Journal of Development Economics 113 (2015) 52–69

Contents lists available at ScienceDirect

Journal of Development Economics

journal homepage: www.elsevier.com/locate/devec

Don't tell on me: Experimental evidence of asymmetric information in transnational households☆

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ARTICLE INFO

Article history:
Received 21 December 2013
Received in revised form 30 October 2014
Accepted 5 November 2014
Available online 13 November 2014

Keywords:
Remittances
Intra-household allocation
Information asymmetries
Transnational households

ABSTRACT

Although most theoretical models of household decision making assume perfect information, empirical studies suggest that information asymmetries can have large impacts on resource allocation. I demonstrate the importance of these asymmetries in transnational households, where physical distance between family members can make information barriers especially acute. I implement an experiment among migrants in Washington, DC, and their families in El Salvador that examines how information asymmetries can have strategic and inadvertent impacts on remittance decisions. Migrants make an incentivized decision over how much of a cash windfall to remit, and recipients decide how they will spend a remittance. Migrants strategically send home less when their choice is not revealed to recipients. Recipients make spending choices closer to migrants' preferences when the migrants' preferences are shared, regardless of whether or not the spending choices are revealed to the migrants, suggesting that recipients' choices are inadvertently affected by imperfect information.

1. Introduction and motivation

Although the implications of asymmetric information have been well documented in the study of economic institutions such as labor, credit, and insurance markets, theoretical models of intra-household resource allocation have largely assumed perfect information (Chiappori, 1988, 1992; Lundberg and Pollack, 1993; Manser and Brown, 1980; McElroy and Horney, 1981).[1] Despite this, a growing body of empirical literature has shown that information asymmetries do exist in households and, further, that household members take strategic advantage of these asymmetries to alter the allocation of resources in the household. For example, Ashraf (2009) shows that in the Philippines, men hide income from their wives when that decision is private and divert income to committed consumption when their decision is public. Only when spouses communicate about their choices before they make them do men choose to share the income with their wives. This paper brings the study of how information asymmetries affect intra-household resource allocation to a different setting: transnational households, defined as households composed of international migrants and their family members in the home country, in this case El Salvador. Using experimental methods, I examine the effects of a set of information imperfections on remittance decisions in a matched sample of migrants from El Salvador and their family members at home.

I address two types of information asymmetries that may affect decisions about the sending and spending of remittances. The first are asymmetries that can lead to *strategic* behavior, meaning that migrants and recipients recognize that the asymmetry exists and use it for their benefit. The specific asymmetries considered here are the limited abilities of remittance recipients to observe migrant income and of migrants to observe recipient spending. The second type are those that can have *inadvertent* impacts, defined as asymmetries that unintentionally affect decisions. These asymmetries are represented here as communication barriers that result in recipients having an incomplete understanding of migrant preferences for how the remittances they send should be spent. Communication barriers should be interpreted broadly as any obstacle—social, financial, or logistical—to understanding these preferences.

The context of transnational households is significant because migrants and their family members are making financial decisions in a

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[1] Exceptions include Bloch and Rao (2002) and Chen (2013).

http://dx.doi.org/10.1016/j.jdeveco.2014.11.001

situation where information asymmetries are especially acute due to the distance separating family members. A number of studies have documented the existence of these asymmetries in households with migrants. De Laat (2014) shows that domestic migrants in Kenya spend resources on costly monitoring of their wives. Chen (2013) finds that in China, wives with migrant husbands exhibit non-cooperative behavior more often for activities that are more difficult to monitor. McKenzie et al. (2013) find that potential Tongan migrants underestimate earnings in New Zealand, a fact the authors partly attribute to underreporting of earnings by migrants. Among Indian migrants in Qatar, Seshan and Yang (2014) find evidence that migrants underestimate how much their wives at home are saving, and Seshan and Zubrickas (2014) show that the underreporting of husband's income abroad by wives is correlated with lower remittances. However, the empirical analysis in these papers is largely observational. This is the first study to causally examine how information asymmetries directly affect behavior, specifically decisions about the sending and spending of remittances.

The importance of understanding how information asymmetries affect decisions in transnational households is heightened by the fact that migrants and their family members are financially linked through the sending of remittances. In 2010, aggregate remittances to the developing world were US$332 billion, and in El Salvador remittances received were 16% of GDP (Ratha and Silwal, 2012). Additionally, the receipt of remittances has been shown to have positive impacts on a variety of measures of well-being (Adams and Cuecuecha, 2010; Adams and Page, 2005; Cox Edwards and Ureta, 2003; Woodruff and Zenteno, 2007; Yang, 2008; Yang and Martinez, 2005). Given this importance of remittances in developing countries, a more complete understanding of how remittance decisions are made is crucial for policymakers who are hoping to maximize their economic impact.

A growing experimental literature related to remittances and information has focused on the strategic efforts of migrants to control remittance spending. Specifically, several field experiments have examined the effects of offering migrants varying degrees of control over remittances. The idea behind these experiments is that offering control to migrants will mitigate a moral hazard problem in how recipients spend remittances. Studies have found mixed results. Ashraf et al. (forthcoming) show that savings levels in bank accounts in El Salvador increase when migrants are given greater control over these accounts. Chin et al. (2011) find that the impacts of an experiment that offered migrants assistance in opening bank accounts in the United States are concentrated among migrants who report having no control over how their remittances are spent. However, in a lab experiment, Torero and Viceisza (2013) do not find that Salvadoran migrants send more when they are able to control how remittances are spent, and attribute this to the fact that the control offered by their experiment was too limiting. Additionally, Ambler et al. (forthcoming) find no unsubsidized demand for a product that directs remittances to education and De Arcangelis et al. (2014) show evidence that simply labeling remittances for education is as effective in increasing remittances as providing a hard commitment device.

A limitation of the papers described above is that they do not consider that information problems might run in both directions. One of the principal contributions of this paper is therefore that it examines the strategic impacts of information asymmetries on *both* sides of the migrant–recipient relationship. The observational studies documenting information asymmetries in migrant households have also largely focused on migrant monitoring of recipient behavior (Chen, 2013; de Laat, 2014) and none examine the decisions of both migrants and recipients.

This study also fits into the literature that describes information asymmetries and strategic behavior in families that live in closer proximity. In addition to the previously described Ashraf (2009) study in the Philippines, Schaner (forthcoming) finds that spouses are more likely to choose to save in individual (as opposed to joint) savings accounts when they are not well informed about each other's finances. Also related, Jakiela and Ozier (2012) find that women in Kenya sacrifice investment returns to keep income secret from family members outside their household and avoid the pressure to share that income. Ashraf et al. (2014), Castilla and Walker (2013), and Hoel (2014) also find evidence of strategic effects of information asymmetries between spouses.

An additional contribution of this paper is that it also addresses the inadvertent impacts of information asymmetries, which have been studied much less. In a field experiment with migrants in Ireland, Batista and Narciso (2013) find that providing migrants with free phone calls to their home country increases both communication with family members and remittances. However, although this experiment lowers communication costs, it cannot identify whether the information asymmetry alleviated was strategic or inadvertent. For example, increased communication may have given migrants better information about recipient needs, but it also may have reduced the ability of migrants to strategically underreport their income. Similarly, the communication treatment in Ashraf (2009) allows spouses to discuss their decisions, and therefore cannot distinguish a strategic bargaining effect from an alleviation of an inadvertent information barrier.

The experiments in this paper explicitly test for both strategic and inadvertent responses to information asymmetries. They were designed to mimic real-life decisions about remittances made by migrants and their family members, and by randomly assigning treatments, I am able to causally identify the impacts of the informational conditions being tested. The first experiment was conducted among Salvadoran migrants recruited in the Washington, DC, area.[2] The migrants were asked how much of a possible $600 lottery prize they wished to keep and how much they wished to send to a family member in El Salvador. Participants had the chance to win the allocation that they chose. To test whether migrants strategically react to changes in the observability of their income, they were randomly allocated into two treatment groups: those whose decisions were revealed to their families back home (and the migrants were told their decisions would be revealed), and those whose decisions were not revealed to their families at home (and, similarly, the migrants were told their decisions would remain private). Although the choice was described to the migrant as a remittance decision, it should be noted that the migrant experiment is essentially a version of the classic dictator game where one player allocates a sum of money between him or herself and a recipient.

The migrants' family members in El Salvador (referred to throughout the paper as "recipients") then participated in a second experiment. They made a decision about how to spend a possible $300 lottery prize. This prize was referred to as a remittance and recipients were told that they were eligible for this remittance because their migrant family member was participating in the study. To test for strategic reactions to the observability of their spending choices, as in the migrant experiment half of the recipients were told that their choice would not be revealed to the migrant, and the other half were told that their choice would be revealed. In a second cross-randomized treatment addressing the inadvertent effects of communication barriers, half of the recipients were informed of the migrant's preferences for how the money should be spent, and the others were not. These preferences were collected from migrants during the migrant survey, following the conclusion of the migrant experiment described above. In order to avoid the migrant experiment influencing the results of the recipient experiment, the information revelations about choices made in the migrant experiment and the awarding of all prizes were conducted after the conclusion of both experiments.

[2] Recruitment methods and locations were very similar to those successfully used in Ashraf et al. (forthcoming).