Information Asymmetries and Remittance Recipient Income: A Field Experiment in Malawi¹

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December 2020

Abstract: A growing literature suggests that asymmetric information about migrant income may affect the remittance behavior of migrants. In this study we examine whether improving information about the economic status of recipients impacts migrant remittance decisions. In a sample of internal migrants and their remittance recipients in Malawi, we provide a randomly chosen half of migrants with information regarding the agricultural production of their recipients' farmer clubs. We test whether this information impacts remittances sent immediately following information provision and over the next three weeks. We find no evidence that the information impacts remittances, but our estimates are imprecise.

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1. Introduction

Traditional economic models of the household generally assume perfect information among family members when they make decisions about the allocation of resources within the household (Chiappori 1988, 1992; Lundberg and Pollack 1993; Manser and Brown 1980; McElroy and Horney 1981). A growing body of work contests that assumption, showing that information asymmetries are present in households and can affect decisions (Ashraf 2009; Jakiela and Ozier 2012; Ashraf et al. 2014; Castilla and Walker 2013; Hoel 2014). These asymmetries are of particular interest and importance in households with migrants where family members are spread across space, but share resources through the sending and receipt of remittances. A number of studies show that information asymmetries in such households can affect remittances. In this study we examine whether alleviating such asymmetries by providing information to migrants about the economic performance of the recipients can impact remittance decisions.

A growing literature finds that asymmetric information between migrants and family members affects remittance behavior. Using experimental methods, Ambler (2015) shows that migrants send less home when recipients are not informed about migrant windfall income or the remittance choice they were making. Seshan and Zubrickas (2017) demonstrate that the underreporting of the income of their migrant husbands by wives is correlated with lower remittance payments. Using administrative data from the United Arab Emirates, Joseph, Nyarko, and Wang (2018) find that migrant income shocks observable to the recipients led to increased remittances, while those that are not observable did not. McKenzie, Gibson, and Stillman (2013) find that those in the home country underestimate migrant income at the destination, a

phenomenon partly attributable to income underreporting by migrants in the destination. A similar phenomenon is documented for domestic migrants in Kenya by Baseler (2020).

These studies suggest that migrants take advantage of opportunities to hide income from their family members in order to reduce their remittances. However, family members may also seek to hide information about their economic situation from migrants, and some evidence of this has been found in recent studies (Rehman 2020). In this paper we report on a field experiment that seeks to understand how improving information between migrants and remittance recipients might change the migrant's remittance behavior. In other words, instead of examining strategic behavior on behalf of migrants to hide income, we explore migrants' possible lack of information about the economic circumstances of the remittance recipients. Past work that describes the remittance relationship between a migrant and a recipient as a contract enforced by possible punishments for non-compliance describes why migrants might be motivated to hide income. Here, we consider that remittances in that contract are also driven by the needs of the recipients. As such, recipients might strategically misinform migrants about their economic needs to encourage higher remittances. Information asymmetries of this type may also be inadvertent due to insufficient communication between the two parties. As such, improved information about the recipient economic status could lead to increased, decreased, or unchanged remittances, depending on the prior beliefs of the migrant. Indeed, Batista and Narciso (2018) find that increasing communication between migrants and recipients leads to large increases in remittances.

We implement a field experiment to understand whether reducing this information asymmetry affects remittance decisions. We recruit a sample of domestic migrants in Malawi listed as sending remittances to smallholder farmers participating in a separate research study.

We contact these remittance senders by phone and invite them to participate in events. At these events they receive 8,000 MWK and are offered the opportunity to directly send a portion of their payment to their family member to be delivered by a member of the project staff. We also track, through weekly phone surveys for three weeks, reported remittances sent through other means.

Prior to asking whether the participant wants to remit a portion of their earnings, we implement an information treatment with a randomly determined half of the sample. Those in the treatment group are given information regarding the performance of the farmer group their family member was in in the previous agricultural season. Specifically, they were told whether that performance was better, the same, or worse than the average group in that district. This information was collected through surveys conducted by the research team several months prior. Participants in the control group do not receive any additional information.

We then analyze whether receiving the information, and the content of that information, has an impact on remittances sent during the event and in the three weeks after. Though our estimates suffer from imprecision, there is no evidence that the information treatment has an impact on remittance decisions. We also examine some dimensions of heterogeneity using data from our baseline survey, including migrant income, whether the migrant feels the recipient is worse off economically, and the likelihood the migrant was previously well informed about activities in the recipient's household. Among these we find some evidence that poorer migrants who receive the information treatment choose to send more of the payment that they receive during the event. This is true for those who learn that the recipient's group is worse off than average and also for those who learn the recipient's group is better off than average. One

possible explanation is that poorer migrants are simply more susceptible to the provision of information.

In addition to the work already discussed, our work is linked to other papers that address issues of information asymmetries in migrant households. A substantial literature exists examining migrants' desire to control the way in which money sent to recipients is spent (Ashraf et al. 2015; Ambler, Aycinena, and Yang 2015; De Arcangelis et al. 2015). Other work shows that migrants in Kenya use costly resources to monitor their family members (de Laat 2014) and that women in split households in China behave non-cooperatively more often for activities that are more difficult to monitor (Chen 2013).

The main contribution of this paper is to extend the literature regarding asymmetric information and remittances to consider the information held by the migrant about the recipient's economic position. While the results presented here suggest that the information intervention implemented in our study did not affect remittance decisions, the evidence that poorer migrants may have been impacted in their initial decision indicates that further research is warranted. Additionally, our work extends the study of information asymmetries in migrant households to domestic migrants in Malawi, whereas most (though certainly not all) previous work in this area has focused on international migrants.

The paper proceeds as follows. Section 2 presents the project design, section 3 discusses the sample, section 4 presents the results, and section 5 concludes.

2. Project design

2.1 Sample and project timeline

Participants in this study are people identified as sending remittances to members of farmer groups associated with the National Smallholder Farmers' Association of Malawi

(NASFAM) located in the districts of Ntchisi and Dowa in central Malawi. Farmers were interviewed as part of a followup survey for a randomized control trial studying cash transfers and agricultural extension (Ambler, de Brauw, and Godlonton 2020). During the survey they were asked to provide information about remittances (or transfers) received in the last year by people from outside of their village. In addition to details on the remittances, they were asked to provide names and contact numbers for the remittance senders. This occurred in August and September 2015.

We then attempted to contact the remittance senders on this list by phone and implemented a short survey addressing their migration history and remittance decisions. Those who participated form what we refer to as the contact sample. The contact survey was conducted between October 2015 and January 2016. All migrants in the contact sample were then recontacted and invited to in-person project events which were conducted between late-January 2016 and late-February 2016. The events were held in areas near to where the migrants lived, so that each migrant was invited at an event that did not require extensive travel. 72 percent of the sample lived in the two districts (Ntchisi and Dowa) where the farmer groups were located. An additional 11 percent came from Lilongwe, which is relatively near, with the remainder spread across the country.

During the day-long events participants were given a baseline survey. Half of the participants also performed clerical tasks as part of a separate, cross-randomized treatment (Ambler and Godlonton 2020). All participants received a 2,000 MWK (approximately \$2.75 USD) show up fee to compensate for their transportation and lunch costs. Participants who stayed until the event had concluded also received an additional 8,000 MWK (approximately \$11 USD). When they were paid, participants were given the opportunity to send any portion of the

8,000 MWK to the NASFAM farmer group member that had given their name. The payments and decisions were made privately with the participant and one enumerator. The money was to be delivered by project staff during visits to the NASFAM member's village. Because of the project work in those communities, project staff were known and trusted in the villages, and migrants were offered the opportunity to make a phone call to inform the NASFAM member the money would be coming. Following their participation, each participant was contacted by phone, once a week for three weeks for a short phone survey.

2.2 Treatment

The information treatment was conducted immediately prior to the remittance decision made by the participant. Participants were randomized, stratified by event, to receive the treatment or not with equal probability. The treatment consisted of an information prompt or vignette, read privately to the participant that contained information regarding the agricultural performance of the NASFAM member's farmer club the previous season. This information was collected during the project followup survey and was individualized for each participant. Specifically, the vignette read:

Because we have been working in [NAME OF NASFAM MEMBER]'s farmer club, I can tell you something about how the farmers in that club fared last year. Last year, the average value of production for farmers in that club was [RELATIVE AMOUNT] than the average farmer in [NASFAM MEMBER'S DISTRICT].

The relative amount was filled in with "higher," "lower," or "the same as." The information given was about the average club-level performance to account for confidentiality concerns in

our data collection. Though this was necessary, it may have muted the impact of the treatment to some extent.

If migrants are not well informed about the NASFAM member's economic condition, this information may cause them to adjust the remittances they send. The direction of the effect is not *a priori* clear. Migrants who find out that the NASFAM member performed above average may reduce remittances because they have less need, and those who find out the NASFAM member performed below average may increase their remittances.

2.3 Analysis strategy and attrition

We study the impact of the prompt on a set of outcomes related to remittances. First, we examine whether the migrant sent an "on the spot" remittance during the event. Then, using the follow-up survey data, we examine the total remittances sent to the NASFAM member across the three surveys, as well as, for completeness, remittances sent to others, and total remittances. The follow-up survey collects information on remittances sent in the last 7 days to the NASFAM member and to other recipients. To maximize sample size we include all participants, even those who did not complete all three follow-up surveys. As such, the total amounts of remittances sent may be underestimates. We also study the impact of the treatment on the extensive margin of sending any remittances in these categories.

We use two main specifications. The first simply examines the impact of receiving the information treatment on the remittance outcome. It includes a control for the baseline value of the outcomes, and fixed effects for events and the enumerator who conducted the treatment. Standard errors are clustered at the event level. The second specification adds a control for the information received being "higher" and an interaction of that variable with the treatment. In this

second specification we hypothesize that those receiving the "lower" information should increase their remittances, and those receiving "higher" might reduce them. As such the interaction is expected to be negative.

We also examine three dimensions of heterogeneity. First, we examine whether the migrant is above or below the median income, based on a question on the contact survey regarding their estimated monthly income. Migrants with higher income may have more ability to respond to the prompt. Second, we create an index of whether the migrant considers the NASFAM member to be economically struggling, and examine if the treatment varies by whether the migrant is above or below the median of that index. This allows us to consider whether receiving the information updates the migrant's priors or not.² Finally, we consider whether the migrant is well informed about the NASFAM member's household, and examine treatment effects for migrants above and below the median of that index.³ Those who are less well informed initially should be more impacted by receiving information.

In Table 1 we examine attrition between survey rounds and how it varies by treatment. Columns 1 through 6 show the number of participants by treatment group in the following rounds: contact survey, baseline survey, follow-up 1, follow-up 2, follow-up 3, and any followup. In the baseline survey there are 169 in the control group and 183 in the treatment group. The main analysis for the survey data occurs in the any follow-up group, and there are 159 and 173 in

² This index is created from the following variables: How much rain did the NASFAM member's plots receive in the last growing season? How much rainfall do you think the NASFAM member's plots will receive this growing season? Compare the performance of the NASFAM member's plot in the previous season to others in their community. Compare the performance of the NASFAM member's plots in the previous season to how they usually so. The difference between the NASFAM member's perceived shock index and the migrant's shock index. The difference between the NASFAM member's perceived food security score and the migrant's food security score. ³ This index is created from the following variables: How often do you see NASFAM member? How often to you speak to NASFAM member? How well informed are you about what is going on in NASFAM member's household?

the control and treatment groups respectively. In each column we also show tests for differential attrition by treatment for attrition from the contact sample and the baseline sample. We can reject in all cases that attrition varies by treatment group.

3. Sample description and balance

In Table 2 we provide summary statistics and test for balance across treatment groups. We show the mean for the full contact survey sample for those variables collected on the contact survey and the mean in the sample of those that came to the events. We then show p-values testing for equality in treatment and control in the contact sample, the baseline sample, and the follow-up sample (participants who completed at least one follow-up survey). In general, we reject that the sample is not balanced across a wide range of baseline variables, with very few pvalues below 0.10.

Our sample of migrants is interesting because though it is not representative, it gives an interesting picture of the varied relationships and migration histories of those who send remittances to the NASFAM farmer group members in our RCT sample. Indeed, some of them are not migrants at all; 21 percent report that they have lived in the same location their whole lives. 39 percent have lived in two unique locations, 22 percent in three, and 18 percent have lived in four or more locations. For those who have moved, both short and more distant moves are common. 29 percent report that the move was within the same Traditional Authority (TA), 24 percent report moving to a new TA within the same district, and 46 percent report moving to a different district. Though one might expect that these remittance senders would have moved to urban centers to find work, 66 percent of those in our sample are living in rural areas.

Migrants are 36.5 years old on average and 33.5 percent are female. Only 20 percent have completed secondary school, and 44 percent have completed primary. They live in established households of 6 members on average. As expected, given the criteria for sample recruitment, most have sent remittances in the last three months. 74.4 percent report sending a remittance to the NASFAM member and 87 percent report sending a remittance to other households.

Interestingly, many migrants also report receiving remittances, 40 percent from the NASFAM member, and 66 percent from others. Indeed, when considering the relationship between the migrant and the NASFAM member, 34 percent report remittances in both directions in the last three months, and 81 percent report the same over the last 15 months (incorporating the baseline and contact survey data). The Malawian context makes our sample different from many of the past studies on information asymmetries and remittances, but this data further distinguishes the context. Rather than the typical international migrant situation, or even a domestic rural-urban migrant, our sample includes extended family networks spread across rural areas, many of whom may insure each other against uncorrelated risks. Accurate information about each other's economic situation and shocks would be a key component underpinning such informal insurance arrangements.

4. Results

The main results of the study are presented in Table 3. Panel A shows the impact of receiving the information prompt and Panel B shows the impact of receiving the prompt and includes an interaction for whether the migrant was informed that the NASFAM farmer's group performed above average for their district. Columns 1 through 4 present the results for the intensive margin of remittances, i.e. the amount sent in Malawi Kwacha. We consider this in four categories; the amount sent by the NASFAM member "on the spot" at the event, the total sent to

the NASFAM member over the three follow-up surveys (excepting the on the spot remittance), the total sent to others, and the sum of the total sent to the NASFAM member and to others. Columns 5 through 8 replicates these outcomes for the extensive margin. In other words, they are binary outcomes for whether the migrant sent a non-zero amount in that category. For the on the spot remittance, in the control group, migrants sent 920 MWK on average, out of a possible 8,000 MWK. 45 percent sent a non-zero amount.

The results in Panel A show little evidence of an impact of the prompt. Though our results are imprecise, the estimated coefficients in columns 2, 3, and 4 (the survey measures) are small relative to the control group mean, though we cannot rule out moderate effects. The coefficient in column 1 is larger, 11.4 percent of the control group mean, but does not approach statistical significance, and we cannot rule out zero or large size effects. Similarly, the extensive margin results in columns 5 through 8 are not suggestive of any impact of the information prompt. The one coefficient in column 7 that is statistically significant indicates that migrants are less likely to send money to others, but given that it is not clear why this would be true in the absence of an impact on remittances to the NASFAM member, we do not over-interpret this one result. The results in Panel B are similar, the estimated effects are not large, but given the large standard errors we cannot definitively rule out effects of larger size. It was possible that not accounting for the direction of the prompt was hiding heterogeneity in responses, but if so, it is not detectable in our data.

Finally, in Table 4 we examine the same specifications, but split the sample by the three dimensions of heterogeneity previously discussed: migrant income, the extent to which the NASFAM member is perceived as worse off, and the extent to which we can argue that the migrant is better or worse informed about the NASFAM member's household. In all cases we

split the sample at the median. Panels A1 and B1 shows the sample for below median income, below median worse off, and below median badly informed for the first and second specifications respectively. Panels A2 and B2 show the same for the above median samples. Here we show only the intensive margin outcomes, for the on-the-spot remittance, the total sent to the NASFAM member, and the total sent to all recipients.

Despite the hypotheses regarding the relative economic status of the NASFAM member and the extent to which the migrant was well informed at baseline, we do not document any consistent patterns for either specification in these subsamples. The results are similarly imprecise, limiting confidence in drawing any definitive conclusions. However, we do document some evidence that, for the on-the-spot remittance only, the prompt leads to higher remittances for those migrants who are under the median income in Panel A1. In Panel B1, that main effect persists, and while the interaction with "higher" is negative, it is not statistically significantly different from zero. Indeed, the main effect of the prompt for those who received both types of information is positive and statistically significant. Given the initial hypothesis was the opposite; that richer migrants might be more likely to respond to information, it is possible that this effect is coming from an underlying characteristic of the poorer migrants, perhaps that they are more open to suggestion than richer migrants.

5. Conclusion

In this paper we examine the effect of providing information about a remittance recipient's economic status to a remittance sender, and study whether this impacts remittance behavior. In contrast to previous work that focuses on whether migrants might hide income from recipients in order to send less home, we consider whether information about the recipient's

economic status might be imperfect. Ultimately, our study finds little to no impact of the information treatment, though the coefficients are imprecisely estimated.

Though this paper does not provide definitive evidence, it suggests directions for future research to address this question. For example, the information prompt that we provided was a light touch intervention; a new study could seek to examine a more salient intervention. Indeed, the information provided was also diluted because it concerned the entire farmer group rather than the NASFAM farmer themselves. This could impact the effectiveness of the intervention by confusing the migrant or because of unknown beliefs regarding the performance of the migrant relative to their farmer group. Future work can improve on these design concerns to more effectively address this question.

References

- Ambler, Kate. 2015. "Don't Tell on Me: Experimental Evidence of Asymmetric Information in Transnational Households." *Journal of Development Economics* 113 (March): 52–69. https://doi.org/10.1016/j.jdeveco.2014.11.001.
- Ambler, Kate, Diego Aycinena, and Dean Yang. 2015. "Channeling Remittances to Education: A Field Experiment among Migrants from El Salvador." *American Economic Journal: Applied Economics* 7 (2): 207–32. <u>https://doi.org/10.1257/app.20140010</u>.
- Ambler, Kate and Susan Godlonton. 2020. "Earned and unearned income: Experimental evidence on expenditures and labor supply in Malawi." Working paper.
- Ambler, Kate, Alan de Brauw, and Susan Godlonton. 2020. "Cash, Inputs, and Information: Direct Effects and Complementarities in Malawi," Working paper.
- Ashraf, Nava. 2009. "Spousal Control and Intra-Household Decision Making: An Experimental Study in the Philippines." *American Economic Review* 99 (4): 1245–77. https://doi.org/10.1257/aer.99.4.1245.
- Ashraf, Nava, Erica Field, and Jean Lee. 2014. "Household Bargaining and Excess Fertility: An Experimental Study in Zambia." *American Economic Review* 104 (7): 2210–37. https://doi.org/10.1257/aer.104.7.2210.
- Ashraf, Nava, and Diego Aycinena. 2015. "Savings in Transnational Households: A Field Experiment among Migrants from El Salvador." *THE REVIEW OF ECONOMICS AND STATISTICS*, 22.
- Baseler, Travis. 2020. "Hidden Income and the Perceived Returns to Migration: Experimental Evidence from Kenya." SSRN Scholarly Paper ID 3534715. Rochester, NY: Social Science Research Network. https://doi.org/10.2139/ssrn.3534715.
- Batista, Catia, and Gaia Narciso. 2018. "Migrant Remittances and Information Flows: Evidence from a Field Experiment." *The World Bank Economic Review* 32 (1): 203–19. https://doi.org/10.1093/wber/lhw058.
- Castilla, Carolina, and Thomas Walker. 2013. "Is Ignorance Bliss? The Effect of Asymmetric Information between Spouses on Intra-Household Allocations." *American Economic Review* 103 (3): 263–68. <u>https://doi.org/10.1257/aer.103.3.263</u>.
- Chen, Joyce J. 2006. "Migration and Imperfect Monitoring: Implications for Intra-Household Allocation." *The American Economic Review* 96 (2): 227–31.
- Chen, Joyce J. 2013. "Identifying Non-Cooperative Behavior among Spouses: Child Outcomes in Migrant-Sending Households." *Journal of Development Economics* 100 (1): 1–18. https://doi.org/10.1016/j.jdeveco.2012.06.006.

- De Arcangelis, Giuseppe, Majlinda Joxhe, David McKenzie, Erwin Tiongson, and Dean Yang. 2015. "Directing Remittances to Education with Soft and Hard Commitments: Evidence from a Lab-inthe-Field Experiment and New Product Take-up among Filipino Migrants in Rome." *Journal of Economic Behavior & Organization* 111 (March): 197–208. <u>https://doi.org/10.1016/j.jebo.2014.12.025</u>.
- Hoel, Jessica B. 2015. "Heterogeneous Households: A within-Subject Test of Asymmetric Information between Spouses in Kenya." *Journal of Economic Behavior & Organization*, Economic Experiments in Developing Countries, 118 (October): 123–35. <u>https://doi.org/10.1016/j.jebo.2015.02.016</u>.
- Laat, Joost de. 2014. "Household Allocations and Endogenous Information: The Case of Split Migrants in Kenya." *Journal of Development Economics* 106 (January): 108–17. <u>https://doi.org/10.1016/j.jdeveco.2013.09.003</u>.
- Lundberg, Shelly, and Robert A. Pollak. 1993. "Separate Spheres Bargaining and the Marriage Market." *Journal of Political Economy* 101 (6): 988–1010. <u>https://doi.org/10.1086/261912</u>.
- Manser, Marilyn, and Murray Brown. 1980. "Marriage and Household Decision-Making: A Bargaining Analysis." *International Economic Review* 21 (1): 31–44. <u>https://doi.org/10.2307/2526238</u>.
- McElroy, Marjorie B., and Mary Jean Horney. 1981. "Nash-Bargained Household Decisions: Toward a Generalization of the Theory of Demand." *International Economic Review* 22 (2): 333–49. https://doi.org/10.2307/2526280.
- McKenzie, David, John Gibson, and Steven Stillman. 2013. "A Land of Milk and Honey with Streets Paved with Gold: Do Emigrants Have over-Optimistic Expectations about Incomes Abroad?" *Journal of Development Economics*, Migration and Development, 102 (May): 116–27. <u>https://doi.org/10.1016/j.jdeveco.2012.01.001</u>.
- Jakiela, Pamela, and Owen Ozier. 2016. "Does Africa Need a Rotten Kin Theorem? Experimental Evidence from Village Economies." *The Review of Economic Studies* 83 (1): 231–68. https://doi.org/10.1093/restud/rdv033.
- Joseph, Thomas, Yaw Nyarko, and Shing-Yi Wang. 2018. "Asymmetric Information and Remittances: Evidence from Matched Administrative Data." *American Economic Journal: Applied Economics* 10 (2): 58–100. <u>https://doi.org/10.1257/app.20160150</u>.
- Rehman, Obeid Ur. 2020. "Spousal Communication and Information Sharing: Evidence from Migrants and Their Spouses," Working paper.
- Seshan, Ganesh, and Robertas Zubrickas. 2017. "Asymmetric Information about Migrant Earnings and Remittance Flows." *The World Bank Economic Review* 31 (1): 24–43. https://doi.org/10.1093/wber/lhv032.

| Table 1: Attrition | | | | | | | | | |
|------------------------------|---------|----------|-------------|-------------|-------------|-------------|--|--|--|
| | (1) | (2) | (3) | (4) | (5) | (6) | | | |
| | Contact | Recolino | Follow up 1 | Follow up 2 | Follow up 3 | Any follow- | | | |
| | survey | Dasenne | Tonow-up 1 | ronow-up 2 | Follow-up 5 | up | | | |
| No prompt | 224 | 169 | 140 | 145 | 131 | 159 | | | |
| Received prompt | 230 | 183 | 142 | 146 | 141 | 173 | | | |
| p-value from contact sample | | 0.406 | 0.154 | 0.661 | 0.780 | 0.682 | | | |
| p-value from baseline sample | | | 0.255 | 0.188 | 0.798 | 0.643 | | | |

Note: Author's calculations from contact, baseline, and follow-up surveys. P-values calculated using specification analagous to that presented in Panel A of Table 3.

| Table 2: Summary statistics and balance | | | | | | | | | |
|---|-------------------------------------|--------------------------------|---------------------------|------------------------|-----------------------------------|--|--|--|--|
| | (1) | (2) | (3) | (4) | (5) | | | | |
| | Baseline mean: Contact sample | Baseline mean: Event sample | p-value at contact survey | p-value at baseline | p-value in follow-up sample | | | | |
| Age | 36.547 | 36.476 | 0.451 | 0.704 | 0.505 | | | | |
| Female | 0.335 | 0.335 | 0.612 | 0.922 | 0.881 | | | | |
| Education: None & incomplete primary | 0.388 | 0.361 | 0.256 | 0.420 | 0.260 | | | | |
| Education: Completed primary & incomplete secondary | 0.412 | 0.440 | 0.586 | 0.892 | 0.589 | | | | |
| Education: Complete secondary and above | 0.200 | 0.199 | 0.520 | 0.494 | 0.577 | | | | |
| Rural | 0.650 | 0.659 | 0.094 | 0.128 | 0.214 | | | | |
| Household size | | 6.074 | | 0.599 | 0.569 | | | | |
| Total expenditures | | 33372.026 | | 0.586 | 0.483 | | | | |
| Total time working | | 44.551 | | 0.173 | 0.253 | | | | |
| Remittances sent | | | | | | | | | |
| Sent remittances: NASFAM member | | 0.744 | | 0.144 | 0.068 | | | | |
| Sent remittances: others | | 0.869 | | 0.678 | 0.725 | | | | |
| Sent remittances: any | | 0.972 | | 0.412 | 0.446 | | | | |
| Amount remittances sent: NASFAM member | | 8055.256 | | 0.857 | 0.806 | | | | |
| Amount remittances sent: others | | 14422.804 | | 0.143 | 0.038 | | | | |
| Amount remittances sent: total | | 22478.060 | | 0.134 | 0.071 | | | | |
| Remittances received | | | | | | | | | |
| Received remittances: NASFAM member | | 0.396 | | 0.724 | 0.809 | | | | |
| Received remittances: others | | 0.664 | | 0.219 | 0.454 | | | | |
| Received remittances: any | | 0.764 | | 0.046 | 0.091 | | | | |
| Amount remittances received: NASFAM member | | 1493.618 | | 0.244 | 0.249 | | | | |
| Amount remittances received: others | | 13461.709 | | 0.126 | 0.163 | | | | |
| Amount remittances received: total | | 14912.841 | | 0.118 | 0.153 | | | | |
| Remittances both directions: 3 months | | 0.341 | | 0.806 | 0.755 | | | | |
| Remittances both directions: 15 months | | 0.809 | | 0.488 | 0.388 | | | | |

Note: Author's calculations from contact and baseline surveys. P-values calculated using specification analagous to that presented in Panel A of Table 3.

| Table 3: Impact of Information Prompt on Remittances Sent | | | | | | | | | | |
|---|--|-----------------------------------|----------------------|-------------------------------------|-----------------------------|--|----------------------------------|---|--|--|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | | |
| | On the spot remittance to NASFAM member | Total sent to NASFAM member | Total sent to others | Total received to all recipients | Sent on the spot remittance | Sent remittances to NASFAM member | Sent remittances to others | Sent remittances to any recipient | | |
| Panel A: Impact of Prompt | | | | | | | | | | |
| Received prompt | 105.346 | -125.277 | 195.706 | 404.389 | 0.017 | 0.050 | -0.086** | 0.027 | | |
| | (192.305) | (485.111) | (959.031) | (1227.140) | (0.060) | (0.040) | (0.039) | (0.024) | | |
| No prompt Mean | 919.643 | 4425.316 | 6171.785 | 10597.101 | 0.446 | 0.728 | 0.772 | 0.899 | | |
| Adjusted R-squared | 0.168 | 0.259 | 0.240 | 0.259 | 0.138 | 0.067 | 0.017 | 0.023 | | |
| Observations | 350 | 329 | 329 | 329 | 350 | 329 | 329 | 329 | | |
| Panel B: Interaction of Prompt and Type of | ^f Information | | | | | | | | | |
| Received prompt | 74.280 | 76.114 | 438.144 | 924.652 | 0.019 | 0.069 | -0.104 | -0.007 | | |
| | (221.956) | (958.014) | (1957.327) | (2172.409) | (0.087) | (0.076) | (0.084) | (0.044) | | |
| Higher | 32.792 | 219.888 | -992.757 | -717.589 | -0.033 | 0.029 | 0.084 | 0.025 | | |
| | (195.007) | (720.023) | (1428.895) | (2029.936) | (0.077) | (0.076) | (0.071) | (0.062) | | |
| Prompt x Higher | 43.855 | -310.318 | -251.876 | -674.893 | -0.001 | -0.030 | 0.016 | 0.046 | | |
| | (252.070) | (980.459) | (2410.527) | (2454.416) | (0.097) | (0.098) | (0.106) | (0.054) | | |
| No prompt Mean | 919.643 | 4425.316 | 6171.785 | 10597.101 | 0.446 | 0.728 | 0.772 | 0.899 | | |
| P-value: Prompt + Prompt x Higher = 0 | 0.606 | 0.618 | 0.882 | 0.860 | 0.794 | 0.470 | 0.086 | 0.230 | | |
| Adjusted R-squared | 0.163 | 0.254 | 0.236 | 0.255 | 0.133 | 0.061 | 0.019 | 0.025 | | |
| Observations | 350 | 329 | 329 | 329 | 350 | 329 | 329 | 329 | | |

Notes: Robust standard errors in parentheses are clustered by event. All regressions include controls for event, enumerator, and the baseline value of the outcome. All money amounts are in MWK. 1 USD = 727 MWK.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|--|-----------------------------------|------------------------------|--|-----------------------------------|------------------------------|--|-----------------------------------|------------------------------|
| | Panel 1: Below median income | | | Panel 1: Recipient is below median worse off | | | Panel 1: Migrant is below median badly | | |
| | Panel 2: Above median income | | | Panel 2: Recipient is above median worse off | | | informed | | |
| | On the spot remittance to NASFAM member | Total sent to NASFAM member | Total sent to all recipients | On the spot remittance to NASFAM member | Total sent to NASFAM member | Total sent to all recipients | On the spot remittance to NASFAM member | Total sent to NASFAM member | Total sent to all recipients |
| Panel A1: Impact of Prompt, below | | | | | | | | | |
| Received prompt | 494.346** | 95.703 | 1682.999 | 75.261 | 52.781 | 563.434 | 81.424 | -374.990 | -743.845 |
| | (214.917) | (890.166) | (1461.194) | (204.326) | (754.109) | (2339.433) | (138.159) | (967.720) | (2252.950) |
| No prompt Mean | 670.330 | 4450.581 | 9070.814 | 895.062 | 4318.421 | 10871.197 | 590.909 | 4446.622 | 9934.203 |
| Adjusted R-squared | 0.254 | 0.422 | 0.435 | 0.234 | 0.367 | 0.311 | 0.120 | 0.221 | 0.248 |
| Observations | 179 | 169 | 169 | 171 | 161 | 161 | 157 | 146 | 146 |
| Panel A2: Impact of Prompt, above | | | | | | | | | |
| Received prompt | -333.193 | 147.717 | -340.186 | 106.720 | -0.855 | 321.293 | 73.520 | 963.771 | 967.641 |
| No prompt Moon | (307.038) | (025.308) | (2719.031) | (260.143) | (837.019) | (1870.209) | (314.582) | | (2103.867) |
| No prompt Mean | 1280.765 | 4003.281 | 12378.938 | 918.605 | 4543.210 | 10347.296 | 1227.273 | 3503.580 | 9854.457 |
| Adjusted R-squared | 0.164 | 0.200 | 0.147 | 0.094 | 0.122 | 0.187 | 0.136 | 0.235 | 0.212 |
| Observations | 150 | 141 | 141 | 174 | 163 | 163 | 188 | 1// | 1// |
| Panel B1: Interaction of Prompt and Type | e of information, | below | 4257 200 | 242 544 | 4.004 | 222.04.6 | 4.46, 400 | 502 544 | 1016 166 |
| Received prompt | 571.223* | -1263.004 | -1357.389 | 342.541 | -4.861 | 220.016 | -146.493 | -593.541 | -1946.166 |
| 11ink au | (313.504) | (1358.439) | (3158./14) | (315.450) | (1155.909) | (4250.699) | (256.502) | (2087.213) | (3569.804) |
| Higher | 275.100 | -518.784 | -3263.070 | 416.961 | -408.919 | -2388.301 | -120.179 | -1007.082 | -2069.502 |
| Dromaty Linhar | (310.905) | (1037.751) | (2217.659) | (303.199) | (1093.452) | (2082.501) | (183.398) | (1129.023) | (34/9.588) |
| Prompt x Higher | -110.890 | 2309.941 | 5050.004 | -409.735 | 156.210 | 840.223 | 335.023 | 589.154 (2075 562) | (2006 678) |
| No prompt Moon | (522.522) | (1411.040) | (4117.241) | (415.951) | (1472.098) | (5041.815) | (282.815) | (2075.505) | (3900.078) |
| Represented the property Higher $= 0$ | 070.550 | 4450.581 | 9070.814 | 0.644 | 4316.421 | 0.608 | 0 221 | 4440.022 | 9954.205 |
| Adjusted R-squared | 0.058 | 0.275 | 0.034 | 0.044 | 0.875 | 0.098 | 0.231 | 0.990 | 0.331 |
| Aujusteu K-squareu | 170 | 160 | 160 | 0.235 | 0.556 | 161 | 157 | 146 | 146 |
| Deservations Repeat B2: Interaction of Brownt and Turn | 1/9 of Information | 109 | 109 | 1/1 | 101 | 101 | 157 | 140 | 140 |
| Paceived prompt | -267 256 | 150/ 000 | 0780 255 | -330 /07 | -156.052 | 1276 650 | 107 / 25 | 811 110 | 1765 820 |
| | (435 673) | (1/63//39) | (777/ 103) | (326 571) | (1512 515) | (4450 263) | (3/15 815) | (732 037) | (3706 408) |
| Higher | 0.827 | 781 556 | 4782 699* | -737 297** | 14 968 | 230 348 | 193 524 | 1178 370 | 499 160 |
| inglici | (408 531) | (1209 644) | (2329 304) | (287 430) | (1424 743) | (4452 206) | (364 016) | (751 935) | (2791 508) |
| Prompt x Higher | -89 502 | -1877 429 | -13916 761 | 652 195 | 208 854 | -1303 642 | -53 650 | 122 286 | -1254 084 |
| i lompe x ingliei | (676 170) | (1596 467) | (10349 289) | (530 174) | (1481 416) | (5058 581) | (464 192) | (751 118) | (4710 094) |
| No prompt Mean | 1286 765 | 4663 281 | 12378 938 | 918 605 | 4543 210 | 10347 296 | 1227 273 | 3563 580 | 9854 457 |
| P-value: Prompt + Prompt x Higher = 0 | 0.428 | 0.550 | 0.325 | 0.407 | 0.950 | 0.990 | 0.897 | 0.205 | 0.850 |
| Adjusted R-squared | 0.150 | 0.191 | 0.150 | 0.110 | 0.108 | 0.175 | 0.127 | 0.235 | 0.201 |
| Observations | 150 | 141 | 141 | 174 | 163 | 163 | 188 | 177 | 177 |
| | | | | _ · · | _ ** | | | | =: • |

Table 4: Impact of Information Prompt on Remittances Sent: By Subgroups

Notes: Robust standard errors in parentheses are clustered by event. All regressions include controls for event, enumerator, and the baseline value of the outcome. All money amounts are in MWK. 1 USD = 727 MWK. Indices are as described in paper text.