

## **“ESSAYS ON REMITTANCES IN RURAL MALAWI”**

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This provides a short summary of my thesis. It is actually the conclusion, but can be viewed as an EXECUTIVE SUMMARY to get the general idea, and the main conclusions. Please email for more information.

### **1.1 SUMMARY OF RESEARCH**

By studying remittances in rural Malawi, this thesis has aimed to contribute to our understanding of transfers in a developing context from several perspectives. Based on relevant literature, it uses three different data sets to “follow” remittances from the sender by answering the question, “what motivates people to send remittances?”, to the receiver by contributing to understanding how s/he views remittance receipts, and how they are spent, and finally to one of their impacts, by assessing whether remittances are able to moderate the impact of negative household and community shocks.

Chapter 1 summarises the remittances literature in an international context before focusing on the microeconomic impacts on which this thesis is centred. The same chapter continues to discuss the Malawian context, examining the major themes relevant to the country without which any study of Malawi would be incomplete. It finally shows why Malawi is a useful context for the analysis of remittances on a microeconomic level.

Chapter 2 provides a literature review which moves the thesis from the general topics of remittances and the context to the more specific areas on which the empirical chapters focus. It begins by giving a summary of the theory of remittances before going on to discuss in detail the literature on motivations for remitting;

mental accounting and its relevance for remittances; and the impact of household and community shocks on household consumption.

Chapter 3 gives descriptive statistics for the three data sets used in the empirical chapters. All are Malawian and all contain information which are specifically relevant for the chapter they are used for. Chapter 4 looks at the empirical methodologies used, and gives reasons for the methods used.

Chapters 5 to 7 are the three empirical chapters, which each focus on a different area of remittances. Chapter 5 uses inter-family data on transfers to help understand the motivations for remitting. Chapter 6 draws heavily on economic psychology theory to understand how remittance receivers view and use money, with a focus on remittance uses. Chapter 7 contributes to the understanding of one of the potential impacts of remittances; whether they are able to moderate the impact of negative shocks (death, sickness, flooding, drought). This chapter summarises and concludes.

### ***1.1.1 Non-empirical findings***

Chapter 1 places this thesis into its context both with regards to remittances, and the country studied, Malawi. It shows that international remittance flows have been growing in importance over the previous 20 years, and are now greater in value than both Overseas Development Aid, and Foreign Direct Investment. International remittance flows are however, just one part of the story, with internal transfers being of considerable importance for rural households in developing countries. In Malawi, over 20 per cent of households receive remittances, and these come from the home village, more distant rural areas, cities within Malawi and sub-Saharan Africa, and from further afield including Europe and North America. In Malawi, official foreign remittances make up around one per cent of GDP, although if Malawi is a typical sub-Saharan African country, this might be around two per cent if non official flows are included. Although this is small compared to some other countries in the region, the importance of internal transfers in addition to international flows mean that remittances are an important source of income for many rural households.

In addition to the different geographical sources, remittances might be received from neighbours and friends as well as from (close and distant) relatives.

Studying the impact of remittances is a challenging task due to data limitations, and the impact of social and cultural factors and context which differ widely between, and even within, countries. In particular, the motivations for remitting may differ, which will imply different uses of remittances, and different impacts at both household and the macro levels. Remittances may be used to fund current consumption, or invest in land potentially creating negative macroeconomic consequences, or may deter labour market participation. Equally, remittances tend to reduce poverty (but increase inequality), and can help to fund investment in productive private enterprise and social amenities. The overall impact of remittances is not therefore immediately apparent, but vary depending upon the context.

The importance of remittances to rural Malawian households make this country an ideal setting for this thesis. In addition, the risk and impact of HIV/AIDS, and the risky agricultural economy mean that many households frequently have to rely on transfers in order to smooth their consumption through shocks. This allows this thesis to test for the moderating impact of remittances following (health and climatic) shocks, and permits a wide range of possible motivations for remitting to be tested (altruism, which reacts to wealth wealth, altruism or insurance following a health shock, services provided such as looking after AIDS orphans, inheritance, under different mixtures of matrilineal and patrilineal systems used by different tribes in Malawi).

Chapter 2 begins by summarising the main models of remittances. These highlight the difficulties in separating motivations for remitting, particularly with regards to altruism and insurance models, with many of the signs of coefficients expected to be the same under each motivation. Nonetheless, the models do help to draw out certain testable conclusions upon which the discriminating hypotheses for remittance motivations are based. For example, under altruism the sender will send more as his/her own income rises, and as the receiver's income declines. Under the

insurance model, transfers are increasing as the probability of the sender suffering from a shock increases.

Chapter 2 goes on to discuss empirical findings from papers which aim to understand the motivations for remitting. The fact that no paper has, to date, been able to single out one motivation is indicative of the fact that different remitters have different motivations in all contexts studied. In addition, one remitter can have more than one motivation since the existence of one reason for remitting does not preclude another; for example, a threat of disinheritance may help to enforce an insurance payout from the child if the parent is sick. In this case, it is not clear whether the remittance is motivated by inheritance or insurance.

Nonetheless, the methodologies help to inform the empirical study in this thesis and the results are of interest. As in Chapter 5, many authors find that altruism plays an important role in motivating remittances. However, securing inheritance rights, insuring oneself against negative shocks, paying indemnities to receivers, implicit payment for services or previous loans and investment are also shown to be key motivators by various empirical studies.

After reviewing the literature on motivations to remit, Chapter 2 discusses the psychological and consumption theory related to uses of income from different sources, noting both the theoretical background and the key empirical findings. In particular, the theory and the evidence suggest that “a dollar is not a dollar”, or rather, “a kwacha is not a kwacha”. That is, income from one source is not used in the same way as income from a different source or, put another way, even equally liquid income is not fungible.

Remittances are an ideal candidate for studying this theory in a developing context. There are several reasons to suspect that remittances might be used differently to income from other sources. For example, they may come with conditions attached (“use this money to educate my little brother”), or may be a form of income pooling in order to reduce risk, and potentially alter consumption behaviour. In addition,

remittances may be seen as “manna from heaven” and wasted, or as the product of someone else’s hard work and come with a duty to use them “wisely”. These ideas are tested, in developing contexts, for the first time, in Chapter 6.

Finally Chapter 2 shows the models used to estimate the impact of shocks on consumption before noting the empirical results found by other authors in a developing context. Health and weather are the main shocks analysed, and, unsurprisingly, results are mixed with some studies finding that some shocks are fully insured and other finding that consumption is sensitive to the shocks. Although the method of insurance is rarely discussed several studies have noted that remittances could play a role.

Chapter 3 explores the three different data sets used in each of the three empirical chapters. Since each data set contains unique information which can be used to inform the overall study, the discussion of each set focuses on a different, relevant aspect of remittances and the rural Malawian household.

The FTP provides an insight into intra-family (but inter-household) remittance transfers, and notes the importance of the different relationships (parents, children, siblings) for the central households. The IHS98 helps to illustrate the difference between male and female headed households. For example, female headed households tend to be smaller, but have slightly higher income in adult equivalent terms. The CPS shows the differences between remittance receivers and non receivers, and remittance senders and non senders. In particular, senders and receivers exhibit similar characteristics to each other and are different from the wider population. For example sender and receiver households tend to be better educated, and better connected through networks.

Chapter 4 discusses the empirical methodologies used. These include Ordinary Least Squares, Tobit models, probit models, and panel data analysis. Special attention is paid to discussing adjustments or corrections made for the purposes of the analyses in this thesis.

### **1.1.2 Empirical findings**

Chapter 5 uses standard methodology to study motivations to remit from the perspective of intra-family transfers. Unlike most studies, the data make it possible to analyse motivations from both perspectives in the relationship. In addition, this study compares and contrasts motivations to remit between senders and receivers of different relationships, and is the first study to be able to do so.

The study uses econometric techniques widely employed in the relevant literature to model remittances sent or received as a function of sender and receiver characteristics. Expected signs of coefficients on each of the relevant variables under different motivations are clearly presented for each relationship

The results show that there is a negative relationship between net remittances received from parents, and the respondent's wealth. In addition, remittances to parents are increasing in respondent's wealth. These results are indicative of altruism on behalf of both the respondents and their parents towards each other.

Respondents and their parents tend to remit more to each other the worse the other's health is. In addition, parents are more likely to remit to respondents who have recently suffered from a health shock. These results are likely to capture some degree of altruism, and some degree of (co-)insurance amongst the respondents and their parents.

Co-insurance, as well as other more social motivations for giving, including Platteau's (1997) "balanced reciprocity" as mutual insurance is captured by the fact that respondents are more likely to receive remittances if they also give them, and are more likely to give if they also receive.

Results indicate (unsurprisingly) that motivations for remittance relationships between respondents and their children differ from those of respondents and their parents. In particular, children appear not to respond to the respondents'

remittances, and do not “insure” respondents’ health shocks. Rather, children appear to desire to insure themselves with the respondents (their parents). Children remit more to the respondents, the better the insurer the respondent would make. Thus, respondents with better education and those in better health receive more from their children than others. In addition, children in better health (and thus less likely to require insurance) are less likely to send remittances. Thus the insurance is rather one-way (rather than mutual, or co-insurance), with children seeking to pay insurance premiums to the respondents, but not insuring the respondent in their turn.

There is also evidence that children remit for other reasons. For example, net receipts from children decrease in income indicating some degree of altruism. In addition, any one child is less likely to remit the more children there are. Agarwal and Horowitz (2002) suggest that this is also consistent with altruism. However, the more children actually remitting, the more likely any one of these is to remit. This is potentially indicative of competition for inheritance amongst the children.

A relevant extension separates the analysis by studying child-respondent remittances separately depending upon whether they are son to father; son to mother; daughter to father; or daughter to mother, and by allowing the coefficient on wealth of the respondent to differ by inheritance system (patrilineal, matrilineal, mixed) of the tribal origins of the household. The results suggest that sons remit more to the main controller of household wealth (the female/mother in matrilineal tribes, and the male/father in patrilineal tribes) as the respondent is poorer. This is consistent with altruism or indicative of fulfilling a social responsibility. However, sons remit more to the parent who does not control wealth the wealthier that parent is. This potentially indicates that the father’s wealth in a matrilineal system, and the mother’s wealth in a patrilineal system is available to any child, even those who would not traditionally benefit from inheritance. Remittances to this parent would then be seen as a means of attempting to access this inheritance.

Finally, respondents and their siblings behave overwhelmingly altruistically towards each other. They remit more to each other the worse the other's health is, and siblings are more likely to remit if the respondent has suffered from a health shock. In addition, there is a great deal of reciprocity between respondents and their siblings.

Chapter 6 follows remittance from the motivations for sending to how the receiver uses the remittances. It is based on economic psychology theory which suggests that income from different sources (even if they are equally liquid) can be viewed and used differently by the receiver.

This chapter begins by extending existing theory sketched in Chapter 2, and uses Tobit models to estimate consumption functions. The empirical section first estimates marginal propensities to consume out of different sources of (equally liquid) income each entered separately. Under traditional theory, these should be equal whilst under the behavioural mental accounting model, these are likely to differ as income for each source is placed in separate "mental accounts", and used for different purposes. In order to minimise the impact of intra-household bargaining which is an unobserved influence on consumption behaviour, male and female headed households are analysed separately throughout Chapter 6.

The results are supportive of mental accounting with remittance income exhibiting significantly lower marginal propensities to consume than salary and farm income for both male and female headed households. Interestingly, the null hypothesis that farming and salary income have the same MPCs cannot be rejected suggesting that remittance income is indeed unique.

After presenting evidence for mental accounting and showing that remittance income differs from other sources of income, Chapter 6 goes on to study remittance uses, by estimating consumption functions for each of seven categories of good. Male and female headed households are shown to differ in their use of income, but concur on one important point: remittances are used to fund education.

This result is not a surprise for rural Malawi where parents often fund the education of the eldest children who, in turn, fund the education of their younger siblings, perhaps through remittances. Cox Edwards and Ureta (2003) also find a positive association between remittance receipts and education.

Finally, the chapter asks whether there exist any consumption differences between remittance receivers and non receivers. Although, with regards to education, there is little difference between the two groups for male headed households, for female headed households, receivers exhibit a MPC education around seven times that of their non receiving counterparts. In addition, credit is an important means of funding education for non receiving female headed households, but receivers do not appear to require to borrow to fund education, but rather, are able to use the remittances.

In Chapter 7, the final empirical chapter, one of the potential impacts of remittances is studied using short panel data. Using established theory, the impacts of four shocks (sickness, death, flooding, drought) on firstly likelihood of receiving remittances, and then consumption change are estimated. This chapter contains two major extensions on existing work. Firstly, remittances are separated by geographical source (local, defined as the recipient's village or district, and distant, defined as outside of the home district, Malawian cities, or abroad). Secondly, the chapter contributes to understanding whether remittances are able to moderate the impact of these shocks, and whether the geographical source of the remittances matter.

The results reveal that households which have suffered from a receipt sickness are more likely to receive remittances than other households. The evidence suggests that health shocks are insured close to home, rather than further afield.

Climactic shocks however exhibit the opposite pattern. Having suffered from a recent flood or drought decreases the likelihood of receiving remittances from local sources, but increases the likelihood of receiving remittances from more distant

sources. These results are unsurprising, but a first. Since climactic shocks impact most households in the regions which suffered, households are unable to send remittances to neighbours. Instead, in order to “insure” these shocks, remittances are required from areas which did not suffer from the shock.

Secondly, Chapter 7 asks whether remittances insure consumption. The models first estimate the impact of shocks on change in consumption, as is standard in the literature. After addressing several important econometric issues, the results indicate that drought has a strong negative impact on consumption growth. Death and flooding do not have a significant impact, and potential reasons for this are discussed. Somewhat surprisingly, health shocks however have a positive impact on consumption growth.

Given this result, the chapter ensures that the results are robust to a number of changes in specification, before “drilling down” into health shocks. It is ensured that results do not change substantially when using fixed effects, when excluding the extreme poor, when excluding observations for which health shocks may be predictable, and the chapter follows several other studies in examining food and non food consumption separately. Results do not differ when these changes are made.

The data provide information on which household member actually suffered from the sickness, allowing the study to separate the impact of sickness by household member. The results indicate that in male headed households, children and adult males benefit from increased food and health consumption, whilst females do not. In female headed households however, the reverse is true and children and adult females who have suffered from a health shock benefit from increased consumption during sickness. These findings go some way to explaining why health shocks increase consumption growth, but do not explain exactly how this is financed.

An extension asks whether shocks can have a persistent impact on consumption. Based on Dercon et al. (2005) the study estimates per capita consumption at time  $t$  as a function of shocks suffered at time  $t$  and  $t-1$  plus control variables. Since current

consumption might also impact on current health, this last variable is instrumented. Recent sickness and drought are shown to have a negative impact on current consumption level, but coefficients on lagged sickness and drought are insignificant suggesting that households are able to insulate themselves from the longer run impact of these shocks.

Neither present nor lagged death are significant. Contemporary flooding is insignificant but the lag is positive and significant. This is likely to be due to the fact that whilst some households (at the centre) suffer from flooding, many others (at the periphery) benefit over time from the increased rainfall.

## **1.2 CONCLUDING REMARKS**

Despite the increase in the importance of remittances, and the ever growing interest shown by academics and policy makers, remittances remain an under-studied topic relevant to their significance in a development context. Data and econometric issues make analysing remittances a difficult task, and the wide range of cultural and economic contexts ensures that the impacts of remittances can differ widely.

Despite these difficulties, this thesis has studied remittances from three relevant perspectives within the cultural setting of a rural sub-Saharan African economy. Remittances have been followed from the sender, to their uses, and finally to one of the impacts using three different, relevant data sets.

This thesis has contributed to the overall understanding of remittances. Specifically, it has extended the study of remittance motivations by looking at inter family transfers and understanding that the relationship between the sender and receiver matters. It has extended the study of mental accounting to a developing context and to remittances. This offers an explanation for other authors' findings that remittances can impact on consumption choice including education. Finally, since remittances can act to moderate the impact of shocks, this study recognises that, in an agricultural context, the geographical source of remittances matters. Community

or covariate shocks require remittances from further afield than idiosyncratic, household shocks.

Although the data present some limitations, there is scope for further study of remittances from each of the angles presented. In Chapter 5, motivations for remitting could be examined from the household perspective by limiting the study to two-parent households and including characteristics of both the husband and wife. A second extension might be to limit the study only to those households which reported having a potential remittance relationship with individuals living outside the respondents' villages. Both of these studies might produce interesting results, particularly in order to compare with the results presented in this thesis, but would also potentially suffer from selection bias. An interesting extension to Chapter 6 would be to examine remittances separately depending upon which member of the household received them. In particular, it might be useful to classify remittances separately depending upon whether they were received by the main male or main female of the household. This degree of disaggregation is likely to require a larger data set. Finally, several extensions to Chapter 7 might be insightful and provide additional, complementary, information. For example, it would be interesting to study other coping mechanisms which the household reported. With regards to remittances, as well as the geographical source, Chapter 5 suggests that the relationship of the sender to the receiver might matter. It would be interesting to know who insures the shocks, with results in Chapter 5 suggesting that parents and siblings are of great help to working age adults in this respect.

Although this thesis has offered several new perspectives from which to consider remittances, and generated new results, these potential extensions show that there are several avenues of research which remain to be pursued in each area. It is hoped that future research will provide answers to these, and other, related issues.