The Impact of Fee Discounts on Remittances: A Field Experiment with Migrants from Central America[*]

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Abstract: We study the impacts of offering migrants discounts for remittance fees on remittances. We implement an experiment in which migrants from El Salvador and Guatemala are randomly chosen to receive 10 week discounts on remittance fees for remittances sent through our partner organization to their primary remittance recipient. Using administrative data we find that these discounts lead to large increases in the number of transactions and total amount remitted. These effects of the discounts persist up to 20 weeks after migrants are no longer eligible to receive them. These are real increases in remittances: we can rule out that migrants are sending remittances on behalf of others or shifting from other remittance channels. The pattern of results suggests a model of behavior in which migrants respond to the discounts but are naïve about their recipients' reference dependent preferences.

1. Introduction:

International remittances sent to the developing world have become an important focus of development policy as they have consistently grown over the last two decades.[1] These remittances were $401 billion in 2012, a number that far exceeded official development assistance (World Bank 2013). The interest in remittances has also been driven by a growing number of studies that document positive impacts of remittances on a number of measures of well-being in recipient households, including education, health, housing, poverty, entrepreneurship, and responsiveness to negative shocks (Cox-Edwards and Ureta 2003; Adams 2004; Yang and Martinez 2005; Yang 2006; Woodruff and Zenteno 2007; Yang and Choi 2007; Yang 2008a; Yang 2008b; Adams and Cuecuecha 2010; Theoharides 2013). This research suggests that further increasing remittances could play an important role in achieving development goals.

Despite this policy interest in increasing remittances, much less is known about how migrants make decisions about the remittances they send. In this paper we study an important component of every remittance sent through the formal financial system: the fee charged by the money transmission institution for the service they provide, the reduction of which is a common policy recommendation.[2] Remittance fees are generally charged as a flat fee up to a certain amount. In our context of Central Americans remitting from the United States, these fees are usually $8 to $10 for remittances up to $1,000 or $1,500, but the costs can vary widely by market. Fees can therefore represent a high percentage of the overall remittance, especially for migrants sending smaller amounts. Understanding how these fees impact decisions is consequently important for the

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[1] See Pew Hispanic Center (2002), Terry and Wilson (2005), World Bank (2006), and World Bank (2007) for examples of policy oriented reports.

[2] See, among others, de Luna Martinez (2005), Frias (2004), Orozco (2002), Orozco and Wilson (2005), Orozco and Fedewa (2006), Pew Hispanic Center (2002), Ratha (2005), Ratha and Riesberg (2005) World Bank (2006), World Bank (2007), and World Bank (2013).

design of policies that seek to lower them. For example, migrants could keep any fee reduction for themselves, or they could add it to the remittance they send home, resulting in minimal increases in remittances at most. Alternatively, behavioral models allow for situations where discounts may have large and persistent impacts on total remittances. However, very little research exists investigating how exactly remittance fees impact the decisions that migrants make about remittances.[3]

There are three existing studies that directly address the impact of the cost of remittances on the remittance decisions made by migrants. Freund and Spatafora (2006) use cross-country data to show that remittance fees are negatively correlated with total remittances at the country level. Gibson, McKenzie, and Rohorua (2006) show that migrants report that they would send more in remittances if fees were lowered in response to a hypothetical survey question. These studies provide initial evidence that remittance fees are an important determinant in remittance decisions, but are limited in their scope. Cross country regressions may suffer from omitted variable bias and reverse causality, and while hypothetical evidence is suggestive, it is not clear how well the hypothetical responses will correlate with actual remittance decisions.

Aycinena, Martinez, and Yang (2010) provide the most rigorous evidence of the impact of remittance prices on remittances. They conduct a field experiment in which Salvadoran migrants in Washington, DC are randomly assigned discounts on remittance fees at a partner institution. The randomized experiment allows for the causal identification of the impact of the remittance prices, and, importantly, the paper measures actual, as opposed to hypothetical, remittance flows. They find that a $1 reduction in the price of a remittance leads to a $25 monthly increase in remittance payments. However, the study has certain limitations. Most participants were not

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[3] Clemens and Ogden (2013) identify the cost of remittances (in the form of subsidies or taxes) as one of the most important areas in research into remittances and development.

baseline customers of the partner institution, limiting the ability to observe full remittance behavior and raising concerns that the effects might be driven by switching remittance companies or sending remittances for others. Additionally, data is not available for the period after the discounts expired, so the authors cannot observe long term trends in remittance behavior. Because the impacts of the randomized price are large and carry important policy implications, it is important to verify these results in a setting where these limitations are addressed.

This paper reports the results of a randomized experiment designed to identify the causal impact of discounts for remittance fees on remittance transactions that improves on these limitations in Aycinena, Martinez, and Yang (2010). We partner with a money transfer company (Viamericas Corporation) and recruit migrants from El Salvador and Guatemala to participate at their agent locations. All participants are existing customers of Viamericas at baseline. Half of the participating migrants are randomly chosen to receive a $3.01 discount for 10 weeks for remittances sent at that Viamericas location. The discount is limited to remittances sent to the person previously identified by the migrant as their primary remittance recipient (PRR). This limitation is designed to reduce the probability that migrants will use the discount to send remittances for others, thereby artificially increasing the amount of remittances sent. As part of a larger project addressing the impact of remittances on education, half of the migrants are also randomly allocated to receive information on returns to schooling in their home country.

We then examine impacts of these treatments by looking at remittance transactions and amounts in Viamericas administrative data, a data source that allows us to avoid common issues with the measurement of remittances through survey data. We have access to the transaction data for participants before, during, and after the discount period allowing us to examine the longer term impacts of these price discounts. This transaction data is complemented with an endline

survey that provides insight into use of other remittance channels and asks questions about ways in which the participants may have used the discount to send money for others.

We find that migrants who were offered the discount send home more in remittances than those who were not. Additionally, migrants send more individual transactions. The effects are substantial; migrants are not simply rolling the discount into their remittance payments, they are sending sizeable additional transactions. Interestingly, these impacts continue up to 20 weeks *after* the discount has expired before fading away. The education information treatment has no impact on remittance behavior.

The analysis shows that these results represent true increases in remittances. The increases are concentrated among remittances sent to the PRR, but these increases are much larger than any reductions in remittances sent to other recipients. Migrants are existing Viamericas customers and report minimal remittances sent through other channels both at baseline and endline. Importantly, there is no impact of the treatment on remittances sent through other channels reported in the endline survey. Finally, questions in the endline designed to address the concern that migrants might send remittances for others in order to take advantage of the discount show no consistent pattern related to treatment that might be driving the results.

These large and persistent effects of the discount treatment are puzzling when viewed through the lens of classic economic behavior. However, they can be understood through a model of remittance behavior that incorporates reference dependence and status quo bias as described in Tversky and Kahneman (1991), Masatlioglu and Ok (2005), and Masatlioglu and Ok (2014). Migrants increase remittances during the discount period, intending to reduce once the discount period expires. However, the migrant is naïve about the recipient's reference dependent preferences. Therefore, in the after period the recipient now expects to continue receiving this

higher level of remittances, and he can enforce these preferences using the bargaining power used to enforce their standard remittance agreement. The migrant must therefore gradually reduce remittances in order to return to the initial levels, which is the pattern we see in our results.

The paper proceeds as follows. Section 2 will describe the project design. Section 3 discusses the sample and baseline balance. Section 4 presents the empirical strategy and results. Section 5 concludes.

2. Project design:

Given the difficulty of identifying the causal effect of remittance prices on remittance behavior using observational or hypothetical data, we work with a money transfer company and randomly assign price discounts to some of their customers. The random assignment of discounts allows us to causally identify the impact of lower prices on remittance behavior. We partner with Viamericas Corporation, an international money transfer company that provides remittance sending services from the United States to a large number of countries across the world with a concentration in the Latin American and Caribbean market. Fees vary across markets, but the cost of sending a remittance less than $1,000 from the Washington, DC area is generally a flat fee of $8. Although Viamericas offers online and phone services, the vast majority of their transactions are made in person through a network of independent agents in the United States. Viamericas agents are independent businesses (usually small stores of some type) that collect the money from the person sending the remittance and keep a portion of the fee as a commission for that service. The remittance is then paid out at a Viamericas affiliated location chosen by the sender, usually a bank or supermarket.

Study participants were recruited at five Viamericas agent locations in the suburbs of Washington, DC. Despite working in five locations, due to wide variations in the numbers of

Viamericas customers in each store more than 80% of our sample comes from just two of these agents. Potential participants were approached by survey staff after sending a remittance and invited to participate in the study conditional on meeting three screening criteria. Participants must have been born in either Guatemala or El Salvador, must have just sent a remittance through Viamericas,[4] and must have sent that remittance to the person that they consider to be their primary remittance recipient (PRR). Recruitment in this way ensures that the study population is made up of existing Viamericas customers. All migrants who agreed to participate received a $5 credit to be spent at the agent location but which could not be used for remittance fees.[5]

Migrants who were eligible and agreed to participate first completed a short baseline survey that collected basic demographic information about the migrant and their primary remittance recipient, and information about remittances sent by the migrant. Following the survey, the surveyor administered the randomly assigned treatment(s). Randomization was done at the individual level and was stratified by agent location and in groups of 32 surveys to ensure that treatments were balanced over time. Each survey was labeled with an ID number and pre-assigned treatment status before being sent into the field and surveyors used the surveys in the order in which they received them. Treatment materials were placed in an envelope attached to each survey and surveyors did not know which treatment they would be administering until they opened the envelope at the end of the survey. There were two types of treatments which were cross randomized in a 2x2 design.

Price discounts:

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[4] In many cases Viamericas agents also offer remittance services with other money transfer companies.
[5] The way in which this was implemented varied by location. Some chose to give out $5 phone cards, while others offered more flexibility. Regardless, this credit was mostly used to purchase phone cards.

Migrants in this treatment group received a discount of $3.01 off the remittance fee for remittances sent to their primary remittance recipient through Viamericas at the agent location where they were recruited.[6] The discount was valid for 10 weeks and there was no limit on the number of transactions. Migrants received a plastic discount card and surveyors wrote the name of the PRR and the expiration date on the card. In order to redeem the discount, migrants had to present the card to the teller. We can verify in the transaction data that very few discounts were applied to remittances sent to other recipients or after the intended expiration date.[7]

Education information:

Migrants in this treatment group were given an informational sheet entitled "Why should I send remittances for education?" The information focused on the low rates of secondary and tertiary school completion in El Salvador and described the earnings differentials between those who had completed primary, secondary and tertiary schooling. Separate sheets were created for Guatemala and El Salvador. The surveyor went over the information in the sheet with the migrant and the migrant was given the flyer to take home. This education information treatment was included in the project design because this study is part of a larger project that focused on understanding new ways to promote using remittances for education. Although the results for this intervention will be presented, this paper will largely focus on the impacts and implications of the price discounts.

Because these treatments were cross randomized, migrants were divided into four groups: T1 – Control, T2 – Education information only, T3 – Discount only, and T4 – Discount and education information. Survey work began in late December 2012 and concluded in mid-April

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[6] The discount was $3.01 in order to facilitate identification of the discounted transactions in the Viamericas system.
[7] Participating stores were reimbursed by the project for the discounts and additionally received a $1 incentive for each discount that was correctly applied. All participating agents also received a one-time payment to compensate for staff training and other time costs of participating in the project.

2013. The last discount expired ten weeks later in late June 2013. 946 migrants were surveyed in total.

The length and detail of the baseline survey were limited by the recruitment strategy of intercepting participants as they were sending a remittance, when most participants were not available to participate in a longer survey. In the days following this initial interaction participants were contacted by phone to complete a second baseline survey which contained more detailed information about their relationship with their family and a set of experimental questions that are the subject of a separate paper. 72% of these additional baseline surveys were completed. A subset of family members in El Salvador and Guatemala were additionally interviewed by phone about remittances and their relationship with the migrant. Because some store owners only agreed to participate on the condition that the research staff would not contact family members, only 18% of family members were interviewed. These additional baseline surveys are not used in the analysis presented in this paper.

Following these baseline interviews, participating migrants were also contacted by phone for an endline survey. The goal of the endline survey was to capture remittance behavior during the ten week discount period and consequently an effort was made to contact all subjects as close as possible to the day after the expiration of their discount. In the case of the control group, the contact occurred relative to the day that their discount would have expired had they been in the discount group, or ten weeks following their recruitment into the study. The survey staff was largely successful in performing these interviews as scheduled: the median number of days between expiration and interview is two. The completion rate for the follow-up survey was 72%.

Viamericas data

A major contribution of this study is that, in addition to survey measures of remittances at baseline and endline, we have access to administrative data on remittances sent by our participants through Viamericas during the ten weeks of our study and twelve months before and up to twelve months after. Based on the end date of the project, we currently have data for the 40 weeks after expiration for all project participants. This includes transactions for all recipients, not just the PRR, and allows us to identify to whom the remittance was sent, how much it was for, the fee that was paid, and whether or not a discount was applied. When migrants agreed to participate in the study the surveyors collected the transaction number of the remittance they had just sent. This number allows Viamericas to identify the participant in their database and provide the research team with the participant's transaction history.

Threats to identification of the price effect

Although the randomized design of this project ensures the identification of a causal effect, other factors can threaten the interpretation of the effect of the price treatment. Because the goal of the study is to understand the impact of the discount in remittance fees the project was designed to overcome these potential threats. First, because the analysis will rely heavily on transaction data from Viamericas, the analysis may overestimate an impact of the price discount by not considering that migrants may have reduced remittances sent through other companies and increased those sent with Viamericas in order to take advantage of the discount. We address this problem in two ways. First, we limit participation in the study to existing Viamericas customers. Second, in both the baseline and follow-up survey we ask detailed questions about what companies migrants are using to send the remittances they report, allowing us to directly document shifting from other companies to Viamericas.

A second threat to the interpretation of the discount effect is that migrants may send remittances for other people in their network. As long as the migrant physically performs the transaction (even if someone else has provided the funds), the discount can be applied. For this reason we limit the use the of the discount card to remittances sent to the migrant's pre-identified primary remittance recipient, therefore making it difficult for others to benefit unless they also wish to send a remittance to the participating migrant's primary recipient.[8] A related issue is that funds could be sent to the PRR either by the participating migrant or by others through the migrant to the PRR with the intention that the PRR would then distribute them to their intended recipients. This would also tend to overstate the impact of the discount. To address this possibility we can examine changes in the number of different recipients the migrant sends to. Additionally, we ask a set of questions in the follow up survey specifically designed to understand whether or not this behavior is occurring.

A final issue that may affect our estimates is that migrants may choose to shift their remittance behavior across time. In other words, they may send several remittances during the discount period to take advantage of the lower price, substituting remittances that they would have sent after the discount period has ended. Again, this would tend to overstate the impact of the remittance discounts. However, because we have access to Viamericas transaction data for the twelve months after the discounts have ended, we are able to explicitly test for this inter-temporal substitution.

3. Sample and balance tests:

As described in the previous section, study participants are migrants from Guatemala or El Salvador who have sent remittances through our partner organization (Viamericas Corporation) at

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[8] Stores were not reimbursed for discounts given to recipients other than those identified as the PRR, therefore giving them a strong incentive to comply with this restriction.

one of their participating agent locations in the suburbs of Washington, DC. The principal analyses in this paper will be performed on migrants who were interviewed at baseline using the administrative transaction data collected by our partner organization. We were able to match 941 of the 946 surveyed migrants to the Viamericas transaction data. Because we were able to match over 99% of the surveyed migrants, the matched sample will form our main analysis sample. Figure 1 shows how they are broken down in the different treatments. In order to maximize sample size, we do not make use of either of the two baseline surveys conducted by phone immediately following the initial recruitment. These surveys primarily collected data for a separate research project. We do however conduct some analyses using the endline survey conducted by phone approximately 10 weeks after the initial baseline survey. There are 665 migrants in the endline sample which is a completion rate of 71%. The endline survey contains information about the migrant's remittance behavior during the discount period and primarily allows us to check for remittances sent through other remittance companies.

Baseline summary statistics for the full sample are presented in Table 1. Data comes both from the baseline survey and from the Viamericas transaction data for the 12 months prior to enrollment in the study. 28% of migrants are female and their average age is 34. 76% of the sample is from Guatemala and the migrants have been in the United States for an average of 9 years. 77% of the named primary remittance recipients are female and these recipients are migrants' parents (38%), spouses (24%), siblings (15%), and children (7%). The migrants in this sample are heavy remitters, reporting that they remit, on average, 35% of their income to 1.7 households in their home country. Data on remittance amounts is available from both the self-reported survey data and the administrative data. The self-reported remittance amounts are somewhat higher than the administrative amounts. Although this may be partly due to the self-reported data including

remittances from other channels, migrants were screened into the sample on the basis of being Viamericas customers and report sending very few remittances through other channels. Migrants report sending, on average, approximately 19 remittances through Viamericas in the year before the survey and only one through other agencies. The discrepancies are more likely due to measurement error in the self-reporting of remittances.[9,10] According to the transaction data, migrants sent, on average, $5,188 in remittances the year before the survey. $3,125 went to the identified PRR and $2,064 went to other recipients.[11]

Because this is a randomized experiment it is important to verify that the randomization was successful in producing groups with similar characteristics. This ensures that treatment effects are indeed an impact of the treatments and not due to underlying differences between the groups. Table 2 shows means of variables by treatment group in both the baseline survey data and the transaction data and p-values for F-tests of whether the means in each treatment group are equal to the control group and whether all four groups are jointly equal to each other. Across variables the sample is very well balanced with only very few significant differences and no more differences than would be expected by chance.

4. Results:

A. Estimation:

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[9] An additional possibility is that migrants report remittances that may have been sent under a different name, for example through their spouse. While migrants consider those remittances in the total amount they report, the transaction data would miss those transactions.

[10] Discrepancies between self-reported remittance data and administrative data have been previously documented by Akee and Kapur (2012) and Aycinena, Martinez and Yang (2010).

[11] There is also a discrepancy between the transaction data and the self-reported data in the percentage of remittances going to the primary recipient, with the self-reported data having a much higher percentage. This is possibly due to the fact that migrants may send remittances to different individual recipients in the same household for a variety of reasons (for example, who is available to pick the money up). Migrants may consider these funds as all going to the primary recipient, but the transaction data will register the remittances as being sent different people.

Because this is a randomized experiment, treatment effects can be causally identified using a simple estimation strategy. As a reminder from the previous section, the four different groups are referred to as follows:

- T1: Pure control group

- T2: Education information only

- T3: Price discounts only

- T4: Price discounts and information

The main results in this paper are estimated using the following equation:

$$outcome_{ij} = \beta_0 + \beta_1 T4_{ij} + \beta_2 T3_{ij} + \beta_3 T2_{ij} + \delta_j + \varepsilon_{ij} \qquad (1)$$

where i indexes each individual migrant and j indexes each stratification cell of 32 surveys. The outcomes consist of a number of different variables relating to use of remittance discounts, number of remittances sent, and total amounts of remittances. $T4_{ij}$, $T3_{ij}$, and $T2_{ij}$ are indicator variables for each of the treatment groups and the corresponding coefficient is therefore the difference in the outcome variable between that treatment group and the omitted control group (T1). These are the intent-to-treat effects of each treatment relative to the control group. δ_j are stratification cell fixed effects for each group of 32 surveys, and each regression includes 35 stratification cells. ε_{ij} is the error term, and is adjusted for heteroskedasticity.

B. Results using transaction data

We now present the results of estimating equation 1 using the Viamericas transaction data. Because the discount period lasted for 10 weeks for most outcomes we present the results in five different 10 week periods: the 10 week discount period (the 10 weeks following recruitment into the study), and the periods 1 to 10, 11 to 20, 21 to 30, and 31 to 40 weeks after the discount

expired.[12] For those migrants who received an offer of a price discount (groups T3 and T4) these time periods correspond to the 10 weeks they were eligible to use their discount card and the 10 week periods following the expiration of that discount.

When considering the impact of the price discount on behavior, it is first important to verify that migrants actually made use of the discount, because if they did not, we should not expect the discount to have a large impact on behavior. It is also important to verify that the discount program was applied in accordance to project rules. Table 3 presents these results. Panel 1 presents results for transactions to all recipients, panel 2 for only those transactions sent to the PRR, and panel 3 for transactions sent to other recipients. Each panel also provides p-values for the equality of the different treatment effects to each other and a test for whether T4 and T3 (the two groups that receive price discounts) are jointly equal to zero.

Columns 1 through 3 of Table 3 examine use of the discount during the 10 week discount period. Column 1 looks at the impact of the treatment on the mean discount used (only for those who sent a remittance), column 2 at the impact on the total discount amount over the 10 weeks, and column 3 on the number of times the discount was used. The discount variables are expressed as negative numbers, so the project discount would show up in the transaction data as -3.01. Therefore we would expect the treatment effects in columns 1 and 2 (mean and total discount amounts) to be negative.

The results show that the discount card worked largely as intended. Migrants in both T3 and T4 are much more likely to have utilized the discounts than migrants in the control group or in T2, who should not have had access to the discount cards. Additionally, the coefficients in panel 2 for transactions sent to the PRR are much larger than those in panel 3 for transactions sent to

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[12] 31 to 40 weeks is currently the latest 10 week period for which we have data for all participants.

other recipients. Recall that the discount card was valid only for remittances sent to the PRR. These results show that while it appears there was some slippage (use to other recipients is not zero), overall the discounts were applied as intended.

Migrants in T3 and T4 use the discount at a similar rate, using an average of about 1.5 discounts and saving approximately $4.50 over the course of the discount period. Although migrants do make use of the discounts, it does not appear that they used the discount in every possible transaction. The mean discount in transactions to the PRR among those migrants who remitted to their PRR during the discount period (column 1) is approximately $1.50 in both T3 and T4. Because the discount was $3.01, this indicates that not all migrants utilized their discount cards.

Columns 4 through 6 of Table 3 present the same analyses for the first 10 week period after the discount expired. Because the discount was no longer valid during this period, we should not see an impact of the treatment on discount use if the project was implemented as intended. Indeed, the results show that few discounts were applied after the discount period and those that were applied were not applied differentially by treatment group.

Now that we have verified that migrants do indeed make use of the discount cards, we can turn to the central question of this paper: whether or not this price reduction had an impact on remittance behavior. Because the discount lowers the price of each transaction, the logical first step is to analyze whether or not this discount affected the number of transactions sent by the migrant. Table 4 presents these results. All transactions are in panel 1, transactions to the PRR are in panel 2, and transactions to other recipients are in panel 3. Columns 1 through 5 show the results for number of transactions sent during the discount period and in each of the subsequent four 10 week periods respectively. Overall, it appears that the discount did motivate migrants to send more

transactions during the discount period. Migrants in the discount only group (T3) sent about 0.56 more remittances than migrants in the control group, a 16% increase. The coefficient on the discount plus information group is also positive, but smaller in magnitude and not statistically significant. Panel 2 shows that this increase in number of transactions is attributable to an increase in transactions to the PRR. Migrants in both T3 and T4 make statistically significantly more transactions to the PRR than do migrants in the control group. Migrants in T4 send 0.41 more transactions, a 22% increase, and migrants in T3 send 0.69 more transactions, a 36% increase.

The stronger impacts on transactions to the PRR than for overall transactions suggests that there may be some switching away from other recipients to the PRR because only the PRR is eligible for the discount.[13] In panel 3, the coefficients on transactions to other recipients are negative for both T3 and T4, but they are small compared to the effects for the PRR and not statistically significant. Overall, although there may be some amount of switching, it does not outweigh an overall increase in transactions caused by the discount offer. Additionally, there is no impact of the information treatment (T2) on any of these outcomes.

Columns 2 through 5 examine the impact of the discount in four ten-week periods after the expiration of the discount. Examining the time period after the expiration of the discount allows us to verify that the documented increase in transactions is a true increase and not just evidence of inter-temporal substitution by the migrants in order to take advantage of discount. If there is indeed inter-temporal substitution occurring, we would expect to see negative impacts of the treatments in the weeks following the expiration of the discounts. Conversely, discount use may have also led to sustained increases in transactions after the period expired and this analysis will also allow us determine whether or not that has occurred.

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[13] One would especially expect to see switching behavior if migrants sometimes send to different members of the same household, however it is not possible to group recipients by household in the transaction data.

There is no evidence that total transactions fell after the discount period ended (panel 1). In fact, transactions continue to be higher in T3 relative to the control group in the first ten-week after period. Migrants in T3 send 0.5 more transactions in the first ten weeks after the discounts expire, an effect that is significant at the 10% level. The coefficient in the second ten weeks after the discount is also positive, but smaller and no longer statistically significant. The effect has faded completely by the third and fourth post periods. The discount only treatment appears to have led to increases in transactions that persisted well past the expiration of the discount. Interestingly, in the after periods there is no evidence of switching between recipients (panels 2 and 3).

A visual representation of the results for total transactions over time is presented in Figure 2. Panel 2a shows total transactions in 2 week bins relative to the treatment period for all recipients, panel 2b for transactions to the PRR, and panel 2c for transactions to other recipients. These figures contain data for the 10 weeks before the treatment period, the 10 weeks of the discount period, and the 40 weeks after. For ease of visualization, the figures show the transaction averages only for the control group (T1) and the discount only treatment group (T3). There is a spike in the last two-week period before the treatment period because since all recipients were recruited after sending a remittance, all recipients sent a remittance during that period.

In all three panels, the treatment and control groups follow the same trend in the pre-treatment period. During the discount period, the T3 line is well above the T1 line in both panels 2a and 2b. This trend continues after the discount period has ended and fades away by about 16 weeks following the expiration of the discount. Consistent with the regression results, Panel 2c shows that there is perhaps a slight decrease in transactions to other recipients during the discount period, but both before and after there is little difference between the control group and T3.

The results thus far indicate that the discount treatment caused migrants to send more remittance transactions both to their PRR and overall. The next question of interest is then whether or not this increase in transactions resulted in an overall increase in the amount of funds remitted by the migrant, or whether the migrants simply took advantage of the discount to send more transactions in smaller amounts. To answer this question we can examine the impacts of the discount both on mean transaction size and total remittances sent. Table 5 presents the results for mean transaction size for all recipients in panel 1, the PRR in panel 2, and all others in panel 3. Column 1 presents the results for the discount period and columns 2 through 5 for the four after periods. Because the dependent variable for these regressions is mean transaction amount, the sample for each regression is those migrants who sent a remittance to the indicated recipient during each period. Given that treatment influences whether or not a migrant sent a remittance at all (and therefore inclusion in this sample), the results for mean transaction amount should be interpreted with caution.

Overall there is very little evidence that the discount resulted in a change in the mean transaction amount. The coefficients for T3 in all three panels during the discount period are negative, but the standard errors are very large. Additionally, there is no consistent pattern in coefficients across time periods. Despite increases in the number of transactions in first ten week period following the discount, the coefficients in column 2 of Table 5 are either positive or close to zero. However, again these results are not statistically significant.

An analysis of total amount sent by the migrant avoids issues of sample selection. Table 6 examines this question by looking at total remittances in the Viamericas transaction data sent by the migrant to all recipients, the PRR, and other recipients. Again we look at transactions made during the discount period and in the four ten-week periods after the discount expired. Because the

total remittance variable has a number of very high outliers, we focus on the inverse hyperbolic sine transformation of total remittances, a specification very similar to log transformation that reduces the influence of outliers but which is not undefined at zero.[16]

The results for remittances sent to all recipients, the PRR, and other recipients are in panels 1, 2, and 3 respectively. The coefficient in panel 1 on the discount only treatment for remittances to all recipients is positive and statistically significant at the 10% level, suggesting that, at least in T3, the discount treatment is causing migrants to send home more in total remittances. The coefficients on remittances to the PRR are positive and those to others are negative, but neither are statistically significant. The negative coefficients on the remittances to others is again suggestive of some degree of switching between recipients, but not enough to counteract an overall increase in remittances sent during the discount period.

Next, in columns 2 through 5 we examine whether this increase in remittances persists after the discount period has ended, as it did for the number of transactions. The results show that the increased remittance levels do persist after the discount period has ended for those migrants in the discount only group. There is an increase in overall remittances in both of the first two post periods, statistically significant at the 10% level, but this effect fades away and is no longer detectable in the third and fourth post discount periods. Mirroring the results for number of transactions in Table 4, there no evidence of switching between recipients in the first two after periods. The effect is concentrated among the PRRs (panel 2) but the coefficients on the discount only treatment for other recipients (panel 3) are actually positive (though not statistically significant).

Across time periods for overall remittances and remittances to the PRR in Table 6, the coefficients for T4 (discount and information) are generally positive but not statistically

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[16] The inverse hyperbolic sine transformation is defined as $\log(y_i+(y_i^2+1)^{1/2})$,

significant, while the coefficients for other recipients are negative. These results are somewhat suggestive that the discount and information treatment increased remittances, but the effect is small relative to the discount only treatment. At the same time, while the coefficients for the information only treatment group (T2) are mostly positive, they are never statistically significant. For remittances to the PRR in particular, the estimates are very close to zero. Therefore it does not seem that the education information actually encouraged migrants to send more home. Given this, the relative lack of impact for the discount and information (T4) treatment is somewhat puzzling. One possibility is that combining the discount with the information about education caused migrants to think more carefully about how their remittances would be used, and this mental effect dampened the effect of the discount enough such that we are unable to detect an effect in T4.

Figures 3a – 3e display the main results from Table 6 graphically. Each panel shows the cumulative distribution of the inverse hyperbolic sine of total remittances to all recipients in one of the five ten-week time periods. The distributions are plotted by treatment, showing only the control and the discount only group for presentational simplicity. In Figures 3a (during the discount), 3b (1 – 10 weeks after), and 3c (11 – 20 weeks after) the discount group distribution is clearly below the control group. In Figure 3a, the differences are concentrated at the left side of the distribution, while in Figures 3b and 3c there are strong differences between the groups across the distribution. No clear differences are evidence in Figures 3d (21 – 30 weeks after) and 3e (31 – 40 weeks after).

Table 7 presents the same results as Table 6, but the dependent variable is remittances in dollars, truncated at the 95th percentile of the distribution. Given the nature of the distribution of the remittance variable, our preferred specification is the inverse hyperbolic sine transformation (Table 6) but we show these results for completeness. During the discount period, T3 results in

large increases in remittances to the PRR and decreases for other recipients. The combined effect is positive, but small and not statistically significant. In the first two post discount periods there are similarly large (and statistically significant) increases in remittances to the PRR, but no corresponding decrease to other recipients. The overall coefficients in panel 1 are therefore large and positive, though they are not statistically significant. Again, the impact of T3 tapers off through the third and fourth post discount periods. Except for the overall impact during the discount period, these dollar results match the pattern of the results in Table 6, although they are less precise.

Overall, the results from the transaction data show that the discount treatments increased the number of transactions sent by migrants, and additionally increased the total amount sent. These results mirror those in Aycinena, Martinez, and Yang (2010) who find that total remittances increase by much more than the amount of the discount that was offered. Going beyond the results in Aycinena, Martinez, and Yang (2010), we additionally find that the effects of the discounts continue to persist beyond the 10 week discount. Remittances remain higher in the discount groups for 20 weeks after recipients are no longer eligible to receive discounts.

C. Results using endline survey data

The benefit of working with Viamericas transaction data is that we have access to rich and accurate data on transactions that is not prone to the same type of measurement error as is remittance data collected in surveys. However, the major limitation of the transaction data is that it only contains records of transactions sent through Viamericas, and migrants have access to a wide range of companies, sometimes located in the same physical location, through which they can send remittances. A major concern for the validity of our results would then be that migrants in the discount groups may simply be choosing to send remittances through Viamericas because of the discount that they would have otherwise sent through another company. Because migrants

in the control group have no such motivation, this behavior could account for the treatment effects that we see.

The most important way in which we address this problem is that we require all migrants to be customers of Viamericas at baseline. Because migrants tend to use the same remittance company as much as possible,[17] we can expect that most of the migrants would have used Viamericas even in the absence of the discount. Baseline survey reports confirm that most participants are loyal Viamericas customers. Migrants report sending, on average, approximately 19 remittances through Viamericas in the year before the survey and only one through other companies. However, we can also use endline survey data, collected right after the discounts expired, to examine whether migrants report using different remittance channels.

71% of migrants in the full sample were successfully surveyed at endline. Before examining the results, it is important to examine whether or not completion of that survey was related to treatment. Table 8 presents the impact of the treatments on attrition in column 1. Unfortunately, the endline sample suffers from a significant amount of attrition that is differential by treatment group, with migrants in both T3 and T4 being significantly less likely to complete the endline survey than migrants in the control group. The effects are large: 12 percentage points for T4 and 9 percentage points for T3. Given this level of differential attrition, we consider the results from the transaction data to be our main results, and will present results from the endline survey only to provide some evidence on the question of whether or not migrants are switching between companies. However, in Appendix Table A1 we replicate Table 6 in the sample that completed the endline survey using the transaction data. Although the magnitudes vary and

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[17] Both sender and recipient information are saved in the agent computer, making subsequent transactions easier. Different companies also may have different payout points for the cash pickup. Trust is also an important component for migrants sending large amounts of money.

precision suffers due to the reduced sample, the pattern of results is very similar, suggesting that the bias in the results from the differential attrition may be minimal. In Appendix Table A2 we additionally show that the endline sample is balanced on baseline characteristics despite the differential attrition. Furthermore, Table 8 also examines whether attrition is correlated with baseline values of the key outcome variables, namely number of transactions and amount remitted. Columns 2 and 3 of Table 8 show these correlations for the 365 days prior to recruitment and the 10 weeks prior to recruitment respectively using the transaction data. There is no evidence that attrition is related to baseline remittances, and additionally there is no evidence that attrition is related to a set of baseline characteristics collected during the baseline survey (results not shown).

Table 9 presents the results for remittance amounts from the endline survey data. Panel 1 shows results for the inverse hyperbolic sine transformation and panel 2 shows results in dollars. The survey data allows us to analyze remittances sent to the PRR and other recipients through Viamericas and through other channels. On the endline survey migrants were asked to list every remittance they sent during the 10 week discount period and the company that they used to send it. Overall the results from the endline survey are strong, and even more indicative of an increase in remittances than the transaction data. However, because of the attrition to the endline survey, we do not want to focus on these results, instead only using this data to look for evidence of switching between remittance companies. Columns 7, 8, and 9 report results for remittances sent through other channels. There is no evidence using either the inverse hyperbolic sine transformation or the remittance amount in dollars that there is a decrease in remittances sent through other channels in the two discount treatment groups. The coefficients for both T3 and T4 are small for all specifications and are never statistically significant.

The endline survey also contained a number of questions that were intended to measure whether or not any impacts of the discount treatments were true changes in remittances. Table 10 presents the results of analyzing the answers to those questions. One concern is that because the discount was only valid for the PRR migrants might send remittances to the PRR for the PRR to distribute to others. We have already seen in the transaction data that while there may be some switching from other recipients to the PRR, it does not account for the entire increase in remittances. Two questions on the survey examine this specifically, asking the migrant whether they have asked the PRR to distribute remittances within their household (column 1) or outside of their household (column 2). There is no evidence that migrants in the discount treatments were more likely to do this than migrants in the control group.

A related concern is that others in the United States may ask the migrant to send remittances to the PRR either for the PRR themselves or for the PRR to distribute to others in order to take advantage of the discount. A series of questions examines this issue. Specifically we ask whether someone in the migrant's household has sent a remittance to the PRR (column 3), whether someone outside of the household has sent a remittance to the PRR (column 4), whether the migrant has sent remittances to others to be given to the PRR (column 5), whether anyone has given the migrant money to send to the PRR (column 6), and whether anyone has given the migrant money to send to the PRR so that they will distribute it to other people (column 7). Overall, these questions do not provide much evidence that people are sending remittances through the migrant to take advantage of the discount. There are only two significant coefficients for the discount only group (T3) and one of those (column 4) suggests that more people have actually sent remittances to the PRR. If people were asking the migrant to send remittances for them, that coefficient should be negative for the discount group. The significant coefficients in columns 3 is potentially indicative

of a problem, but it is only significant at the 10% level. Overall, there are very few positive responses to the questions in columns 3 through 7 so it seems unlikely that any issue they represent could be driving the increase in remittances.

5. Conclusion:

This study examines the impact of short-term discounts for remittance fees on remittance behavior. Migrants from Guatemala and El Salvador who were existing customers of our partner organization were randomly chosen to receive $3.01 off remittance fees that were around $8 for remittances up to $1,000. The treatment had large impacts on remittances, increasing both the number of transactions and the total amount sent. The treatment effect persists for 20 weeks after the discount expires before fading out.

The results are consistent with the large impacts of remittance prices on remittances found by Aycinena, Martinez, and Yang (2010) while improving on the experimental design to convincingly show that there is a causal link between reductions in remittance fees and increases in remittances. Additionally, this study makes use of data from the post treatment period to show persistence in the impact of the discount. Our results are best explained by a model of behavior in which migrants increase remittances during the discount period without accounting for the recipient's reference dependent preferences and status quo bias. In order to return to pre-discount remittance levels, the migrant must gradually reduce remittances over a period of time. Based on these results, policy prescriptions that call for reductions and subsidies of remittance fees may be successful in having large impacts on remittances even if they are only available for short periods of time.

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Figure 1: Treatments

	No education information	*Education information*	
No discount	N = 232	N = 230	N = 462
Discount	N = 247	N = 232	N = 479
	N = 479	N = 462	

Figure 2a: Total transactions in 2 week bins relative to treatment period – All recipients
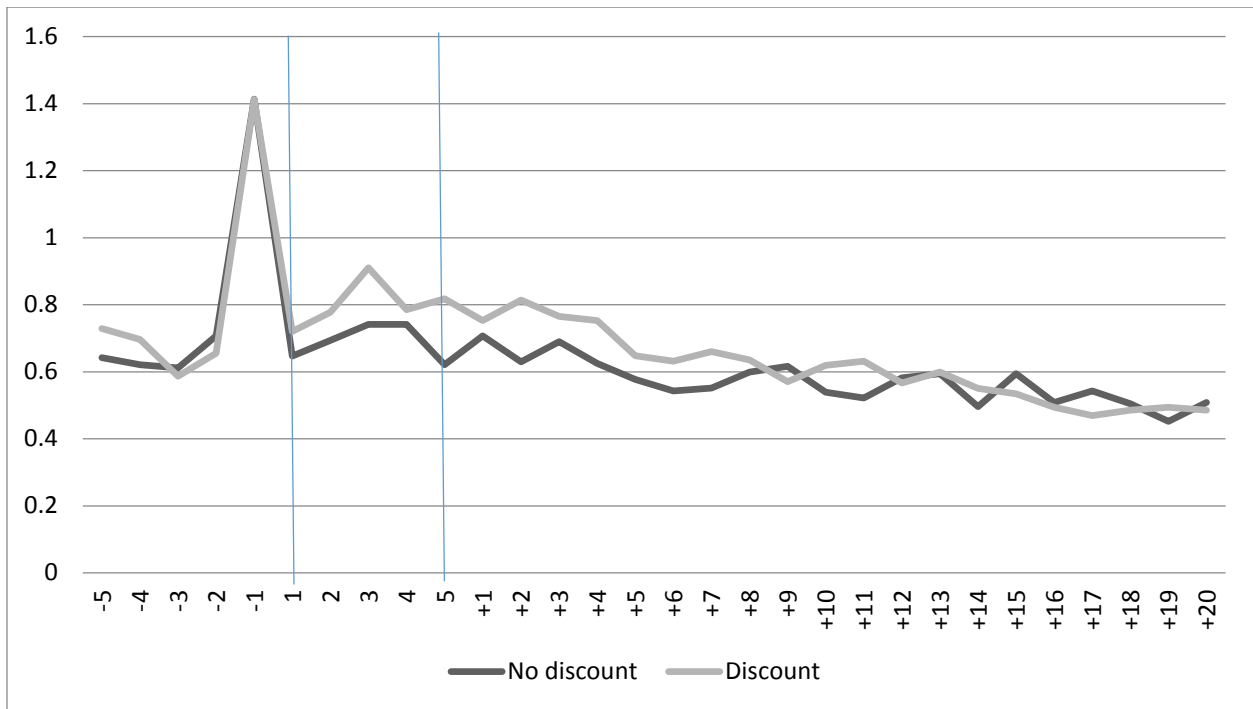
Figure 2b: Total transactions in 2 week bins relative to treatment period – PRR only
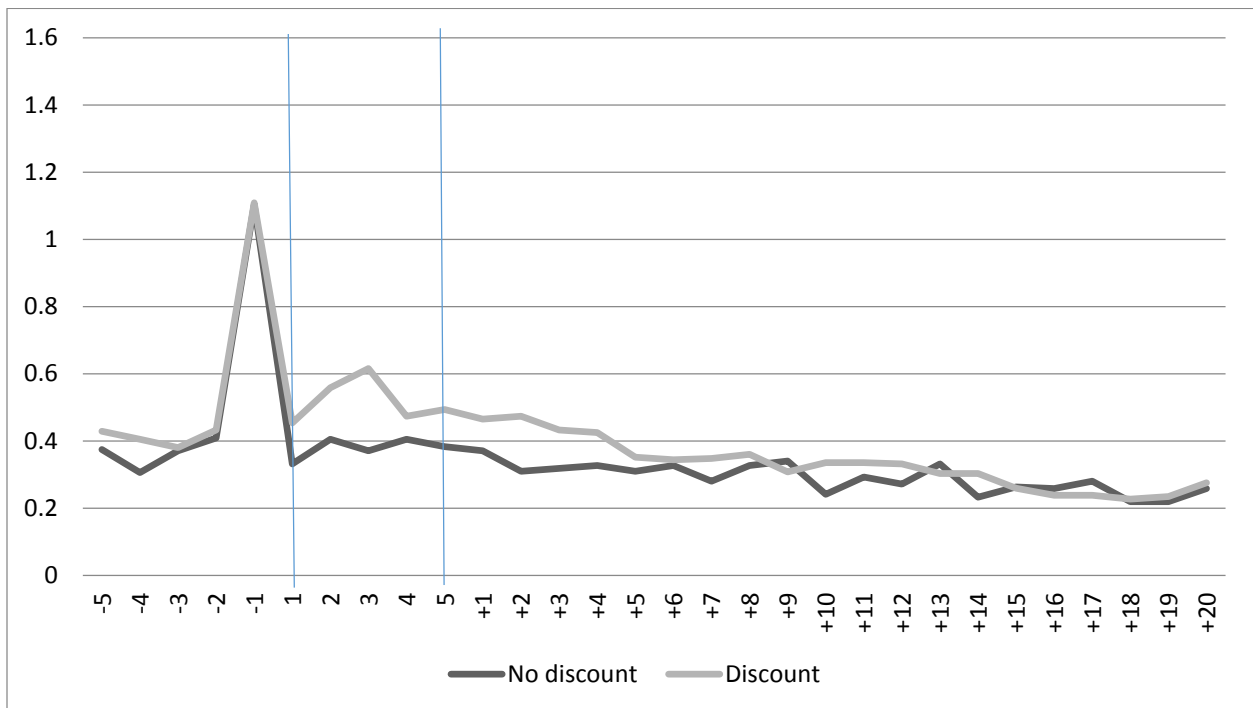
Figure 2c: Total transactions in 2 week bins relative to treatment period – Other recipients
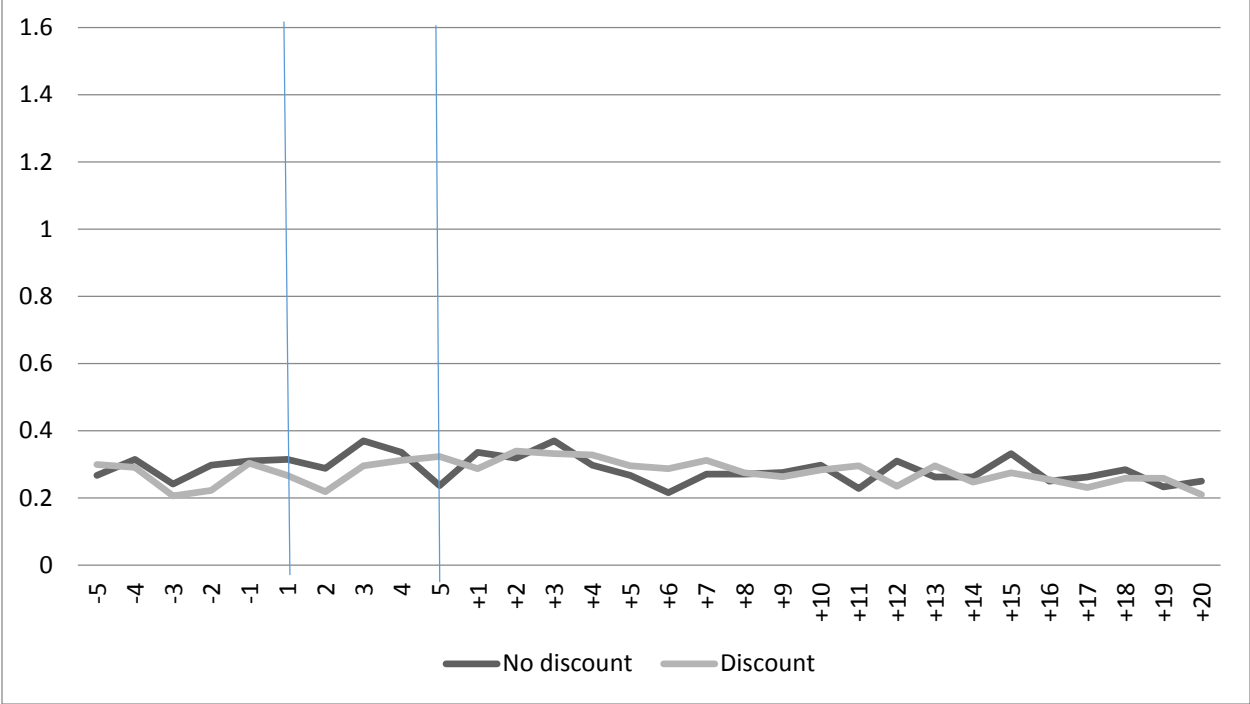
Figure 3a: CDF of inverse hyperbolic sine of total remittances sent: During discount period
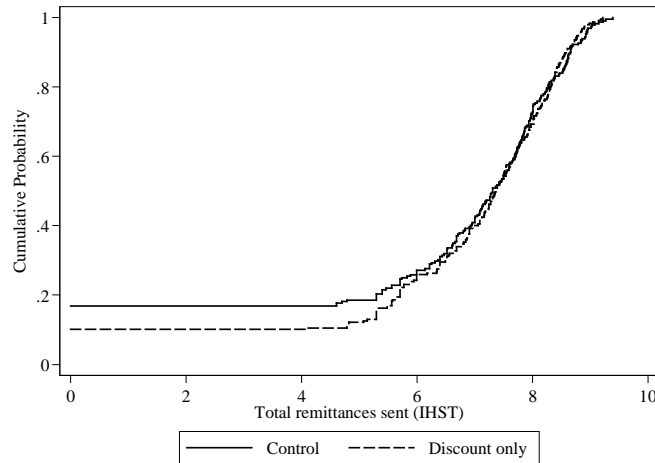
Figure 3b: CDF of inverse hyperbolic sine of total remittances sent: 1 – 10 weeks after discount period
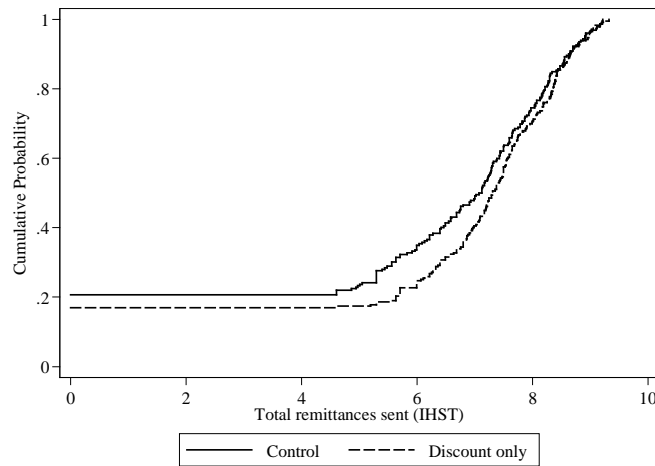
Figure 3c: CDF of inverse hyperbolic sine of total remittances sent: 11 – 20 weeks after discount period
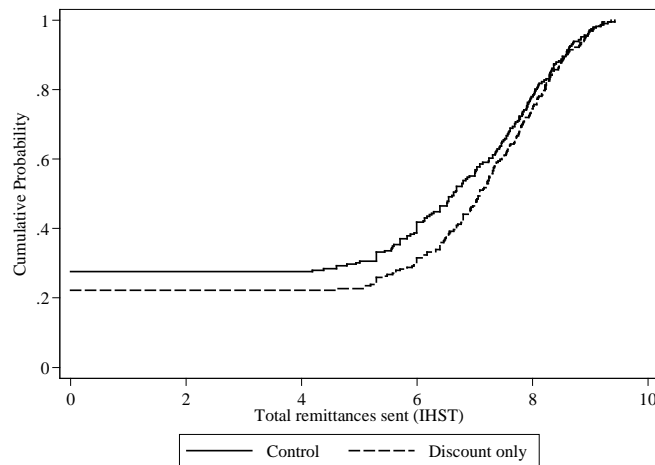
Figure 3d: CDF of inverse hyperbolic sine of total remittances sent: 21 – 30 weeks after discount period
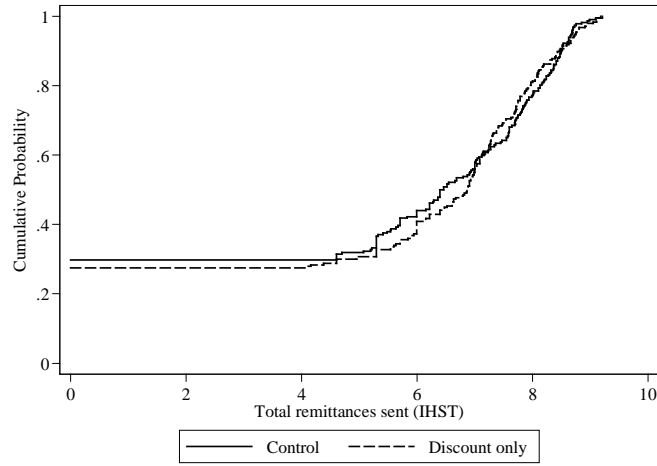
Figure 3e: CDF of inverse hyperbolic sine of total remittances sent: 31 – 40 weeks after discount period
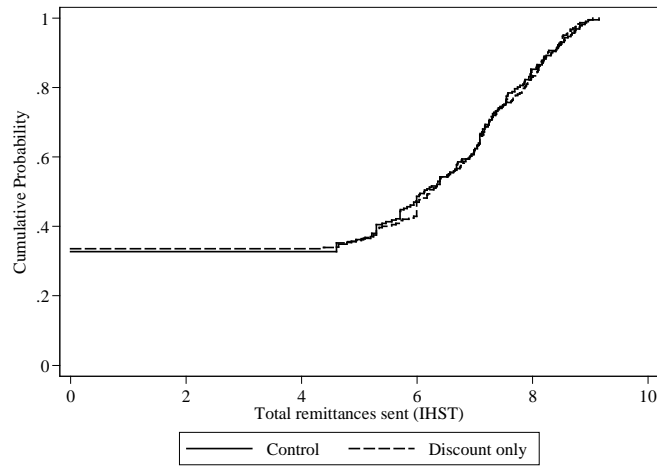
Table 1: Baseline summary statistics

Variable	Mean	Std. Dev.	Min	10th pct.	Median	90th pct.	Max	N
Migrant is female	0.28	0.45	0	0	0	1	1	941
Migrant age	33.9	10.0	14.2	22.0	32.5	47.4	77.7	908
Migrant is from Guatemala	0.76	0.42	0	0	1	1	1	923
Migrant years in US	9.0	5.6	0	2	8	16	33	925
Migrant is married	0.57	0.49	0	0	1	1	1	941
Migrant's spouse lives in the US	0.51	0.50	0	0	1	1	1	519
Migrant number of children	2.0	1.9	0	0	2	4	16	941
PRR is female	0.77	0.42	0	0	1	1	1	939
Migrant remittances as percent of income	35.1	17.6	0	10	30	50	80	855
Migrant annual remittance to PRR ($) (survey reported)	6,023	5,611	150	1,340	4,500	12,100	52,000	934
Mirgrant annual remittance to other hhs ($) (survey reported)	965	2,109	0	0	0	2,988	30,800	920
Migrant number of recipient households	1.7	0.9	1	1	1	3	7	913
Number of transactions to PRR: Viamericas	17.4	11.0	0	7	12	24	96	932
Number of transactions to PRR: Other channels	0.8	2.6	0	0	0	4	30	932
Number of transactions to other recipients: Viamericas	2.0	5.4	0	0	0	8	58	629
Number of transactions to other recipients: Other channels	0.2	1.2	0	0	0	0	12	630
Migrant's highest level of education is...								
…none	0.33	0.47	0	0	0	1	1	941
…primary	0.25	0.43	0	0	0	1	1	941
…secondary	0.08	0.27	0	0	0	0	1	941
…university	0.02	0.15	0	0	0	0	1	941
Primary recipient is migrant's...								
...parent	0.38	0.49	0	0	0	1	1	941
...spouse	0.24	0.43	0	0	0	1	1	941
...sibling	0.15	0.36	0	0	0	1	1	941
...child	0.07	0.25	0	0	0	0	1	941
Transaction data - previous 365 days								
All - total transactions	16.9	14.8	0	3	13	36	115	941
All - total amount ($)	5,188	4,671	0	510	3,695	12,139	25,700	941
All - mean transaction amount ($)	354	314	13	113	266	680	2,980	937
PRR - total transactions	9.5	9.7	0	1	6	22	77	941
PRR - total amount ($)	3,125	3,789	0	200	1,629	8,300	25,700	941
PRR - mean transaction amount ($)	362	383	13	96	241	703	3,000	930
Others - total transactions	7.4	10.1	0	0	4	19	66	941
Others - total amount ($)	2,064	2,971	0	0	775	5,873	21,845	941
Others - mean transaction amount ($)	333	377	35	80	200	752	2,950	749

Notes: Sample is full sample of migrants recuited at baseline. Data comes from baseline survey and Viamericas transaction data. Sample varies slightly with missing values.

Table 2: Baseline balance

	Means				P-values				
	T1: Control	T2: Information	T3: Discounts	T4: Info & Discounts	T1=T2= T3=T4	T1=T2	T1=T3	T1=T4	N
Migrant is female	0.25	0.31	0.28	0.28	0.568	0.161	0.610	0.536	941
Migrant age	33.2	33.8	33.7	34.8	0.358	0.517	0.568	0.079	908
Migrant is from Guatemala	0.74	0.80	0.75	0.76	0.434	0.122	0.780	0.561	923
Migrant years in US	8.9	8.4	9.0	9.6	0.177	0.300	0.837	0.238	925
Migrant is married	0.50	0.56	0.62	0.62	0.024	0.156	0.008	0.009	941
Migrant's spouse lives in the US	0.51	0.52	0.50	0.51	0.976	0.822	0.843	0.933	519
Migrant number of children	1.8	2.0	2.1	2.0	0.442	0.247	0.123	0.237	941
PRR is female	0.76	0.76	0.78	0.78	0.926	0.866	0.538	0.641	939
Migrant remittances as percent of income	33.5	35.4	34.9	36.5	0.368	0.265	0.408	0.081	855
Migrant annual remittance to PRR ($) (survey reported)	5,846	6,092	5,922	6,244	0.874	0.639	0.883	0.448	934
Mirgrant annual remittance to other hhs ($) (survey reported)	917	894	1,214	819	0.185	0.907	0.126	0.618	920
Migrant number of recipient households	1.6	1.6	1.8	1.7	0.109	0.598	0.021	0.175	913
Number of transactions to PRR: Viamericas	17.7	16.9	17.3	17.5	0.886	0.449	0.659	0.849	932
Number of transactions to PRR: Other channels	0.9	1.0	0.6	0.9	0.544	0.760	0.286	0.902	932
Number of transactions to other recipients: Viamericas	1.4	2.3	2.6	1.6	0.157	0.148	0.042	0.675	629
Number of transactions to other recipients: Other channels	0.2	0.2	0.2	0.3	0.816	0.760	0.983	0.395	630
Migrant's highest level of education is...									
…none	0.31	0.35	0.35	0.29	0.338	0.290	0.281	0.692	941
…primary	0.26	0.26	0.21	0.25	0.609	0.873	0.220	0.747	941
…secondary	0.06	0.09	0.08	0.09	0.685	0.289	0.403	0.302	941
…university	0.03	0.02	0.02	0.03	0.968	0.770	0.685	1.000	941
Primary recipient is migrant's...									
...parent	0.42	0.38	0.34	0.39	0.409	0.379	0.097	0.567	941
...spouse	0.22	0.19	0.26	0.27	0.174	0.407	0.316	0.275	941
...sibling	0.14	0.15	0.16	0.15	0.903	0.669	0.463	0.795	941
...child	0.06	0.08	0.08	0.04	0.314	0.438	0.363	0.454	941
Transaction data - previous 365 days									
All - total transactions	16.5	18.1	16.9	15.8	0.405	0.235	0.734	0.641	941
All - total amount ($)	5,205	5,566	5,171	4,816	0.394	0.406	0.936	0.369	941
All - mean transaction amount ($)	359	369	340	351	0.780	0.745	0.504	0.765	937
PRR - total transactions	9.4	9.4	10.0	9.0	0.730	0.951	0.457	0.717	941
PRR - total amount ($)	3,029	3,064	3,329	3,064	0.806	0.922	0.388	0.921	941
PRR - mean transaction amount ($)	344	371	351	382	0.692	0.461	0.856	0.290	930
Others - total transactions	7.1	8.7	6.9	6.8	0.144	0.091	0.826	0.736	941
Others - total amount ($)	2,176	2,503	1,842	1,752	0.026	0.236	0.218	0.123	941
Others - mean transaction amount ($)	362	334	324	312	0.634	0.480	0.327	0.214	749

Notes: Sample is full sample of migrants recuited at baseline. Data comes from baseline survey and Viamericas transaction data. Sample varies slightly with missing values. P-values come from regressions of each baseline variable on the treatment variables, including stratification cell fixed effects for survey group.

Table 3: Impact of treatments on discount use

	(1)	(2)	(3)	(4)	(5)	(6)
	Remittances sent during 10 week discount period			*Remittances sent 1 - 10 weeks after discount period*		
	Mean discount	Total discount	Number of discounts used	Mean discount	Total discount	Number of discounts used
Panel 1: All recipients						
T4: Discount + information	-0.975***	-4.214***	1.401***	0.0148	0.0291	-0.00964
	[0.0840]	[0.439]	[0.146]	[0.0170]	[0.0634]	[0.0211]
T3: Discount only	-1.003***	-4.497***	1.496***	0.0166	0.0294	-0.00978
	[0.0827]	[0.451]	[0.150]	[0.0163]	[0.0664]	[0.0221]
T2: Information only	0.0154	-0.0692	0.0231	0.000177	0.0153	-0.00508
	[0.0372]	[0.193]	[0.0642]	[0.0233]	[0.0771]	[0.0256]
P-values for tests of coefficients						
T4 & T3 jointly equal to zero	0.000	0.000	0.000	0.590	0.887	0.887
T4 = T3	0.798	0.640	0.635	0.800	0.995	0.994
T4 = T2	0.000	0.000	0.000	0.423	0.831	0.832
T2 = T3	0.000	0.000	0.000	0.353	0.836	0.836
Observations	814	941	941	753	941	941
R-squared	0.29	0.205	0.205	0.033	0.033	0.033
Control group mean	-0.05	-0.19	0.06	-0.02	-0.08	0.03
Panel 2: All transactions to PRR						
T4: Discount + information	-1.414***	-3.876***	1.288***	0.00756	0.00301	-0.00100
	[0.109]	[0.418]	[0.139]	[0.0206]	[0.0494]	[0.0164]
T3: Discount only	-1.499***	-4.218***	1.402***	0.00788	-0.00969	0.00322
	[0.106]	[0.447]	[0.149]	[0.0200]	[0.0545]	[0.0181]
T2: Information only	0.0184	-0.0576	0.0191	0.00278	-0.0118	0.00393
	[0.0562]	[0.187]	[0.0621]	[0.0227]	[0.0655]	[0.0218]
P-values for tests of coefficients						
T4 & T3 jointly equal to zero	0.000	0.000	0.000	0.922	0.966	0.966
T4 = T3	0.537	0.560	0.560	0.980	0.797	0.797
T4 = T2	0.000	0.000	0.000	0.804	0.810	0.810
T2 = T3	0.000	0.000	0.000	0.775	0.974	0.974
Observations	660	941	941	577	941	941
R-squared	0.399	0.192	0.192	0.036	0.027	0.027
Control group mean	-0.08	-0.19	0.06	-0.02	-0.04	0.01
Panel 3: All transactions to other recipients						
T4: Discount + information	-0.139***	-0.338**	0.113**	0.00716	0.0261	-0.00864
	[0.0474]	[0.155]	[0.0514]	[0.0148]	[0.0410]	[0.0136]
T3: Discount only	-0.204***	-0.279***	0.0941***	0.0129	0.0391	-0.0130
	[0.0544]	[0.0916]	[0.0304]	[0.0136]	[0.0383]	[0.0127]
T2: Information only	-0.0136	-0.0116	0.00406	-0.00805	0.0271	-0.00901
	[0.0183]	[0.0370]	[0.0123]	[0.0278]	[0.0412]	[0.0137]
P-values for tests of coefficients						
T4 & T3 jointly equal to zero	0.000	0.001	0.001	0.440	0.399	0.399
T4 = T3	0.345	0.744	0.759	0.373	0.370	0.370
T4 = T2	0.008	0.049	0.050	0.504	0.958	0.956
T2 = T3	0.000	0.002	0.002	0.375	0.389	0.389
Observations	533	941	941	506	941	941
R-squared	0.146	0.067	0.067	0.046	0.032	0.032
Control group mean	0.00	0.00	0.00	-0.01	-0.04	0.01

Notes: Robust standard errors in brackets. Sample is full sample of migrants recruited at baseline. All regressions include stratification cell fixed effects for survey group. Dependent variables are from Viamericas transaction data.

*** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5)
	During discount period	1 -10 weeks after	11- 20 weeks after	21 -30 weeks after	31 -40 weeks after
Panel 1: All recipients					
T4: Discount + information	0.290	-0.138	0.215	0.275	0.176
	[0.294]	[0.287]	[0.288]	[0.320]	[0.309]
T3: Discount only	0.563**	0.500*	0.256	0.0914	-0.0902
	[0.284]	[0.280]	[0.267]	[0.303]	[0.285]
T2: Information only	0.213	0.286	0.490	0.417	0.268
	[0.295]	[0.302]	[0.304]	[0.328]	[0.295]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.140	0.0566	0.601	0.677	0.659
T4 = T3	0.366	0.0240	0.885	0.534	0.363
T4 = T2	0.805	0.165	0.388	0.662	0.764
T2 = T3	0.251	0.473	0.432	0.288	0.199
Observations	941	941	941	941	941
R-squared	0.153	0.203	0.163	0.156	0.136
Control group mean	3.444	3.228	2.849	2.789	2.517
Panel 2: All transactions to PRR					
T4: Discount + information	0.413**	0.133	0.197	0.318	0.226
	[0.206]	[0.195]	[0.205]	[0.208]	[0.191]
T3: Discount only	0.691***	0.494**	0.162	0.142	-0.0355
	[0.218]	[0.205]	[0.198]	[0.197]	[0.185]
T2: Information only	0.126	0.151	0.0714	0.120	0.190
	[0.212]	[0.206]	[0.210]	[0.199]	[0.199]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.00529	0.0460	0.590	0.310	0.312
T4 = T3	0.217	0.0715	0.859	0.382	0.152
T4 = T2	0.194	0.928	0.550	0.331	0.856
T2 = T3	0.0151	0.105	0.655	0.910	0.235
Observations	941	941	941	941	941
R-squared	0.111	0.143	0.108	0.143	0.108
Control group mean	1.897	1.638	1.517	1.392	1.237
Panel 3: All transactions to other recipients					
T4: Discount + information	-0.122	-0.271	0.0185	-0.0429	-0.0491
	[0.208]	[0.208]	[0.200]	[0.233]	[0.227]
T3: Discount only	-0.128	0.00608	0.0941	-0.0508	-0.0547
	[0.193]	[0.198]	[0.187]	[0.235]	[0.212]
T2: Information only	0.0876	0.135	0.419*	0.297	0.0786
	[0.198]	[0.211]	[0.220]	[0.249]	[0.208]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.766	0.300	0.867	0.975	0.963
T4 = T3	0.978	0.161	0.696	0.969	0.979
T4 = T2	0.319	0.0532	0.0779	0.129	0.541
T2 = T3	0.273	0.519	0.130	0.119	0.478
Observations	941	941	941	941	941
R-squared	0.100	0.122	0.100	0.078	0.083
Control group mean	1.547	1.591	1.332	1.397	1.280

Notes: Robust standard errors in brackets. Sample is full sample of migrants recruited at baseline. All regressions include stratification cell fixed effects for survey group. Dependent variables are from Viamericas transaction data.

*** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5)
	During discount period	1 -10 weeks after	11- 20 weeks after	21 -30 weeks after	31 -40 weeks after
Panel 1: All recipients					
T4: Discount + information	-7.124	27.60	2.821	-25.46	79.19*
	[38.05]	[38.02]	[39.94]	[46.60]	[43.55]
T3: Discount only	-34.66	3.676	28.09	-59.68	3.700
	[34.64]	[34.02]	[42.53]	[44.50]	[36.45]
T2: Information only	15.16	-3.815	17.92	-20.72	47.03
	[36.79]	[34.78]	[43.34]	[50.75]	[39.71]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.573	0.731	0.760	0.385	0.134
T4 = T3	0.458	0.500	0.525	0.397	0.0704
T4 = T2	0.580	0.386	0.714	0.918	0.474
T2 = T3	0.176	0.814	0.816	0.402	0.256
Observations	814	753	711	665	627
R-squared	0.060	0.059	0.038	0.047	0.083
Control group mean	363.7	347.3	348.4	381.7	306.5
Panel 2: All transactions to PRR					
T4: Discount + information	6.136	54.81	45.15	53.84	97.15*
	[37.80]	[45.27]	[43.47]	[51.13]	[49.68]
T3: Discount only	-17.72	28.82	63.23	18.22	26.21
	[35.10]	[41.58]	[47.64]	[50.97]	[40.23]
T2: Information only	35.97	-3.251	46.93	3.213	20.29
	[41.73]	[40.45]	[45.92]	[50.68]	[43.96]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.799	0.480	0.365	0.571	0.146
T4 = T3	0.532	0.541	0.709	0.513	0.148
T4 = T2	0.505	0.185	0.971	0.346	0.144
T2 = T3	0.205	0.440	0.765	0.784	0.894
Observations	660	577	519	473	441
R-squared	0.067	0.069	0.048	0.075	0.102
Control group mean	344.0	328.8	316.0	334.7	295.5
Panel 3: All transactions to other recipients					
T4: Discount + information	-38.65	4.762	-85.86*	-88.27	17.30
	[64.75]	[61.96]	[51.46]	[64.25]	[60.76]
T3: Discount only	-74.03	0.816	-36.34	-107.1*	-30.16
	[58.20]	[49.55]	[55.29]	[58.06]	[53.97]
T2: Information only	-47.99	-3.208	-39.21	-61.84	21.32
	[52.51]	[48.48]	[57.91]	[66.48]	[52.52]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.446	0.997	0.231	0.179	0.646
T4 = T3	0.569	0.949	0.309	0.716	0.369
T4 = T2	0.871	0.897	0.327	0.640	0.941
T2 = T3	0.602	0.931	0.958	0.438	0.303
Observations	533	506	472	466	427
R-squared	0.064	0.065	0.069	0.041	0.133
Control group mean	372.8	339.3	362.0	374.4	311.8

Notes: Robust standard errors in brackets. Sample is migrants recruited at baseline who sent a remittance in the indicated time period to indicated recipient. All regressions include stratification cell fixed effects for survey group. Dependent variables are from Viamericas transaction data.

*** p<0.01, ** p<0.05, * p<0.1

Table 6: Impact of treatments on remittances sent: Inverse hyperbolic sine transformation

	(1)	(2)	(3)	(4)	(5)
	During discount period	1 -10 weeks after	11- 20 weeks after	21 -30 weeks after	31 -40 weeks after
Panel 1: All recipients					
T4: Discount + information	0.141	-0.103	0.324	0.0764	0.0957
	[0.257]	[0.276]	[0.290]	[0.303]	[0.308]
T3: Discount only	0.400*	0.462*	0.495*	0.127	-0.0395
	[0.236]	[0.256]	[0.290]	[0.299]	[0.299]
T2: Information only	0.214	0.158	0.280	0.0699	0.142
	[0.250]	[0.269]	[0.300]	[0.308]	[0.301]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.213	0.0616	0.227	0.913	0.906
T4 = T3	0.270	0.0311	0.540	0.865	0.664
T4 = T2	0.773	0.343	0.880	0.983	0.884
T2 = T3	0.415	0.234	0.460	0.850	0.554
Observations	941	941	941	941	941
R-squared	0.109	0.186	0.134	0.143	0.142
Control group mean	6.202	5.779	5.249	5.076	4.719
Panel 2: All transactions to PRR					
T4: Discount + information	0.342	0.228	0.584*	0.368	0.374
	[0.304]	[0.316]	[0.319]	[0.319]	[0.319]
T3: Discount only	0.394	0.787**	0.338	0.389	-0.0797
	[0.298]	[0.308]	[0.327]	[0.314]	[0.314]
T2: Information only	0.000852	0.0828	0.0350	-0.00562	0.130
	[0.306]	[0.321]	[0.324]	[0.320]	[0.312]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.362	0.0293	0.186	0.386	0.317
T4 = T3	0.861	0.0645	0.447	0.947	0.154
T4 = T2	0.272	0.645	0.0870	0.244	0.441
T2 = T3	0.193	0.0216	0.355	0.213	0.500
Observations	941	941	941	941	941
R-squared	0.086	0.129	0.086	0.137	0.109
Control group mean	4.772	4.016	3.625	3.346	3.121
Panel 3: All transactions to other recipients					
T4: Discount + information	-0.496	-0.499	-0.0854	-0.282	-0.148
	[0.314]	[0.313]	[0.318]	[0.311]	[0.313]
T3: Discount only	-0.235	0.0547	0.239	-0.215	-0.0374
	[0.300]	[0.309]	[0.314]	[0.309]	[0.299]
T2: Information only	0.101	0.300	0.326	0.118	0.0880
	[0.309]	[0.311]	[0.317]	[0.318]	[0.310]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.288	0.153	0.565	0.640	0.888
T4 = T3	0.395	0.0779	0.305	0.829	0.720
T4 = T2	0.0596	0.0117	0.197	0.205	0.459
T2 = T3	0.268	0.433	0.783	0.288	0.681
Observations	941	941	941	941	941
R-squared	0.096	0.113	0.079	0.077	0.073
Control group mean	3.933	3.700	3.267	3.394	3.036

Notes: Robust standard errors in brackets. Sample is full sample of migrants recruited at baseline. All regressions include stratification cell fixed effects for survey group. Dependent variables are from Viamericas transaction data.

*** p<0.01, ** p<0.05, * p<0.1

Table 7: Impact of treatments on remittances sent: Dollars truncated at 95%

	(1)	(2)	(3)	(4)	(4)
	During discount period	1 -10 weeks after	11- 20 weeks after	21 -30 weeks after	31 -40 weeks after
Panel 1: All recipients					
T4: Discount + information	-8.097	16.54	52.35	63.48	161.9**
	[92.84]	[93.97]	[88.25]	[85.57]	[82.40]
T3: Discount only	8.823	136.4	113.9	-30.81	1.112
	[89.35]	[90.26]	[89.95]	[83.87]	[75.87]
T2: Information only	-28.22	102.2	92.33	79.86	153.1*
	[89.39]	[94.68]	[89.45]	[86.89]	[80.20]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.983	0.254	0.449	0.525	0.0855
T4 = T3	0.853	0.191	0.493	0.264	0.0488
T4 = T2	0.825	0.370	0.655	0.851	0.918
T2 = T3	0.672	0.708	0.813	0.197	0.0545
Observations	941	941	941	941	941
R-squared	0.123	0.195	0.150	0.162	0.128
Control group mean	1079	963.7	842.8	808.1	634.2
Panel 2: All transactions to PRR					
T4: Discount + information	104.0	119.0*	137.9**	122.9*	148.9***
	[67.10]	[65.17]	[62.53]	[66.81]	[56.77]
T3: Discount only	133.1*	150.1**	105.4*	35.48	53.37
	[68.59]	[63.00]	[63.47]	[63.93]	[54.58]
T2: Information only	24.27	51.55	58.01	31.69	87.19
	[67.00]	[63.75]	[60.34]	[61.65]	[54.80]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.115	0.0422	0.0642	0.173	0.0322
T4 = T3	0.682	0.642	0.631	0.192	0.115
T4 = T2	0.251	0.316	0.218	0.159	0.308
T2 = T3	0.125	0.131	0.472	0.951	0.563
Observations	941	941	941	941	941
R-squared	0.080	0.122	0.105	0.122	0.104
Control group mean	569.7	464.0	408.2	413.1	307.7
Panel 3: All transactions to other recipients					
T4: Discount + information	-94.75*	-98.03	-81.17	-34.53	-0.844
	[57.12]	[59.56]	[56.86]	[51.58]	[48.48]
T3: Discount only	-116.7**	2.229	-10.04	-45.25	-41.96
	[53.06]	[59.34]	[58.84]	[50.14]	[43.58]
T2: Information only	-11.38	48.24	34.25	47.82	57.38
	[57.16]	[61.07]	[60.61]	[56.06]	[49.51]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.0795	0.147	0.269	0.654	0.525
T4 = T3	0.669	0.0833	0.188	0.820	0.352
T4 = T2	0.137	0.0137	0.0390	0.123	0.246
T2 = T3	0.0409	0.436	0.444	0.0735	0.0292
Observations	941	941	941	941	941
R-squared	0.090	0.121	0.087	0.069	0.060
Control group mean	446.8	434.4	388.3	342.9	285.0

Notes: Robust standard errors in brackets. Sample is full sample of migrants recruited at baseline. All regressions include stratification cell fixed effects for survey group. Dependent variables are from Viamericas transaction data.
*** p<0.01, ** p<0.05, * p<0.1

Table 8: Attrition in endline survey

	(1)	(2)	(3)
	Endline completed		
T4: Discount + information	-0.120***		
	[0.0421]		
T3: Discount only	-0.0906**		
	[0.0411]		
T2: Information only	-0.0479		
	[0.0410]		
Number of transactions in prior 365 days		0.000415	
		[0.00146]	
Total amount remitted in prior 365 days		2.77e-06	
		[4.41e-06]	
Number of transactions in prior 10 weeks			-0.00145
			[0.00623]
Total amount remitted in prior 10 weeks			2.53e-06
			[1.60e-05]
Observations	941	941	941
R-squared	0.049	0.040	0.039
Control group mean	0.772		

Notes: Robust standard errors in brackets. Sample is full sample of migrants recruited at baseline. All regressions include stratification cell fixed effects for survey group. Dependent variable is completion of endline survey.

*** p<0.01, ** p<0.05, * p<0.1

Table 9: Impact of treatments on remittances sent: Endline survey data

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	All channels			*Viamericas only*			*Other channels only*		
				Dependent variable = Remittances sent to...					
	…all recipients	…the PRR	…other recipients only	…all recipients	…the PRR	…other recipients only	…all recipients	…the PRR	…other recipients only
Panel 1: Transaction amounts: Inverse hyperbolic sine transformation									
T4: Discount + information	0.361**	0.197	0.791**	0.513**	0.307	0.909***	-0.240	-0.153	-0.117
	[0.161]	[0.194]	[0.326]	[0.217]	[0.235]	[0.320]	[0.181]	[0.145]	[0.119]
T3: Discount only	0.350**	0.257	0.687**	0.454**	0.333	0.738**	0.0118	0.0282	0.0122
	[0.165]	[0.176]	[0.333]	[0.221]	[0.218]	[0.319]	[0.203]	[0.163]	[0.138]
T2: Information only	0.387**	0.375**	0.531*	0.527**	0.470**	0.627**	0.0971	0.282	-0.141
	[0.159]	[0.169]	[0.321]	[0.214]	[0.211]	[0.312]	[0.204]	[0.183]	[0.112]
P-values for tests of coefficients									
T4 & T3 jointly equal to zero	0.043	0.319	0.027	0.043	0.257	0.008	0.262	0.373	0.481
T4 = T3	0.946	0.754	0.771	0.770	0.910	0.623	0.165	0.211	0.310
T4 = T2	0.857	0.333	0.455	0.941	0.457	0.411	0.071	0.012	0.812
T2 = T3	0.809	0.475	0.661	0.715	0.502	0.748	0.685	0.175	0.231
Observations	648	663	650	572	599	634	572	599	634
R-squared	0.081	0.075	0.114	0.085	0.072	0.134	0.111	0.12	0.064
Control group mean	6.993	6.796	1.796	6.686	6.552	1.518	0.475	0.287	0.27
Panel 2: Transaction amounts: Dollars									
T4: Discount + information	372.3***	240.6**	119.6**	430.1***	308.2***	120.2**	-20.55	-17.02	-4.052
	[128.0]	[106.1]	[52.61]	[123.1]	[98.61]	[51.74]	[14.04]	[10.86]	[6.456]
T3: Discount only	269.6**	152.4	111.0**	290.0***	205.9**	82.39*	26.30	-2.182	29.17
	[115.3]	[97.83]	[53.49]	[110.2]	[89.69]	[47.76]	[28.46]	[11.49]	[23.44]
T2: Information only	188.9*	137.9	46.05	160.8	151.9*	39.25	21.52	25.98	-3.087
	[111.4]	[90.20]	[46.15]	[100.2]	[85.61]	[45.95]	[20.44]	[17.28]	[6.580]
P-values for tests of coefficients									
T4 & T3 jointly equal to zero	0.006	0.061	0.023	0.001	0.003	0.033	0.072	0.123	0.242
T4 = T3	0.448	0.425	0.895	0.311	0.355	0.539	0.066	0.081	0.132
T4 = T2	0.159	0.318	0.210	0.038	0.140	0.170	0.033	0.011	0.869
T2 = T3	0.490	0.876	0.281	0.260	0.580	0.439	0.878	0.091	0.163
Observations	648	663	650	572	599	634	572	599	634
R-squared	0.1	0.057	0.1	0.115	0.065	0.116	0.086	0.106	0.069
Control group mean	971.3	847.5	115.3	876.6	768.5	97.76	28	17.52	9.884

Notes: Robust standard errors in brackets. Sample is migrants who completed the endline survey. All regressions include stratification cell fixed effects for survey group. Dependent variables are from the endline survey.

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Impact of treatments on distribution of remittances to others

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Have you asked PRR to distribute remittances within their household?	Have you asked PRR to distribute remittances outside their household?	Has someone within your household (not you) sent a remittance to PRR?	Has anyone outside of your household sent a remittance to PRR?	Have you sent remittances to others so that they will distribute them to PRR?	Has anyone given you money to send to PRR?	Has anyone given you money to send to PRR so that they distribute it to other people?
T4: Discount + information	0.0266	-0.0217	0.00299	0.0419	0.0229	0.00393	0.0223*
	[0.0508]	[0.0434]	[0.0349]	[0.0286]	[0.0248]	[0.0128]	[0.0128]
T3: Discount only	-0.0114	-0.0227	-0.0523*	0.0592**	0.0216	0.00855	0.00772
	[0.0475]	[0.0419]	[0.0286]	[0.0268]	[0.0240]	[0.0140]	[0.00753]
T2: Information only	0.0321	-0.045	-0.0128	0.0397	-0.000298	-0.00284	0.00679
	[0.0493]	[0.0394]	[0.0307]	[0.0246]	[0.0193]	[0.0101]	[0.00579]
P-values for tests of coefficients							
T4 & T3 jointly equal to zero	0.748	0.833	0.094	0.053	0.548	0.828	0.159
T4 = T3	0.452	0.982	0.083	0.617	0.961	0.761	0.304
T4 = T2	0.916	0.572	0.637	0.947	0.351	0.570	0.270
T2 = T3	0.376	0.574	0.153	0.529	0.345	0.365	0.912
Observations	658	659	636	629	630	632	630
R-squared	0.085	0.078	0.066	0.089	0.074	0.050	0.048
Control group mean	0.267	0.185	0.094	0.029	0.035	0.011	0.000

Notes: Robust standard errors in brackets. Sample is migrants who completed the endline survey. All regressions include stratification cell fixed effects for survey group. Dependent variables are from the endline survey.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A1: Impact of treatments on remittances sent: Inverse hyperbolic sine transformation, transaction data in end-line sample

	(1)	(2)	(3)	(4)	(5)
	During discount period	1 -10 weeks after	11- 20 weeks after	21 -30 weeks after	21 -30 weeks after
Panel 1: All recipients					
T4: Discount + information	0.246	-0.0757	0.546	0.445	0.446
	[0.311]	[0.330]	[0.342]	[0.362]	[0.378]
T3: Discount only	0.450	0.338	0.675**	0.237	0.142
	[0.279]	[0.312]	[0.339]	[0.357]	[0.355]
T2: Information only	0.330	0.143	0.261	0.114	0.267
	[0.286]	[0.315]	[0.350]	[0.367]	[0.350]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.272	0.379	0.113	0.469	0.494
T4 = T3	0.486	0.201	0.696	0.568	0.427
T4 = T2	0.778	0.511	0.404	0.374	0.637
T2 = T3	0.658	0.529	0.220	0.739	0.726
Observations	665	665	665	665	665
R-squared	0.126	0.176	0.143	0.132	0.150
Control group mean	6.180	5.875	5.301	5.035	4.676
Panel 2: All transactions to PRR					
T4: Discount + information	0.305	0.301	0.995***	0.840**	0.732*
	[0.374]	[0.386]	[0.379]	[0.379]	[0.393]
T3: Discount only	0.441	0.808**	0.637	0.689*	0.237
	[0.353]	[0.374]	[0.392]	[0.377]	[0.376]
T2: Information only	-0.00888	0.153	0.0440	0.0884	0.341
	[0.360]	[0.375]	[0.376]	[0.374]	[0.364]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.444	0.0898	0.0301	0.0581	0.171
T4 = T3	0.717	0.171	0.361	0.700	0.212
T4 = T2	0.409	0.693	0.0123	0.0516	0.313
T2 = T3	0.217	0.0729	0.130	0.119	0.778
Observations	665	665	665	665	665
R-squared	0.093	0.144	0.111	0.160	0.124
Control group mean	4.811	4.007	3.525	3.151	2.910
Panel 3: All transactions to other recipients					
T4: Discount + information	-0.247	-0.670*	-0.221	-0.248	0.0421
	[0.379]	[0.385]	[0.387]	[0.383]	[0.385]
T3: Discount only	-0.108	-0.212	0.0848	-0.0319	0.0593
	[0.360]	[0.369]	[0.383]	[0.367]	[0.356]
T2: Information only	0.278	0.450	0.347	0.131	0.114
	[0.361]	[0.366]	[0.378]	[0.377]	[0.368]
P-values for tests of coefficients					
T4 & T3 jointly equal to zero	0.808	0.214	0.734	0.785	0.986
T4 = T3	0.719	0.247	0.447	0.573	0.964
T4 = T2	0.175	0.00485	0.152	0.336	0.856
T2 = T3	0.295	0.0814	0.503	0.667	0.883
Observations	665	665	665	665	665
R-squared	0.094	0.111	0.063	0.067	0.065
Control group mean	3.838	3.764	3.378	3.390	3.070

Notes: Robust standard errors in brackets. Sample is migrants recruited at baseline who completed the endline survey. All regressions include stratification cell fixed effects for survey group. Dependent variables are from Viamericas transaction data.

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A2: Baseline balance - Endline sample

	Means				P-values				
	T1: Control	T2: Information	T3: Discounts	T4: Info & Discounts	T1=T2= T3=T4	T1=T2	T1=T3	T1=T4	N
Migrant is female	0.28	0.33	0.29	0.23	0.217	0.284	0.826	0.277	665
Migrant age	34.3	34.4	33.9	34.8	0.877	0.985	0.679	0.661	645
Migrant is from Guatemala	0.72	0.79	0.76	0.79	0.389	0.150	0.345	0.126	653
Migrant years in US	9.5	8.7	9.4	9.5	0.475	0.187	0.859	0.917	655
Migrant is married	0.52	0.60	0.63	0.64	0.099	0.146	0.031	0.032	665
Migrant's spouse lives in the US	0.54	0.55	0.55	0.47	0.651	0.863	0.825	0.377	383
Migrant number of children	2.0	2.2	2.2	2.1	0.659	0.247	0.315	0.485	665
PRR is female	0.74	0.80	0.80	0.79	0.425	0.154	0.159	0.256	663
Migrant remittances as percent of income	34.1	36.2	35.8	36.6	0.609	0.289	0.388	0.222	601
Migrant annual remittance to PRR ($) (survey reported)	5,836	6,252	6,276	6,156	0.872	0.486	0.459	0.603	661
Mirgrant annual remittance to other hhs ($) (survey reported)	860	802	1,396	840	0.038	0.806	0.021	0.935	651
Migrant number of recipient households	1.6	1.6	1.8	1.7	0.117	0.661	0.047	0.067	648
Number of transactions to PRR: Viamericas	17.7	17.6	17.1	18.3	0.834	0.928	0.615	0.655	659
Number of transactions to PRR: Other channels	0.9	1.1	0.8	0.8	0.603	0.450	0.635	0.681	659
Number of transactions to other recipients: Viamericas	1.3	1.9	2.9	1.8	0.171	0.405	0.028	0.502	443
Number of transactions to other recipients: Other channels	0.2	0.3	0.2	0.3	0.880	0.608	0.786	0.432	444
Migrant's highest level of education is...									
…none	0.30	0.37	0.36	0.30	0.368	0.159	0.243	0.970	665
…primary	0.29	0.25	0.21	0.21	0.200	0.416	0.069	0.072	665
…secondary	0.07	0.08	0.07	0.11	0.576	0.700	0.892	0.195	665
…university	0.03	0.02	0.02	0.03	0.938	0.591	0.573	0.696	665
Primary recipient is migrant's...									
...parent	0.44	0.37	0.38	0.35	0.426	0.236	0.275	0.116	665
...spouse	0.21	0.21	0.24	0.30	0.174	0.975	0.508	0.051	665
...sibling	0.13	0.13	0.15	0.17	0.721	0.968	0.604	0.332	665
...child	0.07	0.08	0.08	0.04	0.483	0.834	0.873	0.237	665
Transaction data - previous 365 days									
All - total transactions	16.7	18.7	16.2	16.6	0.407	0.212	0.740	0.931	665
All - total amount ($)	5,401	5,584	5,098	4,945	0.608	0.717	0.548	0.380	665
All - mean transaction amount ($)	370	343	355	344	0.855	0.439	0.662	0.465	663
PRR - total transactions	9.5	9.6	9.5	9.5	1.000	0.919	0.992	0.978	665
PRR - total amount ($)	3,113	3,014	3,206	3,212	0.962	0.810	0.821	0.816	665
PRR - mean transaction amount ($)	341	329	354	372	0.746	0.753	0.736	0.445	658
Others - total transactions	7.2	9.1	6.7	7.1	0.122	0.080	0.629	0.876	665
Others - total amount ($)	2,287	2,570	1,892	1,734	0.053	0.384	0.221	0.096	665
Others - mean transaction amount ($)	390	324	330	316	0.407	0.176	0.213	0.135	534

Notes: Sample is migrants recuited at baseline who completed endline survey. Data comes from baseline survey and Viamericas transaction data. Sample varies slightly with missing values. P-values come from regressions of each baseline variable on the treatment variables, including stratification cell fixed effects for survey group.