



MIGRANTS' REMITTANCE SENDING BEHAVIOURS: A CRITICAL ANALYSIS OF WOMEN PATRONAGE IN SENEGAL

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ABSTRACT

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Previous studies had found that gender heterogeneity matters for economic production but depends on skills, situations and occupations. An unanswered question is; under what situation does one gender type outperforms the other and how can these differences enhance development? We modelled household receipt of remittances from migrant household members and controlled for household head's gender. The model delivered the proposition that women as heads of households have greater influence on the attraction and maintenance of remittance relations between households and their migrant members compared to men of equivalent capacity. Thus women maintain stronger ties and sustain family relations in the case of migration while spreading the migration benefits. Women's integrative negotiation skills account for their disproportionate influence on family relations and ties. This empirical inference is drawn from estimation based on varieties of least square methods and Blinder-Oaxaca decomposition.

1.1. INTRODUCTION

There is no global consensus on gender roles in migrants' sending and households receiving of remittances. This is empirically evidenced in both divergent and convergent research findings of most scholars across the globe. Some studies show that men migrate more and remit a larger portion of their wages (Basem & Massey, 1992; Agarwal & Horowitz, 2002). Men send more money back home than women do, even when taking into consideration earnings differentials between men and women (Semyonov & Gorodzeisky, 2005). On the hand, strands of the literature reveal that women remit more both overall and as a percentage of income than men do, and women tend to have stronger ties with their families (Pongpaichit, 1993; Richter & Havanon 1995; Chant and Radcliffe, 1992; Tacoli, 1999)—which are linked to familial gender roles and cultural influences in sending and/or receiving remittances. Chant and Radcliffe (1992) specifically stated that women attach more importance to the family than men

do, or face greater expectations to fulfil obligations within the general framework of kinship. In justification of the low remittances of women, some scholars like Cortes (2011) and Holst, Schafer and Schrooten (2012) attributed the cause to discriminatory labour market conditions.

Until recently, women have been invisible in the treatment of migration and their contributions to remittances had been largely absent. They only appear in migratory flows as spouses, daughters, or dependants of male migrants. Presently, women are visibly counted in migration flows due to the fact that they now migrate autonomously as breadwinners. Their share in migration flows now closely follow that of their men counterpart and is significantly accounted for even as their contributions surpasses that of men in some countries (Morrison, Maurice and Sjoblom, 2008). Orozco, Lowell and Schneider (2006) critically assessed the relationship between gender and remittances in relation to random surveys of formal remittance senders from 18 different countries (Latin America,

the Caribbean, and West Africa) and residing in the United States, Germany, and the United Kingdom. Firstly, the findings indicate that women remit lesser amounts of money than men and this characterises women from most countries. Secondly, women remit more money than men to distant family members, including siblings and others, while men increase the amount of their remittances only when sending to their spouses. Thirdly, both men and women remit more the longer they have been sending remittances, but women remit yet more than men over time (see also Goff & Salomone, 2015).

Issues such as the commercialised migration of domestic workers, care-givers and organised migration of women for marriage currently dominate discussions in the migration literature, and have been collectively termed 'feminisation of migration'. The implication of women migration (which encompasses their economic, social, and psychological growth and development) is different from that of migration of men. As migrants, women usually place their families' well-being above their own happiness and pay significant cost to maintain family relationships (see Wong, 2006). Remittances are often considered to be the best-measured aspect of the migration experience, and research has sought to explain the factors that are responsible for sustained remittances between migrants and their families. Despite their often-precarious migrant status and work conditions, women participate actively in sending remittances home. Family members view women migrants as more reliable remitters than men are because of their greater responsibility for the maintenance and reproduction of households and their support of more dependants—the young and the elderly (Mahler and Pessar, 2001; Gamburd 2000; Parreñas, 2001; Landolt & Da, 2005).

Gender pattern of receiving remittances is strongly influenced by the dynamics of the family in a given cultural milieu. Because migrants' remittances may be gender-determined, as well as gender-specific, the core of the problem under investigation can best be understood from the framework of economics and sociology. Thus, the novelty of this research lies in its integration of sociological ideas with economics thoughts to promote interdisciplinary scholarship and establish a robust social compass for elucidating the problem statement. Migrants' remittances are important means of livelihood and development for vulnerable individuals, families and communities in the developing world. Yet the link between gender and receipt of remittances has not received much empirical investigations or is relatively ignored by scholars in most African cultures, including Senegal and Nigeria. It is on this premise that the study sets out to examine gender patterns of receiving migrants' remittances, taking into consideration the strengths of matrilineal patronage in Senegal.

1.2 Research Questions

The following research questions were formulated to guide the study:

1. What happens if women send migrants instead of migrate themselves?
2. Are women more capable than men senders of migrants to maintain family ties and sustain the flow of remittances to the household?
3. Are women trusted more than the men in implementing the migration familial social contracts?

1.3 Gender: a conceptual clarification

Although many people erroneously believe that gender and sex refers to a single concept, they are actually two separate

terms with different meanings. Thus, a clear delineation of the two concepts becomes necessary so as to keep this study in perspective. Ostergaard (1992) defined gender as a qualitative and interdependent character of women's and men's position in society. Giddens (2006) acknowledged the need to make an important distinction between sex and gender. Social scientists, sociologists precisely use the term 'sex' to refer to the anatomical and physiological differences that define male and female bodies. The term 'gender', on the other hand, concerns the psychological, social and cultural differences between males and females. Contextually, "gender is linked to socially constructed notions of masculinity and femininity; it is not necessarily a direct product of an individual's biological sex" (Giddens, 2006, p. 458). This goes to suggest that family relationships are gender-oriented which, in turn, are ingrained in sociological philosophy of 'gender order'—familial patterns of power and authority relations between men and women in the society—a strong determinant of who sends, receives and spends remittances.

Gender-based approach to the study of remittances highlights how gender affects migrants' experiences and how migrant women contribute to dialogues, policy planning and sustainable development, but the roles of women in attracting and sustaining remittances from migrant household members have not been duly accounted for in the African continent. The amount of remittances sent home by migrants and their usage measures the extent migration and remittances contribute to economic and social development in the origin country. In addition, the amount of remittances sent by migrants and their frequencies could measure the strength of the ties migrants maintain with the origin households since remittances are mainly driven by altruism and social contracts by family members.

2 LITERATURE REVIEW

2.1 Factors Affecting Remittance Sending Behaviour

The first set of factors affecting remittance sending behaviours among migrants are those already captured by migration and remittances theories. From 1985 when Lucas and Stark (1985) developed the fundamental theories to explain the determinants of remittances, there have been impressive developments in the explanation of remittance flows, though the question remains, who transfers, why, how much and to who? The social and economic consequences of remittances to the recipient households or countries are only just gaining currency. Lucas and Stark (1985) answered the question of why by delineating two broad motives of remittances transfer: altruism and self-interest. However, it is now recognised that there usually exists mutually beneficial implicit contract between the migrant and their origin families. By nature, the implicit contract combines elements of altruism and self-interest and, most recently, includes exchange, insurance and loan repayment motives (Benheim, Shleifer & Summers, 1986). The point remains that social interaction among members of a unit, mainly households or families, is critical to explaining remittances behaviour. Newer approaches for studying migration and remittances acknowledge other familial and strategic motives, in addition to the traditional motives of Lucas and Stark (1985). One of such familial motives is the exchange motives which frame remittance relations as transaction between migrant and the origin household. Under the exchange conceptualisation of remittances, the migrant provides remittances in exchange for services provided by

the household. These services may include taking care of the migrant's assets or relatives and the value to be attached to these services depends on the community valuation of such services and the bargaining power of both parties (Lucas & Stark, 1985; Rapoport & Docquier, 2005).

However, household composition is not sterile in quantifying the services, for previous studies recognise that the number of dependants and such factors as whether the migrants have children living in the household contribute to the value attached to the services to be paid for by the migrants (see Rapoport for a discussion of these studies). With respect to the gender of the household's head, previous studies treat the household as a homogenous unit whose headship does not affect the level or frequency of remittances (Randozzo and paracha, 2013; Castaldo and reilly, 2015). This treatment neglects the effects of gender heterogeneity on the remittance outcome. With respect to receiving remittances, the gender of the principal mediator between the migrants and the rest of the origin household could influence the contractual arrangement between the two social agents or contractors.

Findings such as Funkhouser (1995) portray the inadequacy of most empirical models of remittances. The Funkhouser (1995) study applied the prevailing remittance model to remittances inflows to El Salvador and Nicaragua in 1980 assuming no roles for gender and ended up with a puzzle of why the quantity and frequency of remittances flows to El Salvador was almost twice the flows to Nicaragua. The author then reached the conclusion that migrants' self-select into remitting. The nature of this selection and its determinants are still questions for empirical determination. Incidentally, immediately preceding the study period were five major events that disrupted the traditional organisation of the households in the region covering one of the two countries studied. Baldez, Kampwirth and Power (2002) gave account of how the Cuban revolution, the Sandinista revolution, civil war and the Zapatista uprising altered household organisation, the roles of women in it and even affected migration in the Central American region, covering El Salvador. This revolution forced women to take up non-traditional roles and many of them assumed headship of their households.

Arguably, as at the time of the Funkhouser (1995) study, female headship of households was more prevalent in El Salvador than Nicaragua, as a result, remittances reflected matrilineal patronage. Given present availability of gender disaggregated remittance receipt data, it is useful to reconsider the Funkhouser's puzzle in the light of the new data while controlling for gender of household heads. This is even more imperative as prevailing migration and remittances research implicitly assume that patterns of attracting remittances to the households are gender-neutral. The role of gender in migrant sending decision have received enormous research attention, with majority affirming that male members of the households are more likely to migrate and more likely to send remittances than females (see Basem & Massey, 1992; Agarwal & Horowitz, 2002; Semyonoy & Gorodzeisky, 2005). Nevertheless, the role of gender in determining the pattern of receiving remittances, to the best of our knowledge, has never been studied. The reality might be different; gender may not only influence who migrates, how and where, it may also affect the amount and frequency of remittances which migrants send home, as well as how the money is used. Should this be the case, it could further provide support to the crucial roles of women in social and economic development.

2.2 Gender Differences in Household Heads and Remittances Inflows

The present researchers align themselves with Wong (2006) to treat remittances as too complex to be explained by the traditional motives of sending remittances, as progressively analysed in the previous section. Remittance relations embodies complex and potentially conflict-ridden associations between different groups that transpire in various ways and are constitutive of different gender, cultural, institutional, and spatial contexts. This implies that remittances are outcomes of relationships between senders and receivers that are continually negotiated and contested in and across cultures (Wong, 2006). The main insight into the role gender of household head might play as a determinant of remittance behaviour comes from organisational and social psychology and sociology; a direct psychosocial link to gender roles in negotiation and remittance patronage. Here, we align with Craver, 2002 description of negotiation as fundamental form of human interactions which is essential in the management of relationships, co-ordination of paid and household labours, the distribution of resources and the creation of value (Craver, 2002).

On that score, it follows that within the household, negotiation is employed for the maintenance of intra-household cohesion and in ensuring equitable distribution of household resources. Intra-household peace is necessary for the continuity of intra-household sharing of remittances, including continued altruistic patronage by the migrant member, is also affected by the quality of negotiation and bargaining power distribution among household members (Agarwal, 1997; Bobonis, 2009; Doss, 2013). Intuitively, sharing among household members should be positively related with peace and agreement among them, with sharing reducing in the presence of disagreements or ceasing completely (Doss, 1996).

There have been empirical findings that men and women possess different sets of negotiation skills by nature and behavioural formation, which have divergent situational applications, and by which they fail or succeed in engendering confidence in their community (Mazei, Huffmeier & Freud, 2015). When it comes to distributive negotiation involving one-off pay-offs, men out-perform women in negotiation and achieve better selfish results than women. For instance, men are better in negotiating starting salaries for themselves, negotiating the cost of durable goods like cars (Stuhlmacher & Walters, 1999; Kray & Thomson, 2004; Dustmann, 2005). Some theoretical studies suggest that gender endowments of men favouring them in negotiation can be eliminated under certain conditions (see Deaux & Lafrance, 1998; Kray & Thomson, 2005; Bowles, Babcock & McGinn, 2005). For instance, in integrative negotiation involving lasting relationships or communal welfare and welfare of others, women achieve better results than men because, in negotiation, women place the maintenance of lasting relationship above selfish interests (see craver, 2002; Deaux and Lafrance, 1998; Kray and Thomson, 2005).

Women are better at settling conflicts and, if the outcome derives from repetitive contacts such as customer maintenance and everyday relationship as in households, they achieve better outcomes. It is on account of these endowments that the United Nations (UN) recognises the enormous potential of women in peace building, post-conflict planning and reconstruction at both global and local levels (Women UN,

2012). These divergent sets of skills may play off on the mediation roles of men and women in their various capacities as heads of households in two main ways. Firstly, as the main intermediary between the migrant and the remaining members of the household/family who negotiate the contractual arrangement by which remittances are sent. Being a typical integrative situation, it is expected that (all things being equal) the female head of household should be better in getting the migrant to accept and stick to the contract as designed by the household. Secondly, as can be imagined in any informal human relationship; some cases of non-remittance to the household may be connected to conflicts among members in the household (Ahmed, 2014). Again, the integrative peace-building negotiation skills of the female head of household may be more useful than the distributive skills of men in achieving socially (and economically) more desirable outcomes from the point of view of the households (see Maqsood, 2014).

Another factor that could drive up remittances in female-headed household is differences in the patterns of implicit costing between the male and female-headed households. Usually, the migrants demand services that are traditionally performed by women either because their jobs are mainly 'unskilled' or they are socially labelled 'feminine'. This is particularly prevalent in developing countries such as Senegal and Nigeria, where social perception still confines women to less visible, home-based and unwaged works (Agarwal, 1997). Such jobs are discounted if the women who perform them are not in charge of their valuation. Only the women who perform the jobs appreciate enormous opportunity costs involved in getting the jobs done. Reskin (1988) suggested that the wage gap between men and women in paid employment is largest among women with large familial responsibilities, which means that women sacrifice remunerated productivity for their familial responsibilities. The menu of contracts presented by the household to the migrant reflects the household valuation of the services the migrant demands.

Therefore, since headship of the household comes with higher influence over household decisions, the absence of women in the headship position should be associated with undervaluation of most of the services in the contract menu because, at least, the opportunity costs will be neglected. The female head of the female-headed household should internalise the opportunity costs neglected in the male-headed households. Empirical literature seems to support this argument. For instance, Randazzo and Piracha (2013) used the same dataset as in the current study and found that relative to other categories of expenditure, female-headed households spent 2.5% less on investment goods than male headed-households and more on food, health and education compared to the male-headed households. The same pattern was found by Castaldo and Reilly (2015) in the case of Albania. On account of this, some authors have labelled women's use of remittances as 'unproductive' (see Datta, McIlwaine, Wills, Evans & Herbert, 2006).

Taking together, therefore, this present study hypothesizes that remittance inflows to female-headed households will be higher and more frequent because both contract costs and probability of contract acceptance is higher when female member heads the household. The main objective of this paper is to investigate and account for this proposition using the Senegalese migration and household survey, while employing treatment decomposition techniques. In the end, a pattern of receiving remittances in which the gender of household head plays significant role is expected; other socio-economic factors supporting the pattern are also expected. On the strength of the importance of remittances in the well-being of migrant sending households, this pattern will suffice in elucidating the problem of this study. The relevance is that migration and remittances do not only adjust familial composition due to the absence of key members of the households who happens to migrate but also an existing composition of the household do alter the sending behaviour of the migrants.

3 EMPIRICAL STRATEGY

3.1 Data

The Senegalese Migration Household Survey (SMHS) was conducted by World Bank in conjunction with African Development Bank (ADB) as part of the African Migration Project (AMP). Information collected includes the amount of remittances a household received in the last 12 months in Senegalese currency (CFA). The amount of remittances was converted to US dollar using the 2009 CFA to \$US exchange rate of 471.186 CFA to 1 US dollar for the analysis (World Bank, 2012). The survey also collects information about migrants and their households' demographic characteristics. Remittances include both international (cross-border) and national (within-country) and person to person transfer of money by migrant a member or non-member of a given household. The survey has national representation and wide coverage, and 2,100 households were interviewed, from which information concerning 1,953 households, were made available for analysis. After data cleaning, the number of households with suitable information for this study is 1,303. Of this number, there were 1,051 households who did not receive any form of remittance (internal or international) and 902 households that received either internal or international remittance. This sample was divided into two groups: households headed by men and households headed by women. They were separated and determinants of remittances they received within the period which ranged from US\$ 882 to US\$ 26,366 were analysed. The comprehensive description of the variables used is presented in **box 1**, while the summary statistics is found in **table 1**.

Box 1: Variable Description

<i>Head of Household is a female? (Yes =1)</i>
<i>Mean age of migrants in Household (years)</i>
<i>Square of the mean age of migrants in Household</i>
<i>Mean Duration of migrants in location (Years)</i>
<i>Square of mean Duration of migrants in Location</i>
<i>Maximum migrant education in HH is secondary certificate? (Yes = 1)</i>
<i>Maximum migrant education in HH is university certificate? (Yes = 1)</i>
<i>Household Size (No of adults and children in Household)</i>
<i>Number of dependents in Households (No of members less than 16 years + those above 65 years)</i>
<i>Head of household has secondary education? (Yes = 1)</i>
<i>Head of household has university education?(Yes = 1)</i>
<i>Head of household is employed? (Yes = 1)</i>
<i>Per capita Expenditure of Household (\$US)</i>
<i>Asset index of Household (Computed from Household Assets ownership; see Appendix A)</i>
<i>Region Dummies (set of dummies for where the household lives)</i>
<i>Occupational Dummies (set of dummies for the occupation of household head)</i>

3.2 Empirical Model

The total amount of remittances sent home by migrants is the main variable of interest in this study, and is employed as the dependent variable. The unit of analysis is the household because it makes the examination of gender roles in the flow of remittances from migrants to the households straightforward. The main explanatory variable of interest becomes a dummy variable, capturing the gender of the household head. Control variables are chosen from the traditional theories of migration and remittances (see Lucas & Stark, 1985; Hodinott, 1994; Adams, 2009). This is aimed at capturing the various motives of remittance sending patterns, such as altruism, bequest, exchange, insurance and loan repayment.

Female headed household, especially in African context is often seen as an unstable classification because men are traditionally banqueted with headship of households with women holding the position temporarily in the absence of the man due to death, migration or separation. If this is true, only the case where the husband migrates is expected to positively

affect the result of this work. This is because remittances of the husband in fulfilling family responsibilities may unduly inflate remittance receipt by 'female-headed households' and biased the flow of remittances due to endowments of the head of household. Others are not expected to undermine the outcome since they are captured in the motives of remittances, altruism and bequest, and are controlled in the model.

Fortunately, the data for this analysis do not include any female-headed household arising from the migration of the male head of household. The migrant characteristics chosen reflect their dispositions to send remittances. In particular, age of migrants was selected as a proxy for migrants' labour market experience and its square includes the capturing non-linearity in experience. Also, the duration of migrants (in years) in their migration location and its square were selected for similar reason as well as captured time decaying attributes of altruistic tendencies towards households. **Table 1** presents the summary statistics on pooled and gender disaggregated samples.

Table 1: Summary Statistics on Pooled and Disaggregated Samples

Variable	Obs	Mean	St. Dev.	Min	Max
Pooled Sample					
Amount of Remittance (\$US)	1953	882.44	2144.62	0.00	26366.73
Household Size	1953	9.16	5.67	1.00	57.00
Mean Age of Migrants	1953	35.78	10.00	18.00	99.00
Mean Age of Migrants Squared	1953	1380.02	803.72	324	9801
Mean Duration of Migrants (Years)	1953	7.28	6.38	0.00	55.67
Mean Duration of Migrants Squared	1953	100.03	194.87	0.00	3098.78
Highest Educated Migrant has Sec Cert	1953	0.17	0.37	0.00	1.00
Highest Educated Migrant Attended University	1953	0.18	0.27	0.00	1.00
Number of Dependents in Household	1953	1.30	3.09	0.00	36.00
Head of Household Has Sec Certificate	1953	0.13	0.33	0.00	1.00
Head of Household Attended University	1953	0.05	0.21	0.00	1.00
Per Capita Household Expenditure P. A (\$US)	1953	599.23	1333.26	10.72	41892.43
Assets Index	1953	0.07.00	0.149.02	-0.03.00	1.52.04
Female-Headed Households					
Amount of Remittance (\$US)	583	1577.31	2740.84	0.00	19907.41
Household Size	583	7.93	4.41	1.00	28.00
Mean Age of Migrants	583	39.75	10.99	18.00	75.00
Mean Age of Migrants Squared	583	1700.52	932.62	324	5625
Mean Duration of Migrants (Years)	583	6.62	7.90	0.00	55.67
Mean Duration of Migrants Squared	583	106.68	241.58	0.00	3098.78
Highest Educated Migrant has Sec Cert	583	0.22	0.42	0.00	1.00
Highest Educated Migrant Attended University	583	0.39	0.29	0.00	1.00
Number of Dependents in Household	583	0.88	2.21	0.00	13.00
Head of Household Has Sec Certificate	583	0.14	0.35	0.00	1.00
Head of Household Attended University	583	0.02	0.15	0.00	1.00
Per Capita Household Expenditure (\$US)	583	674.54	993.80	25.61	10373.26
Assets Index	583	0.095.04	0.152.03	-0.02.56	1.98.03
Male-Headed Households					
Amount of Remittance (\$US)	1370	586.74	1752.51	0.00	26366.73
Household Size	1370	9.68	6.05	1.00	57.00
Mean Age of Migrants	1370	33.36	9.58	18	99
Mean Age of Migrants Squared	1370	1204.64	765.64	324	9801
Mean Duration of Migrants (Years)	1370	3.58	5.37	0.00	37
Mean Duration of Migrants Squared	1370	41.71	113.03	0.00	1369
Highest Educated Migrant has Sec Cert	1370	0.14	0.35	0.00	1.00
Highest Educated Migrant Attended University	1370	0.07	0.26	0.00	1.00
Number of Dependents in Household	1370	1.48	3.38	0.00	36.00
Head of Household Has Sec Certificate	1370	0.12	0.33	0.00	1.00
Head of Household Attended University	1370	0.06	0.23	0.00	1.00
Per Capita Household Expenditure (\$US)	1370	567.11	1453.27	10.72	41892.43
Asset Index	1370	0.04.13	0.09.3	-0.08	1.88

The table reveals that female-headed household received disproportionately more remittances in terms of frequency and amount than their male counterparts. On the average, female-headed households received about **\$US1600** per annum compared to **\$US900** of the male-headed households. Compared to female-headed households, male-headed households tend to be larger, comprising younger migrants whose duration in migration location are lower than the average migrant duration. However, these differences in characteristics are not statistically significant.

3.3 Estimations

Firstly, we separated the household population into samples of male and female-headed households and empirically measured the differences between the two samples in terms of the amount of remittances received. The following regression equation was used for the measurement:

$$R_i = \alpha + \beta_1 F_i + \beta_2 Y_i + \beta_3 X_i + \varepsilon_i (i = 1, \dots, N) \quad (1)$$

Where **R** is a measure of the amount of remittances received by household, **F** is a dummy variable, taking on the value of 1 if the head of household is a female and 0 otherwise, **Y** is a measure of income or assets of the household, **X** is a

vector demographic characteristics of the household and is the error term. The coefficient on the F dummy is the estimate of interest. There are, at least, three competing estimation methods for this part: among the three methods, the simplest and conventional way to investigate the proposition is to run an OLS regression based on the traditional theories of remittance behaviour with dummy variable for the gender of the household head and observe if gender of the household head contributes to the observed remittance behaviour. However, the nature of the dependent variable must be considered and appropriate methodology that captures the fact that only part of the population of households received positive amount of remittances adopted. The point that the samples separated by the receipt of positive amount of remittance may not be random is capable of introducing bias to the regression estimates. Censored regression models such as Tobit is usually adopted in this situation. The Tobit model postulates a latent remittance outcome for nonparticipants (i.e. those who do not receive remittance) whereby the associated log likelihood function consists of two parts: one that corresponds to the classical regression for the uncensored observations and another which corresponds to the relevant probabilities that an observation is censored (see Cameron and Trivedi, 2009, p538).

A key assumption of the Tobit model that is critical for its application is that it restricts the mechanism that underlies both the probability and the intensity to receive remittance to be the same. Specifically, it assumes that the occurrence of zeros in the distribution of the dependent variables is part of the agent's utility maximisation behaviour. In the case of household receiving remittances as is the concern of this study, this assumption does not make sense. Owing to non-satiation in consumption, it is expected that households maximise utility by receiving positive amount of extra funding for consumption or investment. That is, we do not expect households to reject remittances as a means of utility maximisation, but zero remittances may arise from the characteristics of members of the households sent on migration and this is largely controlled in the model.

The Heckman two-stage selection procedure was also used to model separately, the probability of remittances being non-zero using probability models and the amount of non-zero outcomes using least square regression. This overcomes the unfavourable one direction restriction of the Tobit model. Nonetheless, the Heckman procedure requires, at least, one identifying instrument in order to be efficient (Murray, 2006). We, then, figure out that the selection in the data might be coming from the job market performance of the migrants in a given household since they might be incapable of remitting in some cases. Thus, we employed the employment status, marital status of migrants to determine whether they live in Africa or outside Africa as identifying instruments. In addition, OLS and Tobit models were also applied for comparison.

The second econometric issue relates to the extent per capita household expenditure variable as a proxy for long-run income in the model can be regarded as exogenous. This variable is suspected of 'endogeneity', because remittance which is the dependent variables contaminates the validity of expenditure as a proxy for long-run income, as household employ the remittances received in their consumption and other expenditures. As an alternative, we used household assets as a proxy for long-run income. An index of assets ownership was first computed using principal component

analysis based on the methodology employed by (Filmer & Pritchett, 2001). The adequacy of this index as a measure of long-run income was investigated through correlation analysis with household expenditure. The correlation coefficient obtained is 0.56 which suggests that the index reasonably capture the variations in assets ownership among the households. This does not guarantee that the variable is free from 'endogeneity' because, like household expenditure, asset ownership(s) may be contaminated and through household purchases of durable assets from their remittance income. However, this may not be the case because only 2% of the household reported using the remittances for assets purchases.

Given the huge remittance difference found between the male and female-headed households, the next stage of the analysis goes further to account for this difference using the Blinder-Oaxaca decomposition technique. The Blinder-Oaxaca decomposition requires linear regression estimates based on continuous dependent variable and uses the sample means of the explanatory variables to account for the relative contributions of the explanatory variables to the explained and unexplained components of the outcome differential between the two groups. The Blinder-Oaxaca decomposition requires estimating the following model separately on two groups:

$$g = (A, B): y_{ig} = X'_{ig} \beta + \varepsilon_{ig} \quad (2)$$

Where;

$$i = 1, \dots, N \text{ and } N \sum_g N_g \text{ and } x_{ig} \text{ is a } k \times 1 \text{ vector of regressors}$$

The raw difference in remittances receipt is then decomposed into explained (by observable characteristics), unexplained and selection components as follows:

$$\bar{R}^m - \bar{R}^f = (\bar{X}^m - \bar{X}^f) \beta^m + \bar{X}^f (\beta^m - \beta^f) - \theta \bar{\gamma}$$

The superscripts, **m** and **f** represent male and female-headed households respectively. The term on the left-hand side is the raw difference in amount of remittances received. The first term on the right-hand side is the endowment effect, arising due to the differences in characteristics between male and female-headed households. The second term on the right-hand side is the coefficient effect, arising due to differential treatment for male and female-headed households by migrants or due to unobserved factors, while the third term is the selection correction term, represented in the model by the inverse mills ratio.

4 RESULTS AND DISCUSSION

Even by sheer incidence (i.e. about 53%) of households in the current sample, migration and remittances have become a major means of livelihood for households in migrants' sending countries. One of the key motives of sending remittances is altruism and this has been shown to wane with time; migrants reduce their altruistic remittances as their time away from home increases (Rapoport and Docquier, 2005). Decisions about remittances are, however, embedded in complex relationships between the migrants and the household members left behind, involving constant negotiations and strategic behaviours aimed at sustaining remittance flows and other social-cum-economic relations. How women employ their integrative negotiation skills and their need to maintain family ties to influence remittances to the households is the focus of the current study. We first studied how the amount of remittances sent home by migrants differs by the headship

of households. Using three different types of regression analysis, OLS, Tobit and 2SLS, the overarching conclusion is that female-headed households receive more remittances than male-headed households do, even after controlling for migrant and household characteristics (see table 2 for detail). The

main reason for running different types of regression analysis is to ensure that selection, which is ubiquitous in the literature of migration and remittances, is controlled more satisfactorily. Comparing the OLS, Tobit and 2SLS estimates and marginal effects (table 2) confirmed that selection is not a problem in this application.

Table 2: Regression Results for Heckman, OLS and Tobit Models

Variables	(1) Heckman	(2) OLS	(3) Tobit
Inverse Mills Ratio	36.79* (17.88)		
Female Headed Household	516.0** (211.7)	569.2*** (114.7)	928.8*** (219.4)
Asset Index	323.8*** (51.04)	172.1*** (25.35)	277.7*** (52.21)
Household Size	75.80*** (17.16)	53.95*** (8.731)	163.5*** (17.81)
No of Dependents (<18 & 65)	75.82** (30.63)	62.23*** (18.50)	82.19*** (31.84)
Mean Duration of Migrants in Household	916.1*** (230.3)	816.3*** (124.1)	927.9*** (211.2)
Mean Duration of Migrants squared	-102.8*** (35.35)	-92.31*** (21.57)	-106.1*** (35.80)
Mean Age of Migrants	46.81 (72.40)	37.11 (33.88)	702.0*** (72.17)
Mean Age of Migrants Squared	-1.414 (3.558)	-1.914 (1.940)	-27.70*** (3.708)
Highest Educated Migrant Holds Secondary Cert	186.4 (225.4)	157.7 (137.8)	316.8 (239.1)
Highest Educated Migrant Attended University	-536.8 (337.3)	-418.6** (192.1)	-744.7** (347.5)
Head of Household Has Secondary Certificate	800.1** (329.0)	218.9 (149.1)	95.68 (323.1)
Head of Household Has University Certificate	-293.3 (537.0)	-258.2 (222.3)	-568.0 (503.8)
Occupation Dummy Included	Yes	Yes	Yes
Regions Dummy Included	Yes	Yes	Yes
Constant	-1,584** (614.1)	-828.1*** (170.4)	-6,135*** (450.0)
Sigma			2,357*** (74.52)
R-Squared	0.304	0.299	0.00715
Number of Observations	902	1,303	1,303

Recall that the Tobit model is non-linear in nature; the coefficients of the variables in the Tobit model are not directly comparable to coefficients from linear regression models. Hence, the marginal effects from the Tobit model is separately computed and compared to the coefficients from the alternative

models. These marginal effects are available from the author on demand. Though the coefficients of the inverse mills ratio for the Heckman model and the Sigma for the Tobit model are statistically significant, the coefficients of the other regressors are not statistically different across the models. There could

be many reasons for the observed differences between male and female households' receipt of remittances. This could be as result of asymmetries in asset ownership, household size, and number of dependants or unobserved factors such as asymmetries in negotiation skills. The use of interactions can give ideas of the channelling factors, but this is limited to the observable characteristics. As is common with survey data, unobserved variables may likely influence this pattern. Therefore, instead, Blinder-Oaxaca decomposition is employed to account for both explained and unexplained differences in the patterns of receiving remittances.

Therefore, the second strand of analysis is concern with accounting for the differences in remittance receipts between male and female-headed households. **Table 3** presents the results of Blinder-Oaxaca decomposition, including the part of the results driven by selectivity in the data. The impact of selectivity is measured by the coefficient of the inverse mills ratio and, as can be seen in the table, the mills ratio does not

constitute any part of the differences. The main factors accounting for the explained differences are the size of the household, number of dependants in the household and the duration of migrants in their destinations. As expected, household size and the number of dependants in the households accounted for the unexplained differences. In other words, the unexplained differences are smaller for larger households and larger for households with more dependants. This is not surprising, as the gender differences in negotiation skills and contract costing as hypothesized above, plays out in terms of caring for the dependents. The more there are dependants available in household, the more migrants are motivated to send remittances to the female heads of households to take care of members. In addition, devolution of power and involvement of more members of the households in decision making prevail in larger households and these factors whittle down the influence of the heads of household in decision making, irrespective of gender.

Table 3: Blinder-Oaxaca Decomposition Results (Male vs Female-Headed Households)

Variables	(1) Overall	(2) Explained	(3) Unexplained
Inverse Mills Ratio		-129.8* (69.38)	233.0 (438.2)
Household Size		227.9*** (68.41)	-1,451** (669.5)
Mean Age of Migrants		-114.2 (149.7)	4,298 (5,019)
Mean Age of Migrants		135.6 (115.2)	-2,351 (2,496)
Mean Duration of Migrants		-156.7* (91.14)	-2,166*** (815.8)
Mean Duration of Migrants Squared		113.0 (69.75)	915.0** (396.6)
Highest Educated Migrant Has Secondary Cert		7.071 (10.64)	84.40 (67.28)
Highest Educated Migrant Has University Education		-21.17 (31.69)	-5.757 (8.468)
Number of Dependents in Household		79.59* (48.29)	128.3** (64.31)
Head of Household Has Secondary Education		-51.02 (40.21)	-245.2* (146.1)
Head of Household Has University Education		-5.450 (14.50)	-50.69 (38.02)
Assets Index		-8.572 (54.09)	-60.72 (139.0)
Male Headed Household	1,315*** (110.6)		
Female Headed Households	2,360*** (236.1)		
Difference	-1,045*** (260.7)		
Explained		-357.3* (187.5)	
Unexplained		-688.1** (320.1)	
Constant			710.8 (2,647)
Number of Observations	902	902	902

Thus, in larger households, social valuation of services which devalues the services provided at home prevails and results in contraction of the differences in the receipt of remittances by male and female-headed households

5. CONCLUSION

Studies in sociology and related fields have since documented evidence of (female) gender roles, gender order, gender heterogeneity in relation to skills and household headship or as breadwinner, and the relative performance of gender in different situations and occupations (see Giddens, 2006; Haralambos & Holborn, 2008). A compelling aspect of the gender debate, which motivated this present research, is that women are more talented and productive than men with respect to certain kinds of skills and productions. This work is situated in the premise of gender roles in receiving remittances and explored how gender influences the sending behaviour of migrant household members. The model delivered the proposition that women as heads of households have greater influence on the attraction and maintenance of remittance relations between households and their migrant members compared to men of equivalent capacity.

The extent to which the gender of households' heads influences the degree to which migrant members meet the needs of those they left behind was analysed. Evidential data showed that there are higher returns to the integrative skills of women than the distributive skills of men. The empirical analyses based on 1,953 Senegalese households confirmed that female heads of households attract more remittances to their households compared to men of equivalent status. The insights provided by this study are novel and relevant to the discourse on gender issues, as evidenced in its value-added interdisciplinary scholarship and scientific outlook. More research in this area is useful in order to refine these findings, but also empirically evaluate its veracity. In particular, similar datasets such as the one used in this study are available and could be a good starting point to verify the evidence presented; hence, our suggestion for further studies.

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Appendix A: Construction of the asset index

Variable	Assets Ownership		Scoring Factor for Asset Index	
	Mean	Std. Dev.	Mean	Std. Dev.
Apartment owned	0.87	0.34	-0.07	0.04
Apartment rented free from relatives	0.03	0.18	0.02	0.07
Apartment rented from Individual	0.07	0.26	0.07	0.86
Living A family House	0.63	0.48	0.17	0.57
Living in An Apartment Building	0.11	0.32	0.06	0.26
Living in A single room	0.20	0.40	-0.19	0.30
Living in a room in a house	0.04	0.20	-0.15	0.33
House made of Bricks or stones	0.78	0.41	0.30	0.04
House made of mud	0.16	0.37	-0.27	0.40
House made of fabricated materials	0.05	0.21	-0.12	0.31
Has a room for cooking	0.71	0.45	0.21	0.40
no of rooms in the main building	5.67	3.09	0.10	0.09
Has electricity connection	0.67	0.47	0.32	0.87
Own Agricultural Land	0.47	0.50	-0.24	0.70
Own non - agricultural Land	0.23	0.42	-0.04	0.32
Own House	0.91	0.29	-0.05	0.59
Own other building	0.09	0.29	0.08	0.28

Own Sleeping Bed	0.98	0.14	0.07	0.14
Own Radio	0.83	0.37	0.15	0.32
Own television	0.64	0.48	0.33	0.58
Own Refrigerator	0.36	0.48	0.28	0.41
Own Air conditioner	0.03	0.18	0.12	0.13
Own Sound System	0.08	0.27	0.15	0.27
Own Vcr	0.34	0.47	0.27	0.45
Own Computer	0.11	0.31	0.17	0.37
Own Mobile Phone	0.86	0.34	0.17	0.37
Own Non - mobile Phone	0.23	0.42	0.20	0.48
Own Bicycle	0.12	0.33	0.03	0.33
Own animal drawn cart	0.23	0.42	-0.15	0.46
Own Car	0.13	0.33	0.18	0.40
Own Motorcycle	0.06	0.25	0.06	0.25
Own Other Assets	0.18	0.39	0.09	0.35
Own Other Assets	0.16	0.36	0.08	0.33
