocolate gift and those who did not for reciprocity index values below the average.

Our results in specification 4 are in line with the results in Perugini et al. (2003). Specifically, the authors found that "higher scores in positive reciprocity were related to stronger reactions to unfair (negative) behavior, expressed as allocating lower rewards (positive sanction)." Furthermore, they note a lack of significant correlation between higher scores in negative reciprocity and reactions to unfair behavior, expressed as allocating lower rewards. Results associated with positive and negative reciprocity measures are shown separately in the appendix and are in line with results discussed here (and those in Perugini et al. (2003)). In our context, if one thinks of the chocolate as a "signal" of the banks officer's interest in the entrepreneur's participation in the training, and attendance as a reward that the entrepreneurs can give the bank officer, then entrepreneurs that received the chocolate and had a high score in the reciprocity index were more likely to withhold a reward (attendance) from the officer. This interpretation is premised on the entrepreneur feeling that she has been treated unfairly by the bank officer, at least temporary, which would motivate the desire for negative reciprocity in the first place.

As evidence that this is the correct interpretation, we use administrative data to show that the average number of transactions processed fell by 8.9% in November 2015, relative to the three months prior (August-October 2015). That reduction is due, presumably, to the temporary technical difficulties the financial institution had with the upgrade of the electronic devices used by non-bank correspondents to process financial transactions. Although the reduction in transactions is not correlated with receiving a chocolate gift or not (the assignment to the treatment group was random and both groups experienced a similar reduction), the reduction in the number of transactions is correlated with training attendance, especially for entrepreneurs that received the chocolate gift. Specifically, entrepreneurs in the chocolate treatment were 1.11 percentage points less likely to attend training for each 10 percentage point decrease in transactions processed (from August-October 2015 and November 2015). By com-

	(1)	(2)	(3)	(4)	(5)	(6)
	Attendance	**Attendance**	**Attendance**	**Attendance**	**Attendance**	**Attendance**
Chocolate	-0.083**	-0.084**	-0.082**	-0.084**	-0.080**	-0.082**
	(0.041)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
Number of transactions (log)		0.060***	0.058***	0.056***	0.058***	0.056***
		(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Reciprocity Index			0.006	0.046*	0.007	0.048**
			(0.019)	(0.024)	(0.019)	(0.024)
Impulsivity Index			-0.036*	-0.037*	-0.068**	-0.071**
			(0.019)	(0.019)	(0.028)	(0.028)
Chocolate × Reciprocity Index				-0.084**		-0.087**
				(0.037)		(0.037)
Chocolate × Impulsivity Index					0.064	0.068*
					(0.039)	(0.038)
Constant	0.414***	0.158*	0.169**	0.169**	0.174**	0.175**
	(0.065)	(0.086)	(0.085)	(0.086)	(0.085)	(0.085)
Observations	691	691	691	691	691	691
R^2	0.057	0.082	0.087	0.094	0.091	0.098
Dummies for bank officers	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors in parentheses. * Denotes significance at the 10%-level, ** at the 5%-level, and *** at the 1%-level. Include explanation.

Table 2. Average Treatment Effects

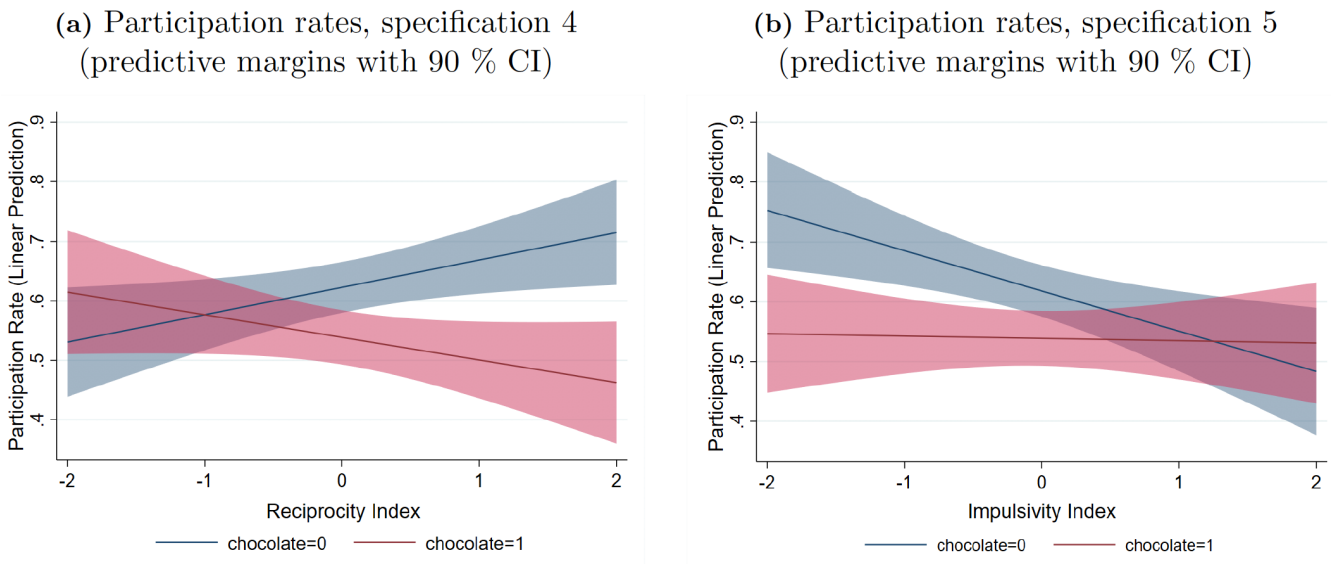

Figure 1. Interaction between chocolate and different values of (a) the reciprocity index and (b) the impulsivity index

parison, entrepreneurs in the control group were only -0.33 percentage points less likely to attend training for each 10 percentage point decline in transactions processed (see 5 in the Appendix).

In specification 5 (column 5 in table 2) we interact the impulsivity index with the chocolate treatment. We find that the coefficient on the interaction is positive but not statistically different from zero (the p-value is 0.101). We find that for entrepreneurs who did not receive a chocolate gift, the impulsivity index is negatively associated with attendance; i.e. entrepreneurs with high propensity to act rashly in response to situations perceived as unfair were less likely to attend the training – a reduction of 6.8 percentage points for entrepreneurs one standard deviation above the average on the index measure. In the case of entrepreneurs who did receive a chocolate gift, the impulsivity index is negatively associated with attendance and the magnitude is very small as reflected by the net effect when both coefficients are considered: the magnitude of the coefficient on the interaction term (6.4) and that of the coefficient on the impulsivity index term (-6.8). (Although the interaction coefficient, as mentioned before, is not statistically different from zero.) In this case, however, the difference in attendance is not statistically different between treatments for entrepreneurs with high values in the impulsivity index, while those with low measures of impulsivity were more likely to attend in the control condition (see Figure 1).

In specification 6 (column 6) we interact both the impulsivity index and the reciprocity index with the chocolate treatment, simultaneously. We find that for entrepreneurs who did not receive a chocolate gift, the impulsivity index is still negatively associated with attendance; i.e. entrepreneurs with a high propensity to act rashly in response to situations perceived as unfair were less likely to attend the training – a reduction of 7.1 percentage points for entrepreneurs one standard deviation above the average in the index measure (holding constant their reciprocity index score). For entrepreneurs who did not receive a chocolate gift, the reciprocity index is still positively associated with attendance; i.e. entrepreneurs with a high propensity to cooperate (and low propensity to retaliate) were more likely to attend the training – an increase of 4.8 percentage points for entrepreneurs one standard deviation above the average in the index measure (holding constant their impulsivity index score). The interaction coefficients in specification 6 tell a similar story to specifications 4 (for the reciprocity index) and 5 (for the impulsivity index), with the chocolate gift having a differentially large and negative effect on attendance relative to the control group. The chocolate gift also has a differentially large and negative effect on attendance in absolute terms for those with higher reciprocity scores, and a differentially positive effect for those with higher impulsivity scores. Note that the latter effect is not large enough to fully "offset" the negative overall relationship between the impulsivity index and attendance rates in the sample, as is visible in Figure 2.

Figure 2 shows the rates of participation for different combinations of reciprocity index and impulsivity index scores. For entrepreneurs who did not receive a chocolate gift, the results are in line with our ex-ante expectations, as depicted in Figure 2. That is, for any fixed value of the reciprocity index, higher values of the impulsivity index are associated with lower attendance rates, while for any fixed value of the impulsivity index, higher values of the reciprocity index are associated with higher attendance rates.

For entrepreneurs who did receive a chocolate gift (Figure 2), the results are in line with what one would expect if an individual reacts to a gift with negative reciprocity, triggered by the feeling that they have been treated unfairly. That is, for any fixed value of the reciprocity index, higher values of the impulsivity index are associated with lower attendance rates, while for any fixed value of the impulsivity index, higher values of the reciprocity index are associated with lower attendance rates. This again is in line with the results in Perugini et al. (2003) – individuals prone to act reciprocally are quick to retaliate when treated unfairly. As shown in the appendix, the results are mainly driven by the positive reciprocity measure, consistent with results in Perugini et al. (2003). Similarly to them, we find no significant correlation between higher scores in negative reciprocity and attendance.

The results suggest two ways in which the relationship with the financial institution affects participation. One way is captured by the pure business relationship, based on the number of financial transactions channeled through the business: the more involved the entrepreneurs are with the financial institution, the more likely they are to participate in the business training. Participation explained using this relationship is unaffected by the gift as seen in the different specifications in table 2. This response is potentially motivated by entrepreneurs considering the prospect of material gains from future repeated interactions with the financial institution. Entrepreneurs who have more to lose by damaging a longstanding business relationship are more likely to comply and participate.

The other way in which the relationship with the financial institution affects participation is captured by the more personal relationship between the entrepreneur and the bank officer (who is the "face" of the financial institution). For the different specifications we consistently see large, heterogeneous participation rates ranging from 0 to more than 30 percentage points for different bank officers – given by the dummy coefficients corresponding to the 12 strata. Participation explained using this relationship, which captures past interactions between bank officers and entrepreneurs as well as the bank officers' reaction to the disruption faced by the entrepreneurs from the failed upgrade, is affected by the gift.

We argue that the chocolate gift works as a "signal" to the entrepreneur that the bank officer is interested in the entrepreneur attending the training – and there is no such "signal" when entrepreneurs did not receive the chocolate gift. Entrepreneurs who felt treated unfairly by the bank officer, due to the failed technical upgrade, and received the chocolate gift then associate attendance with a reward that the entrepreneurs can withhold from the bank officer. Furthermore, the fact that the entrepreneurs least likely to attend the training in our sample were those with high scores in the reciprocity and

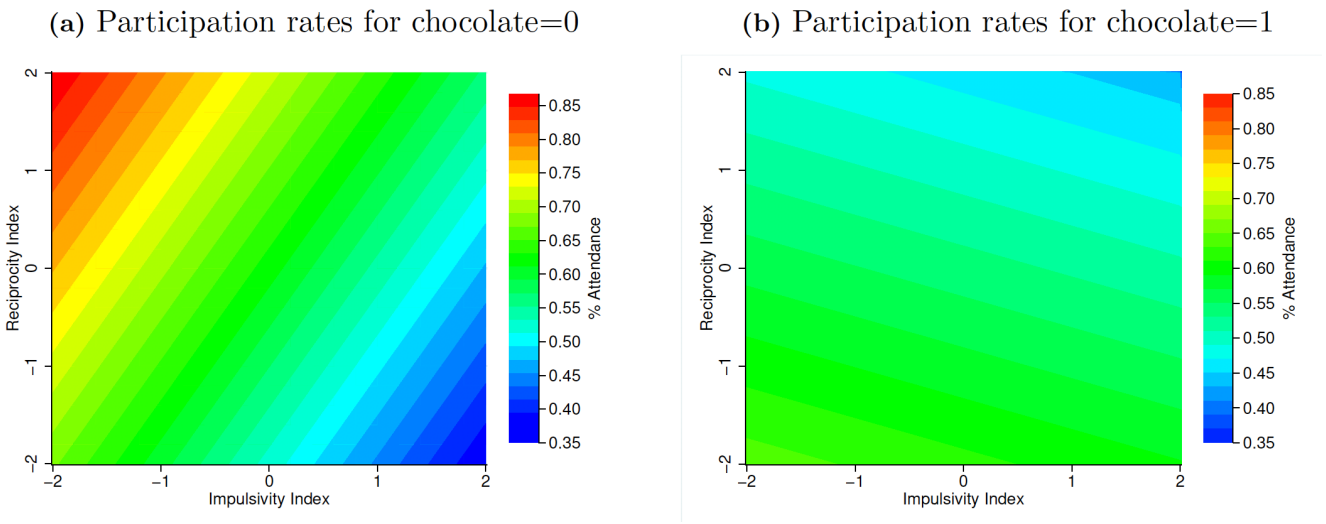

Figure 2. Interaction between chocolate and reciprocity index and impulsivity index

impulsivity indexes in the chocolate treatment, and those with low scores in the reciprocity index but high scores in the impulsivity index in the control group, is consistent with this interpretation as well.

Discussion

Contrary to our expectations, evoking the norm of reciprocity by giving an unexpected premium chocolate to entrepreneurs who were invited to participate in a four-hour training program had a negative and significant effect on participation in the training. A hypothesis centered around positive reciprocity as a driving force would predict the opposite, namely that when a bank officer gives an entrepreneur a chocolate, the entrepreneur may feel obligated to reciprocate by agreeing to attend the training program. However, other studies that evoke the norm use strangers or people with whom the gift-receiver had no long-term interaction (Falk, 2007; Kirchler and Palan, 2017; Sanders, 2015; Strohmetz et al., 2002). In this case, we argue that a preexisting relationship that had suffered a negative shock may be to blame for the unexpected result, driven by negative reciprocity and a desire to punish the bank officer.

Studying the heterogeneous response of entrepreneurs to the chocolate gift, based on their propensity to reciprocate and their propensity to act rashly in response to situations perceived as unfair, sheds light on the mechanism driving the results. Specifically, we argue that the chocolate gift acts as a "signal" that highlights the bank officer's interest in the entrepreneur attending the training. The entrepreneur, upset about the ongoing technical issues and the bank officer's perceived unresponsiveness to a situation (which affects the entrepreneur's bottom line), may have consequently withheld the reward (attendance). The fact that this response is stronger for entrepreneurs with higher scores in index measures of impulsivity (propensity to act rashly in response to situations perceived as unfair) and propensity to reciprocate is consistent with this interpretation as well.

Overall, our results are consistent with some existing work that suggests that intentionality (to harm or help) matters, and that hostile actions are much more consistently punished than friendly actions are rewarded (Abbink et al., 2000; Offerman, 2002). This "punishing" behavior is observed here even though punishing somebody (the bank officer) for his actions (not solving issues with the electronic devices right away) hurts the punisher as well (not participating in the training and thus not improving their business management practices).

Our findings show the challenges of implementing behavioral interventions intended to evoke positive reciprocity in the field. Given this, what do take away from this intervention? First, it is clear from our experiment that contextual factors are critical when it comes to "nudges" like the provision of a gift as a means of inducing a certain behavior. Regardless of the fact that we obtained a surprising directional result, our intervention did influence behavior, a finding that is not necessarily consistent with a rational model of decision making. This large effect is, however, consistent with the idea that minor contextual cues matter for judgment and decision making. Because these behavioral cues are likely to affect other similar policy programs, they should be taken into account when it comes to program design and implementation. Second, our results demonstrate that our a priori beliefs about how minor contextual cues affect behavior are not always correct and therefore need to be rigorously tested. Without a body of evidence from randomized control trials that test assumptions from theory, we may end up investing resources in ways that actually reduce the effectiveness of policy interventions.

Acknowledgements

We would like to thank Banco del Pichincha, especially Maria Belén Sánchez, Patricio Amaya, and Silvia Yépez for their support in conducting the study. We also acknowledge IDB Lab from the Inter-American Development Bank for financial support. We also would like to thank Luz María Dávalos for her excellent work in the field as coordinator, and Haksoo Lee, Neeraj Shah, Nerissa Nashin, Reed Orchinik, and Kate Musen for research assistance. The opinions expressed in this paper are those of the authors and do not necessarily reflect the views of Swarthmore College, the Inter-American Development Bank, IDB Lab, IDB Invest, its respective Boards of Directors, or the countries they represent.

References

Abadie, A., S. Athey, G. Imbens, and J. Wooldridge (2017). When Should You Adjust Standard Errors for Clustering? *Working Paper*.

Abbink, K., B. Irlenbusch, and E. Renner (2000). The moonlighting game: An experimental study on reciprocity and retribution. *Journal of Marketing Management 42*(1), 265–277.

Arráiz, I. (2020). Retail stores and financial inclusion: Quantifying the benefits of being a non-bank correspondent. *IDB Invest Working Paper TN No. 22*.

Bertrand, M., S. Mullainathan, and E. Shafir (2004). A behavioral-economics view of poverty. *The American Economic Review 94*(2), 419–423.

Bhargava, S. and D. Manoli (2015). Psychological Frictions and the Incomplete Take-Up of Social Benefits: Evidence from an IRS Field Experiment. *American Economic Review 105*(11), 3489–3529.

Bruhn, M. and D. McKenzie (2009). In Pursuit of Balance: Randomization in Practice in Development Field Experiments. *American Economic Journal: Applied Economics 1*(4), 200–232.

Bénabou, R. and J. Tirole (2003). Intrinsic and Extrinsic Motivation. *The Review of Economic Studies 70*(3), 489–520.

Cameron, L. A. (1999). Raising the Stakes in the Ultimatum Game: Experimental Evidence from Indonesia. *Economic Inquiry 37*(1), 47–59.

Charness, G. and U. Gneezy (2008). What's in a Name? Anonymity and Social Distance in Dictator and Ultimatum Games. *Journal of Economic Behavior and Organization 68*(1), 29–35.

Charness, G., E. Haruvy, and D. Sonsino (2007). Social Distance and Reciprocity: An Internet Experiment. *Journal of Economic Behavior and Organization 63*(1), 88–103.

Currie, J. (2006). Poverty, The Distribution of Income, and Public Policy. In J. M. Q. Alan J. Auerbach David Card (Ed.), *Poverty, The Distribution of Income, and Public Policy*, Chapter The Take U, pp. 80–148. New York: Russell Sage.

Eisenberger, R., P. Lynch, J. Aselage, and S. Rohdieck (2004). Who Takes the Most Revenge? Individual Differences in Negative Reciprocity Norm Endorsement. *Personality and Social Psychology Bulletin 30*(6), 787–799.

Falk, A. (2007). Gift Exchange in the Field. *Econometric Journal of the Econometric Society 75*(5), 1501–1511.

Fehr, E., U. Fischbacher, and E. Tougareva (2014). Do High Stakes and Competition Undermine Fair Behaviour? Evidence from Russia. *Journal of Economic Behavior and Organization 108*, 354–363.

Fehr, E. and S. Gachter (2000). Fairness and Retaliation: The Economics of Reciprocity. *Journal of Economic Perspectives 14*(3), 159–181.

Fehr, E. and S. Gachter (2002). Altruistic Punishment in Humans. *Nature 415*(6868), 137–140.

Frey, B. and R. Jegen (2001). Motivation Crowding Theory. *Journal of Economic Surveys 15*(5), 589–611.

Friedman, H. H. and A. Rahman (2011). Gifts-Upon-Entry and Appreciatory Comments: Reciprocity Effects in Retailing. *International Journal of Marketing Studies 3*(3), 161–164.

Gachter, S. and A. Falk (2002). Reputation and Reciprocity: Consequences for the Labour Relation. *Scandinavian Journal of Economics 104*(1), 1–27.

Gallucci, M. and M. Perugini (2000). An Experimental Test of a Game-Theoretical Model of Reciprocity. *Journal of Behavioral Decision Making 13*(4), 367–389.

Gneezy, U. and A. Rustichini (2000). Pay Enough or Don't Pay at All. *The Quarterly Journal of Economics 115*(3), 791–810.

Gouldner, A. W. (1960). The Norm of Reciprocity. *American Sociological Review 25*(2), 161–178.

Helm, B., T. V. Bonoma, and J. T. Tedeschi (1972). Reciprocity for Harm Done. *The Journal of Social Psychology 87*(1), 89–98.

Hoffman, E., K. McCabe, and V. Smith (1998). Behavioral Foundations of Reciprocity: Experimental Economics and Evolutionary Psychology. *Economic Inquiry 36*(3), 335–352.

Kahneman, D. and S. Frederick (2002). Representativeness Revisited: Attribute Substitution in Intuitive Judgment. In T. Gilovich, D. Griffin, and D. Kahneman (Eds.), *Heuristics and Biases: The Psychology of Intuitive Judgment*, pp. 49–81. Cambridge University Press.

Kirchler, M. and S. Palan (2017, aug). Immaterial and monetary gifts in economic transactions: evidence from the field. *Experimental Economics*.

Knoch, D., A. Pascual-Leone, K. Meyer, V. Treyer, and E. Fehr (2006). Diminishing Reciprocal Fairness by Disrupting the Right Prefrontal Cortex. *Science 314*(3), 829–832.

Malmendier, U. and K. M. Schmidt (2017). You Owe Me. *American Economic Review 107*(2), 493–526.

McKenzie, D. and C. Woodruff (2014). What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World? *World Bank Observer 29*(1), 48–82.

Milkman, K. L., J. Beshears, J. J. Choi, D. Laibson, and B. C. Madrian (2011). Using implementation intentions prompts to enhance influenza vaccination rates. *Proceedings of the National Academy of Sciences 108*(26), 10415–10420.

Offerman, T. (2002). Hurting Hurts More than Helping Helps. *European Economic Review 46*(8), 1423–1437.

Perugini, M., M. Gallucci, F. Presaghi, and P. Ercolani (2003). The Personal Norm of Reciprocity. *European Journal of Personality 17*(4), 251–283.

Rand, D. G., E. Yoeli, and M. Hoffman (2014). Harnessing Reciprocity to Promote Cooperation and the Provisioning of Public Goods. *Policy Insights from the Behavioral and Brain Sciences 1*(1), 263–269.

Regan, D. T. (1971). Effects of a Favor and Liking on Compliance. *Journal of Experimental Social Psychology 7*(1), 627–639.

Remler, D. K., J. Rachlin, and S. Glied (2001). What Can the Take-up of Other Programs Teach Us About How to Improve Take-up of Health Insurance Programs? *NBER Working Paper Series* (8185).

Rinehart, C. S. and J. W. McGuire (2017). Obstacles to Takeup: Ecuador's Conditional Cash Transfer Program, The Bono de Desarrollo Humano. *World Development 97*, 165–177.

Riphahn, R. T. (2001). Rational poverty or poor rationality? The take-up of social assistance benefits. *Review of Income and Wealth 47*(3), 379–398.

Sanders, M. (2015). In Search of the Limits of Applying Reciprocity in the Field: Evidence from Two Large Field Experiments. *Working Paper*.

Strohmetz, D. B., B. Rind, R. Fisher, and M. Lynn (2002). Sweetening the Till: The Use of Candy to Increase Restaurant Tipping. *Journal of Applied Social Psychology 32*(2), 300–309.

Trivers, R. (1971). The Evolution of Reciprocal Altruism. *Quarterly Review of Biology 46*, 35–57.

Whiteside, S. and D. Lynam (2001). The Five Factor Model and impulsivity: using a structural model of personality to understand impulsivity. *Personality and Individual Differences 30*(4), 669–689.

Appendix

Figure 3(a) shows, for explanation purposes, the plot for the standardized measures associated to the positive reciprocity scale – including reciprocity beliefs associated to positive reciprocity – and the inverted negative reciprocity scale – including reciprocity beliefs associated to negative reciprocity. The correlation between both measures is 0.26. The positive reciprocity scale includes questions Pr1-Pr9 and Br1, Br4, Br5, Br7 from the questionnaire developed by Perugini et al. (2003), while the negative reciprocity scale includes questions Nr1-Nr9 (inverted) and Br2, Br3, Br6, Br8, and Br9.

Figure 3(b) shows the distribution of the reciprocity index used for the analysis in table 2 which includes questions Pr1-Pr9, Br1-Br9, and Nr1-Nr9 (inverted) from the questionnaire developed by Perugini et al. (2003).

Table 3 shows how the reduction in transactions processed by the businesses in November 2015, the month the invitations were distributed, is associated with attendance to training. Reduction in transactions occurred, presumably, because of the temporary difficulties faced by the businesses with their equipment.

Table 4 reproduces the analysis in table 2 using the standardized measure associated to the positive reciprocity scale, including reciprocity beliefs associated with positive reciprocity – instead of the general reciprocity index shown in figure 3(b) constructed using the positive and the negative reciprocity scales.

Table 5 shows the results using the standardized measure associated to the negative reciprocity scale.

	(1) Attendance Control	(2) Attendance Chocolate	(3) Attendance Full Sample
% Drop in Transactions	-0.031	-0.101***	-0.033*
	0.019	0.037	0.017
Chocolate x % Drop in Transactions			-0.078*
			0.041
Constant	0.414 ***	0.457***	0.414***
	0.065	0.132	0.064
Observations	340	351	691
R^2	0.109	0.047	0.065
Dummies for bank officers	Yes	Yes	Yes

Note: Column (1) shows the results for entrepreneurs who did not receive the chocolate gift. Column (2) shows the results for entrepreneurs who received the chocolate gift. Column (3) shows the results pooling all the entrepreneurs together. Robust standard errors in parentheses. * Denotes significance at the 10%-level, ** at the 5%-level, and *** at the 1%-level.

Table 3. Average Treatment Effects (Drop in transactions before Training Started)

	(1) Attendance	(2) Attendance	(3) Attendance	(4) Attendance	(5) Attendance	(6) Attendance
Chocolate	-0.083**	-0.084**	-0.083**	-0.081**	-0.080**	-0.079**
	(0.041)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
Number of transactions (log)		0.060***	0.059***	0.057***	0.059***	0.057***
		(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Positive Reciprocity Index			0.016	0.050**	0.014	0.050**
			(0.018)	(0.023)	(0.018)	(0.023)
Impulsivity Index			-0.036*	-0.034*	-0.067**	-0.066**
			(0.019)	(0.019)	(0.028)	(0.028)
Chocolate × Positive				-0.082**		-0.083**
Reciprocity Index				(0.037)		(0.037)
Chocolate × Impulsivity Index					0.062	0.064*
					(0.039)	(0.039)
Constant	0.414***	0.158*	0.166*	0.169**	0.172**	0.176**
	(0.065)	(0.086)	(0.085)	(0.085)	(0.085)	(0.085)
Observations	691	691	691	691	691	691
R^2	0.057	0.082	0.087	0.094	0.091	0.098
Dummies for bank officers	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors in parentheses. * Denotes significance at the 10%-level, ** at the 5%-level, and *** at the 1%-level.

Table 4. Average Treatment Effects (Positive Reciprocity Index)

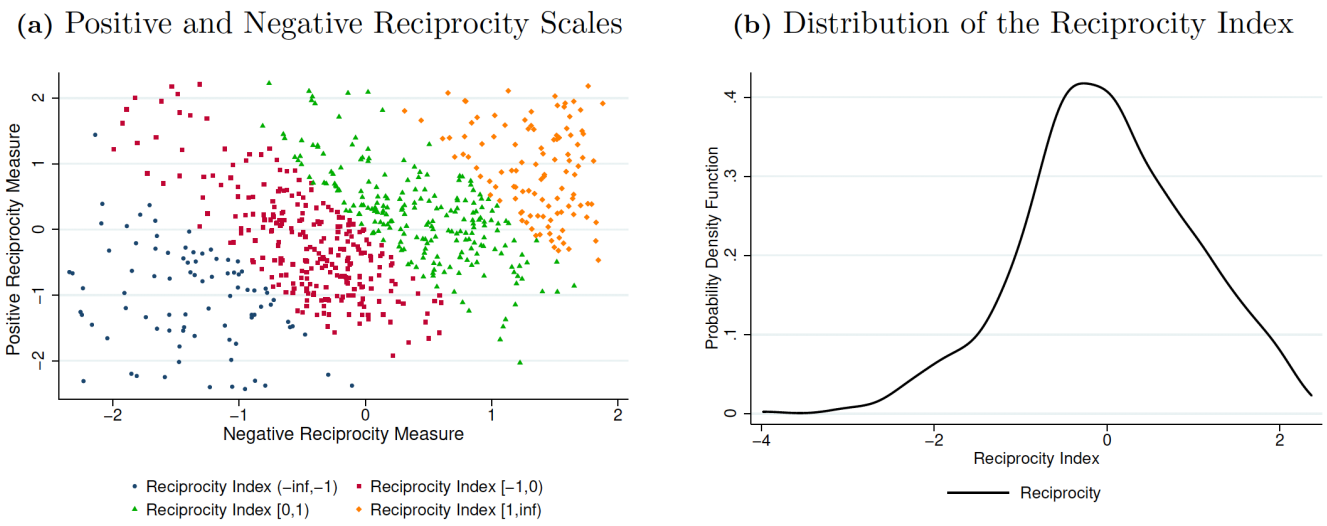

Figure 3. Interaction between chocolate and reciprocity index and impulsivity index

	(1) Attendance	(2) Attendance	(3) Attendance	(4) Attendance	(5) Attendance	(6) Attendance
Chocolate	-0.083**	-0.084**	-0.081**	-0.084**	-0.078*	-0.082**
	(0.041)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
Number of transactions (log)		0.060***	0.058***	0.057***	0.058***	0.056***
		(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Negative Reciprocity Index			-0.001	0.030	0.000	0.033
			(0.019)	(0.025)	(0.018)	(0.025)
Impulsivity Index			-0.036*	-0.037*	-0.067**	-0.071**
			(0.019)	(0.019)	(0.028)	(0.028)
Chocolate × Negative				-0.060		-0.063*
Reciprocity Index				(0.037)		(0.037)
Chocolate × Impulsivity Index					0.063	0.067*
					(0.039)	(0.039)
Constant	0.414***	0.158*	0.171**	0.169**	0.176**	0.175**
	(0.065)	(0.086)	(0.085)	(0.085)	(0.085)	(0.085)
Observations	691	691	691	691	691	691
R^2	0.057	0.082	0.086	0.090	0.090	0.094
Dummies for bank officers	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors in parentheses. * Denotes significance at the 10%-level, ** at the 5%-level, and *** at the 1%-level.

Table 5. Average Treatment Effects (Negative Reciprocity Index)