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Research Article

**Measuring remittances through surveys:
Methodological and conceptual issues for survey
designers and data analysts**

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Table of Contents

1	Introduction	1244
2	Objectives of remittances surveys	1245
2.1	Mapping remittances	1246
2.2	Investigating channels and costs of remittances	1246
2.3	Analysing determinants and motives	1247
2.4	Assessing the effects and the impact of remittances	1248
3	Meanings and forms of remittances	1250
3.1	Does it matter whether value is transferred in the form of money?	1251
3.2	Does it matter whether the money is sent by a migrant?	1251
3.3	Does it matter whether the money is sent between relatives?	1251
3.4	Does it matter whether the money is transferred to the sender's country of origin?	1252
3.5	Does it matter whether the money becomes the recipient's property?	1252
3.6	Does it matter whether the transfer is unrequited?	1253
3.7	Is it important to also capture possible reverse transfers?	1253
3.8	Does it matter whether money is transferred from one place to another?	1254
3.9	Does it matter whether remittances are international or internal?	1254
4	Research design and sampling	1256
4.1	Individuals and households	1256
4.2	Senders and recipients	1259
5	Framing of questionnaire items	1259
5.1	Remittance frequency	1260
5.2	Remittance amounts	1260
5.3	Remittance senders and recipients	1261
5.4	Transfer mechanisms	1261
5.5	Contextualizing information	1262
6	Reliability and sensitivity	1264
6.1	Knowledge, encoding, and recall	1264
6.2	Sensitivity and bias	1265
7	Conclusions	1267
8	Acknowledgements	1268
	References	1269

Measuring remittances through surveys: Methodological and conceptual issues for survey designers and data analysts

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Abstract

BACKGROUND

The accurate measurement of migrant remittances is central to understanding both the dynamics and the consequences of migration. Empirical studies rely on survey data about remittances, which are difficult to collect in a precise and reliable form.

OBJECTIVE

We explore the complexities and the challenges associated with the design of surveys on migrants' remittances, drawing upon our experiences over a number of studies in which we compiled and analysed data on migrants' remittances across a wide range of countries and contexts. Our goal is not to prescribe specific solutions, but rather to raise awareness of key methodological choices and their implications, not only among those engaged in survey design, but also among analysts who rely on data collected by others.

METHODS

We specify a number of definitional, methodological, and conceptual issues the researcher must address before embarking on the task of survey and questionnaire design. These include the need to take into account the various forms that remittances may take, the different channels through which they are transferred, the parties and relationships which could be involved, and the differences in the perspectives of senders and recipients, and of individuals and households. We also examine the implications of survey issues related to the sensitivity and the reliability of responses.

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CONCLUSIONS

Our results suggest that both survey designers and analysts who are relying on survey data collected by others should (1) be aware of the specific methodological choices involved in collecting survey data about remittances; and (2) set priorities that reflect (a) the substantive objective of the study, (b) the particular context at hand, and (c) the value of generating results comparable to those of surveys in other contexts.

1. Introduction

Our purpose in this paper is to examine remittance measurement in surveys, and the methodological and conceptual challenges associated with it. Many researchers in the field have addressed particular aspects of remittance survey methodology (Plaza, Navarrete, and Ratha 2011; Millis, Orozco, and Raheem 2008; de Brauw and Carletto 2008). What is lacking is a comprehensive overview of the conceptual and methodological issues that need to be addressed at an early stage in all survey research on remittances. This is what we seek to provide in this paper.

There are certainly pitfalls researchers should be aware of, and there are approaches that can be dismissed as faulty. However, there exists an array of methodological choices which are neither clearly right nor wrong. Analysts must therefore consider which approach is most appropriate in a given case based on the specific empirical context, the objective of the research, and the resource limitations that the survey is subject to. In order to make wise choices, researchers must be aware of the options and of the implications of each choice. We promote an awareness of these issues in this paper. While we point to implications for subsequent analysis, we stop short of discussing the methodology of analysis itself. Instead, we seek to stress what we consider to be the fundamental sources of problems and biases which frequently undermine the analysis of remittances, irrespective of the strength and the robustness of the particular methods and techniques employed by the analyst.

The issues we address are relevant not only to those engaged in the design and implementation of surveys, but also to analysts who rely on survey data collected by others. All too often, researchers work with survey data while having little or no knowledge of how the questionnaire was designed; how well the aspects relevant to their analysis were covered in the survey; and how the questions were framed, phrased, and presented by the interviewers. For example, as we discuss later, many surveys ask only about financial transfers, while ignoring in-kind transfers or purchases and other indirect payments made by the migrant on behalf of the recipient. As these types of

transfers may constitute a substantial share of total remittances, the results of such surveys could lead researchers to develop biases and draw misleading conclusions.

Quantitative information about remittances comes primarily from two sources: aggregated records from financial institutions, which form the basis of balance-of-payment figures; and sample surveys conducted among people who might send or receive remittances. Aggregated records have the obvious advantages that they are not samples and that the figures are – at least in principle – comparable between countries. There are three reasons why sample surveys are needed as a complement to these official figures.

First, the remittance records of financial institutions capture only a portion of the actual remittance flows. This is primarily because remittances are often sent through informal channels, and because formal transfers are not always recorded as remittances. In addition, the diversity and the complexity of migration-related financial transfers raises many questions about which transfers should be regarded as remittances. The answers to these questions may be expected to vary depending on the empirical context and the research objective. These questions are thoroughly addressed in later sections.

Second, surveys can provide information about *individuals* and/or about *transactions*, whereas official statistics focus on *aggregate amounts*. In other words, the units of analysis are fundamentally different. While balance-of-payments statistics can be used to calculate per capita remittance inflows, only survey data can tell us how those inflows are distributed across the receiving population.

Third, surveys allow for the collection of complementary information that makes it possible to analyse determinants or impacts of remittance flows. Cases in point are household-level data on income, and information about the kinship relationships between senders and recipients.

In the next section, we discuss the possible objectives of measuring remittances in surveys, which should provide a basis for methodological choices. We then critically examine the unitary notion of “remittances,” and consider the range of transfers which could inadvertently be included or excluded in surveys. Next, we discuss research design and sampling, as well as specific questionnaire items. In the final section before the conclusion, we address issues related to reliability and validity.

2. Objectives of remittances surveys

We consider here four principle objectives underlying survey-based research on remittances, while acknowledging that these objectives are not necessarily mutually exclusive.

2.1 Mapping remittances

The most basic objective is to gather data about remittance flows, either as important information in its own right, or as a foundation for conducting analyses of their determinants or impacts. Among the basic questions that might be addressed are the following:

- How often are remittances sent/received, if at all?
- To and by whom are remittances sent?
- What are the amounts of the remittances sent/received?
- What forms do these remittances take?
- What transfer channels are used?

Researchers cannot be certain that a remitter or a recipient who is asked about “remittances” will consider all of the relevant transfers. Moreover, an individual remitter or recipient could send or receive remittances in a variety of forms and through various channels. The objective of mapping remittances requires us to pay attention to the range of transfer types which might be relevant (cf. section 3), and to the factors which could lead interviewees to be unwilling or unable to provide accurate answers (cf. section 6).

2.2 Investigating channels and costs of remittances

Transfer mechanisms differ on a number of parameters, including cost, speed, and accessibility. When making monetary transfers, a migrant can choose to use formal bank channels, other formal non-bank money transfer organisations, or informal channels. These informal channels include hand-carried cash transfers and the use of informal couriers, such as *hawala* and its variants (El Qorchi, Maimbo, and Wilson 2003).

Understanding the choice of remittance channel is relevant to several policy objectives. First, since transfer costs are highly variable and can exceed 20% of the transfer amount, lowering average costs could have a large direct impact on the remittances received. Second, shifting transfers from informal to formal channels is considered by some to be relevant in the fight against money-laundering and terrorist financing. Third, greater use of the banking system can have indirect benefits for development, stimulating the availability of additional credit and the demand for financial services which underpin longer-term financial development.

Questionnaires aimed at investigating the forms, channels, and costs of remitting must take into account the possibility that respondents have limited information. It is, for example, highly unlikely that recipients will have any knowledge of the transfer costs. Moreover, the full cost of transfers is usually not transparent to the sender either, as it is often obscured by a combination of fees and exchange rate margins. Surveys can contribute to information on preferred forms and channels of remittances, and, where financial institutions are involved, market knowledge, usage patterns, and preferences. Issues to consider include the following:

- Which transfer forms and mechanisms are available and known to the respondent?
- Which transfer forms and mechanisms are used?
- What is the basis for choosing between various forms and mechanisms?

2.3 Analysing determinants and motives

Understanding the determinants of remitting is essential for assessing which changes in conditions, events, or interventions could stimulate (or deter) the sending of remittances, and for crafting policies aimed at fostering remittance flows. There is a range of factors which could explain individual patterns of remitting, as Hagen-Zanker and Siegel (2007) and Carling (2008a) have observed. Much of the economics literature has sought to link the effects of specific determinants to the underlying motives for remitting, most notably *altruism*, *insurance*, *investment*, and *repayments* (Lucas and Stark 1985; Rapoport and Docquier 2006; Brown, Connell, and Jimenez-Soto 2014). Other studies have focused on the separate determination of migrants' *capacity* and *desire* to remit (Carling and Hoelscher 2013).

In analysing the determinants of and the motives for remitting, we cannot rely on direct questions to the respondent; instead, we need to assess the motives indirectly by testing alternative hypotheses about the responsiveness of remitting behaviour to changes in the migrants' and/or recipients' income or welfare, and/or to particular events as predicted by the different motivations. Issues analysts should consider in designing the questionnaire include the following:

- What is the history of past transactions between senders and recipients?
- What are the transnational family structures of the respondents? In other words, who are the *potential* senders and recipients of both intra-familial remittances and remittances beyond the migrants' own families?
- What are the financial needs and resources available to the sending and the receiving households?

- Who makes decisions about remitting?
- How are the sender and the recipient implicated in other remittance transfers, which could have indirect effects on the transfers being studied?
- Are there particular events that affect remittance patterns during the recall period (illnesses, weddings, funerals, natural disasters, unemployment, etc.)?

Strictly speaking, properly modelling the determinants of remittances requires us to have information about each *dyad* of potential senders and receivers (Carling 2008a). Even in the textbook case of a single migrant remitting to the household of origin, there could be parallel flows to elderly parents or siblings who live in other households—flows that are shaped in part by other determinants. In order to make good use of survey resources, analysts must adopt informed strategies for reducing the complexity while retaining the information that is most valuable to the research. For instance, when seeking to construct dyadic information without a matched sample, it is pertinent to ask what information can realistically be obtained *from* senders *about* (potential) recipients, and *vice versa* (cf. section 4.2 and 6.1).

The determinants of and motives for remitting are intricately connected to the broader relationships between the senders and the recipients (Carling 2008b). Although money is (primarily) sent in one direction, these transfers are typically associated with various forms of reciprocity, both material and non-material. A recent series of ethnographical studies on remittances has looked explicitly at the elusive elements of reciprocity (e.g., Åkesson 2011; Singh and Cabraal 2013; Thai 2014). This ethnographic literature has provided us with fresh insights into the dynamics of remitting behaviour which have yet to be integrated into survey-based approaches (Carling 2014).

2.4 Assessing the effects and the impact of remittances

The impact of remittances on economic development processes can be examined using information on the recipient households' income, expenditures, wealth, savings, entrepreneurial activities, and investments; including their investments in health, education, agriculture, and other business activities (e.g., Brown et al. 2006). Increasingly, we are seeing scholars investigate the impact of remittances on the general well-being of recipient households. For example, Sen (1999), Moser (1998), and others have argued that a holistic approach to well-being would take factors in addition to income into account (Loschmann and Siegel 2014; Brown and Jimenez 2011). Such approaches are often multi-dimensional investigations of factors like health, education,

and living standards; or they examine and interpret well-being in a more subjective or relative manner.⁵ Nonetheless, the usual starting point for these kinds of studies is to look at the effects of remittances on income. Research on the effects of remittances on income needs to address two basic questions:

- What is the size and composition of household income from all sources?
- What would the size and composition of this income be in the *counterfactual* scenario without migration and remittances?

The latter question represents a considerable methodological challenge: the analyst needs to compare the observed state of the world *with* migration and remittances to some hypothetical state of the world *without* migration and remittances. To this end, the questionnaire design must allow for the estimation of both observed and counterfactual income. A full discussion of the various analytical approaches is beyond the scope of this paper,⁶ but it is useful to point to the different effects that must be taken into account: (i) the direct effect of remittance inflows as an addition to other observed sources of household income; (ii) the direct effect of the lost income due to the out-migration of one or more household members; (iii) the direct effect of migration on *per capita income*, given that the number of household members will be lower than in the counterfactual, no-migration scenario; and (iv) the indirect effects of both the out-migration of household members and the inflow of remittances on the household's allocation of resources, and thus income from other sources (cf. Brown and Leevs 2011).

Second, a counterfactual scenario without migration and remittances for *any* households in the research area would have general equilibrium effects on, for example, wages, production, expenditures, and prices in the domestic economy. It should not be assumed that only the incomes of migrant- and/or remittance-receiving households will be affected; there are likely to be indirect effects on other households through, for example, the labour market and the price effects of migration and spending from remittances.

Before embarking on a study of the impact of remittances, it is worth considering whether and how *other effects of migration* on welfare should be taken into account and

⁵ The effects of remittances on development appear to have an even broader scope if we consider “social remittances,” or the ideas, practices, identities, and social capital that flow from receiving to sending country communities (Levitt 1998). However, although this concept makes use of the term “remittance” as a metaphor, it essentially describes the broader interactions of migration, transnationalism, and social change. Our focus here remains on remittances in the conventional sense of financial transfers.

⁶ Methodological approaches to addressing this challenge are discussed by Adams (2011) and McKenzie and Sasin (2007). We are assuming here that the analyst is restricted to non-experimental survey data, and must therefore rely on estimations of hypothetical, counterfactual income from non-migrant households.

reflected in the questionnaire. As we noted previously, we favour a multi-dimensional approach to measuring well-being because we believe it is more effective than a purely monetary income approach when assessing the development and the well-being of individuals and households. For instance, school absenteeism might be higher among children who have to compensate for parental absence by working inside and outside of the home. There could also be social and psychological costs associated with migration that may be revealed using appropriate questionnaire items.

Finally, a focus on the effects of migration raises critical questions about the unit of analysis: almost no studies have accounted for the impact on the migrants themselves. If the absent migrants are considered a part of the household or of the country of origin, a complete analysis would consider the costs, both material and psychological, incurred by the migrant as well (cf. Clemens and Pritchett 2008). It is important to note here that the definition of “household” may be unclear, as this concept varies depending on the country context. For example, in some countries a typical household may consist of a nuclear family living under one roof, or a multi-generational family sharing a home, or a family with multiple wives (Randall, Coast, and Leone 2011). It is therefore important that researchers always use a definition that makes sense in the particular country context, and that they are explicit about the definition used.

3. Meanings and forms of remittances

The term “remittance” is most often defined roughly as follows: “funds transferred by migrants abroad to their families at home” (International Organization for Migration 2005:24). But when we start to look at the details of a survey – i.e., who is being interviewed, where the survey is being conducted, and what the goal of the survey is – it becomes clear that “remittance” can refer to a very wide range of transfers. Depending on the research design and questionnaire items, specific forms of transfers could be inadvertently included or excluded, which could have serious implications for the data and the analysis. Ethnographic studies of remittances can often yield valuable insights into the ways in which actual remittances practices may deviate from the expectations of remittance analysts (see Carling 2014 for an overview).

In designing the survey instrument, the analyst needs to be aware of all of the possible forms, channels, senders, and recipients of remittances. But given the research objectives and resource constraints, it will not always be possible or even necessary to capture every form of remittance. The following nine questions serve as a checklist intended to help the researcher make better decisions about the use of scarce survey resources. Some of the answers have implications for design and sampling; others are related to the questionnaire. We address each of these areas in subsequent sections.

3.1 Does it matter whether value is transferred in the form of money?

In some remittance corridors, in-kind remittances represent a substantial proportion of the value that is transferred (Unger and Siegel 2006; Young, Osman, and Dale 2007; Brown et al. 2006). Material gifts may be preferred to cash for a number of reasons. For example, such gifts may have greater emotional value than cash, or the items given may be unavailable or unreasonably expensive in the recipient's country. In the latter case, it may be preferable for the migrant to send goods for sale instead of remitting money. Value can also be transferred indirectly to recipients when migrants make direct payments to third parties for services that benefit their relatives. For example, migrants may cover medical bills, school fees, or airfares. Such transfers often are not captured by typical survey questions about remittances. If the objective of the research is to quantify the determinants or the effects of remittances, in-kind transfers and payments for services should be considered. On the other hand, if the goal of the research is to gain a better understanding of the use and the cost of alternative monetary transfer channels, or of the implications for financial development in the recipient country, only questions about monetary transfers from migrants to recipients would be relevant.

3.2 Does it matter whether the money is sent by a migrant?

Several types of transfers that do not come from migrants might nevertheless be relevant in studies of remittances, such as pensions sent to return migrants and money sent by descendants of migrants. The sending of remittances is a common indicator in studies of second-generation transnationalism (Kasinitz et al. 2002; Rumbaut 2002), but the very concept of "remittances from the second generation" is a contradiction in terms if we adhere strictly to the dominant definitions of remittances.

3.3 Does it matter whether the money is sent between relatives?

There is little doubt that intra-familial transfers account for the bulk of global remittances, but non-family transfers can be significant in certain contexts. Migrants could send remittances to more distant relatives or friends, or to community-level development initiatives such as hometown associations. Remittances may also take the form of donations to religious or community organisations. Even if institutionalised transfers are deemed inconsequential, it could make sense to define money sent between unrelated friends as remittances. Whether the analyst chooses to include these types of transfers will depend on the extent to which the study seeks to investigate the

wider, community-level effects of remittances, as well as the effects on the migrants' own households; such as in Brown, Leeves, and Prayaga (2014).

3.4 Does it matter whether the money is transferred to the sender's country of origin?

In transnational family networks, remittance recipients might not be located in the sender's country of origin. For instance, the refugee diaspora typically encompasses communities in distant, high-income countries, as well as communities in the region. Substantial remittances may flow from the former to the latter communities: e.g., from Somalis in Europe to Somalis in Kenya, or from Afghans in the United States to Afghans in Pakistan. Again, whether the analyst chooses to include such transfers will depend on whether the objective of the study is to investigate the implications for the migrant-sending community, or for the remitting migrant.

3.5 Does it matter whether the money becomes the recipient's property?

A remittance is generally thought of as a transfer from one person to another, possibly within a household group who pool their resources. In many cases, however, the migrant retains exclusive ownership of money that is transferred. When migrants send money for the construction of a house, for instance, the funds could simply be managed by relatives on the migrant's behalf. Similarly, the money could be intended for onward transfers to secondary recipients (Erdal 2012).

If the migrant sends money for the purpose of direct asset accumulation in the home country, it will not necessarily be transferred via anyone other than the person in that country. If one of the goals of a given research project is to examine the implications of remittances for saving and investment in the migrants' country, it would be important for these kinds of remittances to be covered.

This also raises the important issue of whether it is necessary to capture the full extent of the migrants' accumulated savings and investment in their home countries. A migrant saver/investor has a number of options with respect to the timing and the location of asset accumulation. One option is to remit to the home country for the purpose of personal asset accumulation. Another option is to accumulate assets in the host country with a view to transferring these as a lump-sum capital transfer at some time in the future; usually when the migrant returns to the home country. As Amuedo-Dorantes and Pozo (2013) have argued, the choice of the country in which the accumulated savings are held – and thus of the timing of financial transfers to the home

country – is essentially an issue of portfolio choice, which will be influenced by the migrant’s perception of relative rates of return in the host and home country economies. Moreover, some studies have found that the migrant’s intentions to return home will affect the amounts and timing of such transfers (Ahlburg and Brown 1998). For these reasons, it is important to combine survey questions about current/recent remittances with additional questions about the migrants’ savings and accumulation of assets in both the host and home countries, as well as their intentions for returning to the home country (see section 5.5). Thus, it is also important that surveys of migrant households in the home country include questions not only about remittances received from current migrants, but about assets transferred by returning/returned migrants.

3.6 Does it matter whether the transfer is unrequited?

According to common perception and the International Monetary Fund’s definition of the term, remittances are transfers without any *quid pro quo*. However, the broader reciprocal relationships between senders and recipients can make it difficult to ascertain whether specific services are provided in return for remittances, especially as these are often informal and implicit. For instance, if a migrant has left a child behind with a caregiver, remittances could be sent to cover the additional expenses and labour associated with caring for the extra child. In a study of the well-being of the recipients, it matters whether the remittances are truly “income” or are “reimbursements” for expenses that the household would not have incurred if the migrant had not left. Modelling the impact requires data which enable the researcher to estimate a counterfactual situation (cf. section 2.4).

3.7 Is it important to also capture possible reverse transfers?

The bulk of remittances flow from migrants to their country of origin country. It is common, however, for money to also move in the opposite direction. For instance, people who migrate for work might receive financial support from their families in times of crisis. In some cases, such as those of student migrants, there may be substantial reverse remittances. A questionnaire that properly captures two-way flows will be longer – and thus more costly to use – than a survey of one-way remittances. In deciding whether to capture this information, analysts must consider the importance of two-way flows to the research at hand, as well as the likely prevalence and volume of reverse remittances in the context.

3.8 Does it matter whether money is transferred from one place to another?

A migrant who holds capital assets in the country of origin could avoid transfer costs by channelling returns on such assets directly to relatives, thereby reducing the need for international transfers. Homeowners can provide relatives with free housing or allow them to keep any rent from tenants. If such internal transfers are in lieu of international remittances, and the focus of the research is on the determinants and the effects of remittances, these transfers should indeed be treated as another component of remittances. It is increasingly common for migrants to arrange for recipient households to make withdrawals from an account held by the migrant using an ATM debit card left with the recipient. This arrangement would still represent an international transfer, but because a withdrawal might not be considered by the respondent as “sending money,” it may be necessary to include explicit questions about such transactions in the questionnaire (Brown et al. 2006).

3.9 Does it matter whether remittances are international or internal?

In much of the developing world, remittances between individuals within the same country – e.g., transfers to family members in rural areas from migrants working in urban areas – are much more widespread than international remittances. Depending on the research objectives, it may be relevant to ask about remittances in general (regardless of the origin), to pose separate questions about domestic and international remittances, or to ask about international remittances only. Remittance recipients are often expected to share their income from abroad within their communities. Through internal transfers to non-migrant households, the gains from migration can be distributed more widely in the community. If the focus of the research is on the welfare gains from migration and remittances, including questions relating to internal transfers made and received would be essential (Brown et al. 2006).

Inspired by these nine points, Table 1 illustrates how survey questions on remittances differ in their coverage of various transfer types. How questions are formulated will depend on the context in question and the purpose of the research.

Table 1: Examples of survey questions on remittances and their coverage of various transfer types

	Sending-side surveys		Receiving-side surveys	
Type of transfer	Do you send money regularly to somebody who is living in another country? ¹	Do you ever give economic assistance to family members in your country of origin? ²	In the past 12 months, did this household receive help in the form of money or goods from another individual living in another country? ³	Does this household receive money from the United States? ⁴
<i>Pensions sent to return migrants from their former country of employment.</i>	N/A	N/A	No	Yes
<i>Person-to-person remittances sent between non-related friends.</i>	Yes	No	Yes	Yes
<i>Person-to-person transfers made in return for a service.</i>	Possibly	Possibly	No	Yes
<i>Money deposited by migrants in their own bank accounts in the country of origin.</i>	No	No	No	No
<i>Rent for a migrant's house, collected and kept by the migrant's relatives.</i>	No	Yes	Possibly	No
<i>Goods shipped by migrants to relatives in the country of origin.</i>	No	Possibly	Yes	No

Sources and notes: 1) Migrations between Africa and Europe (MAFE), coordinated by the Institut National d'Études Démographiques, France. Adapted from a retrospective question. 2) Levekår blant innvandrere i Norge 2005/2006, coordinated by Statistics Norway. Translated from Norwegian original. 3) Gallup World Poll. Slightly adapted; the original referred to internal or international remittances. 4) Mexican Migration Project, coordinated by Princeton University and Universidad de Guadalajara. 'N/A' denotes 'Not applicable'. 'Possibly' indicates that it is open to interpretation or case-by-case variation whether or not the transfer type is covered by the survey question.

4. Research design and sampling

Two sets of issues are central to the design of surveys on remittances: the relations between household-level and individual-level data, and the relations between sending-side and receiving-side information. In the remainder of this section we address each of these issues.

4.1 Individuals and households

Much research on remittances implicitly assumes that money is transferred from “the migrant” to “the household.” It is not coincidental that the survey questions reproduced in Table 1 address remittance senders as “you” and recipients as “this household.” These formulations reflect the approach of what has been labelled the “New Economics of Labour Migration” (NELM), which treats remittance senders primarily as absent members of the household of origin (Lucas and Stark 1985; Taylor 1999). The legacy of the NELM raises several issues regarding the role of households in data collection on remittances. These issues are in addition to the general challenges that arise when conducting household-based surveys in different cultural contexts (Randall, Coast, and Leone 2011).

First, it might be misleading to see migrants as “members” of specific households in the country of origin; the migration patterns and household structures in the context at hand determine whether this is a valid assumption. Whether it is necessary to assign household membership to remittance senders depends on the purpose of the research: it may be a methodological necessity for estimating a counterfactual non-migration scenario, but not for conducting research with other objectives.

Second, even if most migrants can be linked to a household of origin, it is important to also consider remittances to households without migrants, as noted in the previous section (see point 2). Such transfers could be particularly positive because they are not a corollary of the absence of a family member (Amuedo-Dorantes, Georges, and Pozo 2010; Brown et al. 2006; Brown, Leevess, and Prayaga 2014). Intra-familial transfers often cross household boundaries, and in some contexts non-familial remittances may be considerable.

Third, income might not be pooled within the household. This point has been increasingly recognised in studies of household economies over the past decade, but the methodological implications of such arrangements remain poorly understood (Fisher, Reimer, and Carr 2010). But if the household is the unit of analysis, the dynamics of intra-household distribution are not necessarily critical to data collection. It could be decided legitimately to limit the study, for instance, to the impact of remittances on

inequality between households. What is lost, then, are the distributional effects within the household – which could be significant if the income balance between spouses or generations is shifted.

Fourth, *information* about income might not be pooled within the household. This is potentially critical to data collection. The receiving side survey questions in Table 1 are typical in that they are based on the assumption that respondents have information about remittances to their household. While such questions are typical, many ethnographic studies have indicated that there is often a considerable degree of secrecy surrounding remittances. In a more general analysis of information-sharing within households, Fisher Reimer, and Carr (2010) concluded that a single respondent may not be able to account adequately for all of the sources of household income. This is especially likely to be the case, they noted, when households are more complex or resourceful, as is often the case with remittance-receiving households.

These four observations challenge the prominence of the household in data collection among remittance recipients. But the contrasting, individual framing of remittance senders is also problematic, as a sender's identity can be ambiguous. There are three factors that could identify the sender, and which can point to different individuals: 1) original ownership of the money or goods, 2) the act of making the transfer, and 3) the relationship with the recipient(s). In the case of a migrant couple, the husband may be the sole income earner and the one making the transfer, but he may send the money to his parents-in-law on his wife's behalf. If the husband or the wife is sampled in a survey of individuals, it is not obvious how they should respond, nor how their answers should be interpreted alongside other individual-level variables.

When we scrutinise the roles of households and individuals in the sending of remittances, two overarching methodological implications emerge. First, data collection strategies must be assessed with respect to the specific family and household patterns in the given context. In a cross-country survey, there may be trade-offs between designs that are feasible across the board, and designs that are adapted to each setting (Fransen, Kuschminder, and Siegel 2012). Second, the *purpose* of the research should inform the analyst's choice of survey design. Table 2 presents the three main designs, each of which has advantages and disadvantages.

Since the exact relationship between individuals and households is both variable and unknown, there is a case to be made for including individual- as well as household-level questions. For instance, the four questions reproduced in Table 1 could be reformulated to a pair of questions about "you personally" and "others in your household." If this dual approach is adopted in individual surveys and in standard household surveys, the two designs become similar. The remaining difference reflects the sampling: in a household survey the individual interviewees are usually not a

relevant sample of persons; in an individual survey, the households of interviewees are not necessarily representative.

Table 2: Characteristics of the main designs for surveys on remittances

	Individual survey	Standard household survey	Extended household survey
Basic structure	Individuals are sampled and interviewed	Households are sampled, and a well-informed household member is interviewed	Households are sampled and several household members are interviewed individually
Implicit assumptions related to remittances	Remittances can be studied through the transactions of individuals	Remittances are primarily household-level transactions; information is pooled within the household	Remittances must be understood in the context of households; household members have different, relevant information
Advantages	Possibility of different sampling methods, not only based on residence; possibility for targeted samples with a higher proportion of remittance senders/recipients; relatively low cost and complexity	Cost-effectiveness of covering many households with few interviews; representativeness at the household level	Possibility for both individual-level and household-level analysis; possibility for examining intra-household distribution; independence of information-sharing within households
Disadvantages	Limited possibility for examining household-level processes; sample not representative at the household level	Possibly unrealistic assumptions about information-sharing within the household; necessity of residence-based sampling; limited value of the sample of individuals	Possible ethical and logistical challenges of individual interviews; high costs; necessity of residence-based sampling
Costs (assuming face-to-face interviews)	Relatively low, because interviewees are sampled directly	Medium; partly dependent on procedures for selecting the interviewee within the household (and therefore the necessity of multiple visits)	Very high, also compared to standard household surveys; multiple visits to the same household are more likely; a much larger number of interviews are required for a given household level N

4.2 Senders and recipients

There are three basic designs with respect to the geographical perspective of data collection. *Sending-side surveys* are conducted in the migrants' destinations among potential remitters. *Receiving-side surveys* are conducted in migrants' areas of origin among potential recipients. *Matched-sample surveys* are conducted at both the receiving and the sending end among members of the same households or families. Due to the difficulties and costs involved in tracking migrants' home country households, such studies are rare (Mazzucato 2008; Chort, Gubert, and Senne 2012; Osili 2007).

Sending- and receiving-side surveys typically need to collect information about the other side to facilitate analysis. For instance, a receiving-side survey on remittance effects must collect fairly detailed information about migrants in order to estimate their counterfactual, non-migration income. Similarly, a sending-side survey on determinants must collect information on the potential recipients and their characteristics. The advantage of matched-sample surveys is that they collect first-hand (and therefore more reliable) information on each part of the sender–receiver dyad. Moreover, matched-sample surveys can yield additional information, such as differences in perceptions between migrants and their non-migrant counterparts.

Most migration and remittances surveys are single cross-sectional surveys, providing a snapshot of one point in time. Questions about past behaviour and changes over time are subject to recall errors. Moreover, inferring causality in the relationship between variables over time from observed differences between individuals or households at the same point in time is methodologically questionable. If resources permit, it makes sense to design the survey to include second (or subsequent) waves of interviews of the same households. Panel data greatly enhance the analytical capacities of the dataset and the rigour of the statistical analysis.

5. Framing of questionnaire items

In this section, we discuss the most common remittance-related questionnaire items and the challenges and potential pitfalls that accompany each. We show that the content of remittance questionnaire items depends heavily on the context in which the survey is conducted.

5.1 Remittance frequency

Basic remittance questionnaire items ask respondents whether the household (or the individual) sends or receives remittances at all, and, if so, how often. A common weakness of such questions is that there is often no time reference included. For example, some questions are posed as follows: “Do you send money or goods home?” Yet it is essential to add a time frame, such as “in the past 12 months,” “since your arrival in this country,” or “currently.” The analyst should also consider, however, which time frames are realistic in light of the respondents’ capacity to recall. Since there are often seasonal variations in remittance sending, the 12 months preceding the survey is a commonly adopted time frame.

Subsequent questions can measure the frequency of the transfers within the chosen time frame. A common misconception here is that transfers are regular, and that response categories such as “once a month” or “once a year” are appropriate. The timing of remittances often depends on the financial situation of the migrant, or on the occurrence of irregular events such as a job loss, wedding, or funeral. One possible solution is to ask *how many times* the respondent sent/received remittances during the reference period.

5.2 Remittance amounts

Questions about the volume of remittances sent or received can request the amount *per transfer* or the *total amount* within a given time frame. Here too, choices should reflect the purpose of the research and the characteristics of the research setting. Aggregate amounts are what matters for analysing the effect of remittances on income and expenditures. However, for studies of transfer mechanisms or of the psychology of financial decision-making, the size of each transfer makes a difference. How difficult it is for respondents to answer various questions about amounts will depend on the characteristics of the target population and their finances.

Questionnaire items about remittance amounts must specify the currency in which the response is expected, but would ideally allow for deviations. Depending on the transfer mechanism they use, respondents in the same setting could quantify their remittances in different currencies. Allowing respondents to choose the currency might strain the researcher’s resources at the time of data analysis, but will yield more reliable results than forcing respondents to convert currencies on the spot.

In-kind remittances can be quantified in a number of ways, including by asking respondents for the purchase prices of the goods sent by the migrant or for the local

prices of the goods received, or by assigning values to the listed goods after data collection (Brown et al. 2006).

5.3 Remittance senders and recipients

Surveys of remittance senders will often need to contain questions about the recipients, and vice versa. As we noted in section 4.2, information from both ends of the transfer is required to analyse the determinants of and the motives for remitting behaviour. However, the kinds of information that can be reliably obtained through a one-sided survey are limited. Remittance recipients often know little about a migrant's employment situation abroad, and the information they do have could reflect the migrant's desire to appear successful, rather than his or her actual situation. Among the types of information that remittance recipients can realistically provide are the migrant's year of departure, year of birth, and current country of residence. Questions about the migrant's city of residence, employment, or household may be more difficult for a remittance recipient to answer, depending on the context.

Potential intra-household differences are important to consider. For example, one household could include both senders and recipients of remittances. Consider a household in Kenya, from which the eldest son went to Europe to study. The migrant's father still lives in Kenya and sends him a monthly allowance; while at the same time, his mother, who is living in the same household as his father, receives money from her sister in the US. Such cases are complex, but are definitely no exception. As we discussed in section 4.1, the analyst must weigh the value of individual-level data against the higher data collection costs and the possible implications for sample size.

5.4 Transfer mechanisms

The transfer mechanism that is chosen by the remitter depends on the transaction costs, the speed, and the security of the specific channel, among other factors (Carling et al. 2007). Some countries have a poorly developed infrastructure which limits the possibilities for sending remittances. When asking questions such as: "How did you receive the money that was sent to you in the past 12 months?" or "How did you send money to your family in the past 12 months?" the respondent needs to be presented with an exhaustive list of possibilities that are suited to the context. It is imperative for the researcher to have detailed knowledge of the financial infrastructure and the remittance market in question. It is preferable to analyse the remittance market at the

local level, given the substantial within-country variation in terms of financial infrastructure.

When migrants send remittances to different recipients, different transfer mechanisms may be chosen for each recipient. Moreover, the mode of transfer to a specific recipient could differ depending on the amount or the season. If transfer mechanisms are a key concern in the study, the questionnaire should accommodate such variability. Open questions about why the migrant chooses a specific transfer mechanism could provide additional valuable information.⁷

5.5 Contextualizing information

Analyses of information about remittances usually require contextual data about the households and individuals concerned, as well as contextual data about the social norms shaping relationships in the community under study. Many of these issues fall outside the scope of this paper, but the following areas merit attention.

Transnational family formations underpin the bulk of remittance transfers. In order to understand the determinants of remittances, it is essential to include information not only about actual transfers, but about potential senders and recipients. For instance, the remittance patterns of migrants who are settled abroad with their closest family members could depend primarily on whether or not their parents in the country of origin are still alive. If this information is missing, economic variables alone could have limited explanatory power. The remittance behaviour of an individual migrant can also depend on the number of other migrants from the same home country household. For instance, in cases in which remittances are driven primarily by altruism, and thus by some perception that the receiving household needs support, the amount each migrant actually remits may be reduced if there are several remitters from the same household. It is therefore important to collect information about other migrants from the same household, not only when surveying in the home country, but also among the migrants in the host country. And, as we have already noted (see section 3.5), contextual information from the households about returned migrants and the future migration intentions of current migrants, returned migrants, and non-migrants must also be collected when assessing the levels and the timing of remittances and other migrant transfers, such as the accumulated assets brought home by migrants upon their eventual return (as in Ahlborg and Brown (1998) and Brown and Connell (2004)), or remittances

⁷ For instance, it is also likely that differences in socio-cultural norms and customs could influence the migrant's choice of transfer mechanism and recipient. For example, a migrant from a patriarchal society may be reluctant to send all of his remittances directly to a female household member. (We thank an anonymous referee for raising this point.)

sent specifically to fund the migration of other household members (see, for example, Brown and Poirine (2005)).

The remitter's migration history can be central to explaining remittance patterns. If the survey in question is not a full-fledged migration survey, the analyst may have to find a way to capture key aspects of the migration history using a few well-chosen questions. The main challenge is how to deal with the possibility of multiple migrations and multiple destinations. As a given migrant may have had repeated periods of residence at the destination, analysts will have to decide whether they are primarily interested in the beginning of the current period, the beginning of the first period, or the aggregate duration of stay. Or, as a given migrant may have previously stayed in other countries, researchers will have to decide whether they are most interested in the year of arrival at the current destination, or the year of (first) departure from the country of origin. The choices a researcher ultimately makes should be based on the needs of the analysis and the prevalence of different migration patterns in the context at hand. (See Carling (2012) for further details on collecting migration history information.)

Household income is central to analyses of both determinants and impacts of remittances. The researcher faces the key decision of whether to use the household's stated income or expenditures, or whether to use both methods; each of these methods has its advantages and disadvantages (see Deaton (1997) for a full discussion). If the income method is used, the questionnaire needs to allow for each conceivable source of income, and should be designed to minimise the possibility of double counting. For instance, if there is a separate section on remittances, then the section on income should be carefully designed to exclude remittances. Similarly, if the household is engaged in household production, agricultural and/or other commercial businesses, there must be a section allowing for the estimation of net income (value added) from these activities (cf. Brown et al. 2006).

Household wealth can be a valuable complement to data on income. One commonly used method for capturing this information is to construct a comprehensive list of assets, the ownership or non-ownership of which is believed likely to vary across households depending on their relative wealth (Filmer and Pritchett 2001). For each household a wealth index is accordingly derived as a proxy measure of the value of the household's assets. This variable can be used either as an explanatory or a control variable, or as the variable of interest in assessing the effects of remittances, as in Brown et al. (2006). In surveys that avoid asking about amounts of money (for either remittances or income), asset lists can be the basis for the socio-economic profiling of households.

Inter-household transfers could be central to understanding the household finances of remittance-receiving households. They can receive or make transfers to other households or organisations such as community groups and charities within the country,

either in cash or in kind. Given that remittance-receiving households are often under substantial social pressure to assist other – especially non-remittance-receiving – households, it is essential to capture such intra-household transfers as part of the analysis of the effects of remittances on poverty and distribution across the wider community (cf. Brown, Leeves, and Prayaga 2014).

6. Reliability and sensitivity

Survey research is always subject to resource constraints that limit the size of samples, the methods of interviewing and the length of questionnaires. Integral to the management of scarce resources is an understanding of what is realistic to ask in a given context. In this section, we therefore address different aspects of the psychology of survey responses as they relate to information about remittances.

6.1 Knowledge, encoding, and recall

Answering a survey question presupposes that respondents have had access to the information, have encoded it as knowledge, and are able to retrieve it at the time of the interview (Foddy 1993; Groves et al. 2004). Each of these steps can be related specifically to research on remittances.

Access to information depends primarily on intra-household information sharing. Both on the receiving and the sending side, an individual respondent may not know about the remittances other household members are sending or receiving (cf sections 4.1 and 5.3). This problem increases with the level of detail requested. For instance, respondents might know whether money is being remitted and have an idea of the frequency, but not know the amounts.

Encoding is a pertinent issue in relation to information on transfer mechanisms: respondents might not have internalised knowledge about how the money was sent or received. Researchers typically work with taxonomies of transfer mechanisms – e.g., formal vs. informal – which could be alien to respondents. If money transfer services, such as those of Western Union are offered through banks, it could be particularly difficult for respondents to account for the transfer mechanism used; i.e., whether the transfer was made through a bank or a money transfer service. In such circumstances, more detailed follow-up questions could be needed to determine the transfer type.

Recall errors represent a limitation in all survey research, but vary greatly with the type of information requested (Foddy 1993; Groves et al. 2004). The longer the time span of the question, and the less salient the event the respondent is being asked about,

the harder it is for him or her to remember. As a result, the analyst faces a choice in designing a questionnaire: i.e., whether to ask detailed questions about the recent past, or more general questions about a longer time period. Since there is often a seasonal aspect to remittance-sending, there are good reasons for asking about behaviour during the past 12 months. But when such a long period is chosen, it may be unrealistic to request details of the amounts remitted.

Difficult questions do not necessarily lead to high non-response rates, however. The United States Census Bureau (2008) included a set of questions on remittances in the August 2008 round of the Current Population Survey, including the following:

- *In the last 12 months, did anyone in this household give or send money to relatives or friends living outside the U.S.? Please include all gifts of money. Do not include loans.*
- *In the last 12 months, about how much in total dollars was given or sent? (Your best guess is fine.)*

Among remittance senders – the 5% of the sample who answered the first question affirmatively – a full 87% gave a response to the question about the total amount (Fantom 2009). This question was manageable for people who had only remitted a couple of times during the year, or who did so with a regular monthly amount. For people from households with several remittance senders or irregular remittance patterns, the question was difficult to answer, even with a “best guess.” Thus, the challenge for researchers lies not so much in dealing with the 13% non-response rate as in assessing the reliability of answers that were given.

6.2 Sensitivity and bias

Non-response and reliability in survey data are closely related to the sensitivity of questions. Remitting can be a sensitive issue in variable and context-specific ways. Understanding and addressing this challenge requires the researcher to pay attention to the social environment of the respondents as well as to their perceptions of the survey. Several mechanisms could be at work and create biases.

First, at the micro level, the issue of who sends (or does not send) remittances to whom has moral dimensions, and can be a delicate aspect of interpersonal transnational relationships (Carling 2008b). The experiences of Amery and Anderson (1995) in rural Lebanon illustrate this point. They interviewed household heads and initially enquired about the level of remittances received from each migrant son. However, respondents were reluctant to answer “because they perceived it as ‘ranking their children’ (to an

outsider, the investigator) on the basis of money received from each” (Amery and Anderson 1995:57). The total amount received was, however, willingly reported.

Second, norms within respondents’ communities could influence their answers. Migrants from low-income countries sometimes have a strong sense of duty to remit, and may be ashamed of their inability to fulfil remittance expectations (Akuei 2005; Hernandez 2002; Lindley 2009). The general point that socially desirable behaviour may be over-reported in surveys also applies to remitting. In a widely cited example of over-reported donations, Parry and Crossley (1950) found that only half of survey respondents who reported giving money to a specific local charity had actually done so.

Third, policies or debates in the respondents’ social environment could affect their perceptions of remittances, and thus influence their responses. For instance, media coverage linking remittances to tax evasion, benefits fraud, or the financing of militant groups can make respondents reticent, even if their own transfers come from regular income and are sent to family members (Carling, Erdal, and Horst 2012; Horst et al. 2014). If the environment is perceived as being hostile to remittances, respondents could reply negatively to an initial question about remitting in order to avoid the subject.

Fourth, if respondents perceive that the information they provide could be passed on to the government or other agencies, they could have incentives to give specific answers. For instance, senders could under-report the use of illegal transfer mechanisms for fear of prosecution, and recipients could under-report remittance income for fear of taxation or other government interference, regardless of whether such concerns are based in reality. In developing countries where there are public or private needs-based assistance programmes, respondents could fear that reporting remittance income would undermine their eligibility for such benefits.

Survey specialists have developed a number of approaches to asking sensitive questions in ways that maximise response rates and the reliability of answers (Bradburn, Sudman, and Wansin 2004; Foddy 1993; Groves et al. 2004; Tourangeau and Smith 1996; Tourangeau and Yan 2007). But before using these tactics, the analyst should have a thorough understanding of whether specific questions are sensitive; and, if so, how. For instance, in settings with strong social pressure to remit, questions could be loaded to excuse non-remitting. If, however, hostile media attention is the main concern, different forms of loading might be appropriate. The value of adapting questions to the context in this way needs to be weighed against the reduced comparability the findings with those of studies conducted elsewhere.

Sensitivity assessments should also inform other aspects of survey administration. For example, how can respondents – and, where applicable, their local communities – best be prepared for the survey? How can interviewers best prevent misunderstandings

about the nature and purpose of the survey? Is there a need for interviewers to record their own perceptions of question sensitivity?

The most difficult decisions for researchers are about including or excluding questions altogether. For instance, information about remittance amounts is undeniably valuable, but asking a question about these amounts could be counterproductive if doing so results in high non-response rates and unreliable data. If a question is perceived as being overly threatening, posing it would be a poor use of scarce interview time. Moreover, asking a threatening question could undermine the respondent-interviewer relationship, which could in turn affect the responses to subsequent questions.

7. Conclusions

When designing surveys about remittances or when using survey data collected by others in a subsequent analysis, researchers are likely to encounter a series of dilemmas. Making good decisions in such cases requires analysts to be aware of the options and their implications. In this paper, we have sought to provide an overview of these issues.

The first overarching dilemma is the *complexity dilemma*. Remittance-related transfers can be dauntingly complex. How much of that complexity should a questionnaire aim to capture? If the available resources are finite, every additional question has an impact on the sample size, and must be properly justified. For example, when is it pertinent to collect data on reverse remittances or to elicit information from each household member? To make wise choices, the researcher must be knowledgeable about the context at hand – e.g., about the prevalence and importance of reverse remittances – and remain focused on the purpose of the research.

However, when the researcher decides to keep the questions basic, the number of potential pitfalls actually increases. While simple questions can be good, they can also be based on simplifying assumptions that contradict reality. For instance, it would be ill-advised to phrase questions based on the assumption that the recipient household receives money from only one person. It may, however, be acceptable to simplify the survey by asking only about aggregate remittances or only about the person who remits the most.

The second overarching dilemma is the *variability dilemma*. The best questionnaire in a given context will reflect the specifics of that setting and the relevant remittance transactions. But when the questions are heavily adapted to local conditions, the survey results can be difficult to compare with the findings of studies conducted elsewhere. Again, the analyst must make a choice based on the purpose of the research, as well as possible secondary uses of the data.

Both the complexity and the variability dilemmas can be more appropriately addressed with solid contextual knowledge. While we have sought to show that such knowledge matters greatly for the proper design and interpretation of surveys, we can offer no blanket recommendations for how to obtain it. In some cases, preparatory qualitative research can support the design of surveys. In other cases, the solution might lie in (possibly interdisciplinary) collaboration with researchers who have the relevant context-specific expertise. Thus, even if the researcher has no ambition to conduct a mixed-method project that includes qualitative data collection, he or she will often need to draw upon insights from qualitative research to design the surveys appropriately. (For comprehensive discussions on the integration of surveys and qualitative data in demography, see Coast, Hampshire, and Randall 2007; Randall and Koppenhaver 2004; and Schatz 2012.)

Conducting a survey is no guarantee that the researcher will reap the potential benefits of collecting individual-level information; it simply opens up opportunities. Whether the survey results are of high quality will depend on whether the researcher made well-informed choices about design, sampling, and questionnaire items. By choosing wisely, analysts can produce new and better data that will help us understand why remittances are sent, how transfer mechanisms are chosen, and how the transfers affect poverty, inequality, and development. Moreover, for those involved in the analysis of survey data collected by others, being more aware of the potential limitations, gaps, and biases which can arise from improperly designed surveys could encourage a more balanced focus on the full range of methodological issues facing the analyst, and a move away from the current preoccupation with potential biases and the relative robustness of alternative statistical methods and techniques.

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