

Sibling Influences on Migrant Remittances in a Developing Country Context

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Abstract

Migrant remittances will likely become a more significant form of filial support as demographic forces erode the support base for the elderly at a time when more of them are living at a distance from their children. This study uses social survey data from Nang Rong, Thailand to examine remittances sent from adult children to aging parents. It advances the literature on migrant remittances by situating remittances within a broader literature on *inter vivos* financial transfers and by examining the influences of a broader set of social actors, including siblings. Results are consistent with an altruism/corporate group model of household decision making whereby better-educated migrants are more likely to send remittances compared to their less-educated siblings, which is consistent with an educational repayment explanation. Findings also show gender differences across siblings in the sending of remittances, which is consistent with both gender theories and Thai norms of filial support.

Introduction

Social, demographic, and economic transformations are creating growing concerns about support and care for the elderly in parts of the developing world, particularly throughout parts of Asia (Cowgill 1986, Kosberg and Garcia 2004, Mason 1992, Sen 1994, United Nations 2002). As countries experience the demographic transition, declines in mortality increase life expectancy, eventually resulting in a rise in the elderly population, both in terms of absolute number and as a percentage of the overall population (Jiang 1995, Kinsella and Philips 2005, Martin 1988). Ensuing declines in fertility reduce the number of children, ultimately eroding the support base of the elderly (Zimmer and Kwong 2003). This is especially notable in countries that lack social security and old-age pensions systems and where adult children represent the primary source of care for their elderly parents (Cameron 2000, Jiang 1995, Knodel et al. 1995, Knodel et al. 2000, Lillard and Willis 1997, Cai 2003, Zimmer and Kwong 2003).

Economic and social changes in the nature of work and family relationships associated with urbanization, industrialization, and migration result in the physical separation of family members, which further contributes to concerns about support for the elderly (Knodel and Saengtienchai 1996, Mason 1992, Thornton and Fricke 1987). Particularly in rural areas, as young people migrate to cities to seek better employment opportunities, the elder generation's inability or unwillingness to migrate frequently leaves them living at a distance from their children. Thus, while older people are living longer with fewer children available to provide for them, the incidence of living alone or at a distance from adult children is increasing.

The same forces that seem to be eroding familial care for the elderly are also associated with economic development and rising per capita incomes (Mason 1992). In the future, these forces may represent the potential for new forms of elderly support. Adult children who take part in growing employment opportunities in cities become better able to provide for the financial well-being of family members through migrant remittances (money or goods sent by migrants to their origin households). Scholars and policy makers widely recognize that remittances represent a significant source of monetary support used to alleviate poverty and to overcome credit constraints throughout developing regions (Durand et al. 1996, Kapur and McHale 2003, Taylor 1999). Little systematic research has examined migrant remittances as a form of support for the rural elderly (an exception is Brown and Poirine 2005), although anecdotal evidence suggests its widespread occurrence (Knodel et al. 2005, Knodel and Saengtienchai 2007, Zimmer and Kwong 2003).

Given the changes that many countries are undergoing in their demographic profiles, economic structures, and familial organization, it is likely that migrant remittances will take on an increased significance in the future of old-age support. Another issue is how a reduction in the number of children effects family dynamics related to elderly support. The declining number of children responsible for caring for elder parents is likely to put increasing pressure on siblings to negotiate care arrangements for their aging parents. However, little is know about how the interplay of siblings within family contexts influences remittance behavior, particularly in developing regions.

In this study, I fill these important gaps in literature by examining remittances as a form of financial and material support from adult migrant children to their aging parents. I draw on a wide range of literatures, including aging and intergenerational relations, migration, and gender studies using data from Thailand, a developing country experiencing massive social, economic, and demographic changes in the past several decades. The setting is Nang Rong, a rural agrarian district located in Thailand's Northeast region.

This study advances the literature on migrant remittances in two ways. First, it extends the scope of scholarship on migrant remittances by situating the phenomenon within a broader literature on *inter vivos* financial transfers from adult children to their aging parents. Second, it expands the existing model of remittances by examining the influences of a broader set of social actors, beyond just the migrant and household, to include the influence of siblings.

Previous Research on Remittances and Support for Elderly

Since the focus of this study is on support provided by young migrants to aging parents living in the migrants' former household, I consider insights from both the literature on intergenerational support and the literature on remittances from migrant family members to their origin households. Despite the voluminous literature on *inter vivos* transfers in developed countries, I focus mainly on literature from developing countries, as the nature of transfers within these regions is likely to be fundamentally different (Secondi 1997).

Studies of remittances and intergenerational relations usually view the household as the appropriate context for understanding remittances and support from migrant children to their aging parents (Frankenberg et al. 2002, Lee et al. 1994, Lillard and

Willis 1997, Lucas and Stark 1985, Stark and Bloom 1985, Stark and Lucas 1988, VanWey 2004, Zimmer and Kwong 2003). The household is the residential unit of the family, the key decision-making unit about matters related to fertility, investments in human capital of children and adults, and the distribution of family resources between and across generations (Lillard and Willis 1997).

The migration of family members causes difficulties for the conventional definition of household, and necessitates a spatially-extended conceptualization. Thus, a more appropriate view of households within a migratory context is Litwak's (1960) notion of the modified extended household. Litwak argued that families adapt to geographical dispersion and changing economic circumstances of family members by retaining features of pre-industrial extended families, albeit by spreading activities over a wider geographic distance. Advances in technology (especially transportation and communication) permit family members to maintain close contact and fulfill many responsibilities to each other that previously required geographic proximity.

The basic model of remittances and intergenerational support implicitly focuses on the relationship between the recipient of support (either the household or the parental generation) and isolated transfers from adult children or migrants. While multiple sources of support are possible, under the basic model, the actions of support providers are often considered to be independent of each other. More concretely, a given adult migrant child's decision to send money or goods to an aging parent is conceptualized as being unrelated to the support behavior or characteristics of siblings.

A logical extension of the basic model relaxes the implicit assumption of independence of support providers. Such an extension is necessary given the complex

interactions among siblings that likely influence decisions to provide support for their aging parents. Although the literature on helping behavior in developing countries rarely considers this issue, research from the United States suggests that intra-generational conflict and negotiation among siblings is common in situations involving care for aging parents (Hequembourg and Brallier 2005, Ingersoll-Dayton et al. 2003).

Using well-established models of household decision-making from the literature on intergenerational relations (see Lee et al. 1994, Lillard and Willis 1997, Frankenberg et al. 2002, Zimmer and Kwong 2003), I explore extensions to these models that relax the independence assumption, thereby including a wider range of sibling relations beyond just the parent-child (or migrant-household) pair. I take into account several theoretical models as well as a number of relevant considerations in understanding the wider family context and the characteristics of care-providers.

One model of household decision-making commonly used to explain *inter vivos* transfers is the altruism/corporate group model. This model views the family as a corporate unit, pooling resources to ensure the joint well-being of household members, and distributing them efficiently to ensure the family's continued survival (Becker 1974, 1991). Support is seen as altruistic, in the sense that each family member's well-being or sense of satisfaction depends on the well-being of other family members.

An explanation stemming from this model that has received widespread support in the literature is the educational repayment hypothesis (Brown and Poirine 2005, Lucas and Stark 1985, Secondi 1997, Stark and Lucas 1988, Lillard and Willis 1997, Frankenberg et al. 2002). This hypothesis describes an inter-temporal investment scheme whereby parents' initial investment in their children's education is eventually repaid in

the form of old-age support in later life. While children may be risky investments (they may die or renege on their parental debt), they nonetheless represent one of the best options available to rural parents to ensure their future livelihood (Lillard and Willis 1997). Parents invest in their children's education, which enables them to acquire better-paying and more stable jobs, making it easier for the child to remit a portion of earned income as remittances.

By extension to a multiple-support-provider household context, it follows that children with the relatively highest education level ought to be more likely to provide support compared to their less educated siblings. Research on filial support in China by Lin et al. (2003) confirms this empirical expectation, although the remittance literature has not examined this phenomenon directly.

Another model of household decision-making is the power and bargaining model, which produces contrary predictions to those of the altruism and corporate group model. This model describes relative resources of family members that determine bargaining power in negotiating family division of labor and the allocation of family resources (Chaipori 1992, Ross 1987). Relative resources of family members, especially education and income, determine bargaining power, and bargaining occurs across generations as well as between generations.

In pre-industrial societies, children have an incentive to provide support to parents, because parents control land and property that children hope to inherit (Goode 1963). With the onset of industrialization and non-familial employment, the young generation becomes increasingly independent of their parents' control (Thornton and Fricke 1987), and they find alternate sources of security and material support in urban job

markets. This rise in personal resources allows children to exempt themselves from time-intensive support tasks (Hermalin et al. 1990). Parents counter by enticing support through the offer of strategic property bequests or through threat of disinheritance (Bernheim et al. 1985, de la Brière et al. 2002, Hoddinott 1994, Regmi and Tisdell 2002). Such a strategy represents a form of bargaining across generations.

Of more interest for the present study is bargaining within generations, which takes into account the relative resources of siblings, who can use higher levels of education or income to opt out of support tasks (Hermalin et al. 1990), leaving their brothers or sisters to take on a disproportionate care burden. This model has not been directly tested in the remittance literature.

A third model of household decision-making is the mutual aid model. This model emphasizes voluntary exchanges between family members. It situates *inter vivos* transfers within a context of *quid-pro-quo* exchanges between adult children and their elderly parents. A common research finding that is consistent with this perspective is that adult children exchange financial support to their aging parents to compensate them for their time (Cox 1987, Secondi 1997, Lillard and Willis 1997, Frankenberg et al. 2002). For example, elderly parents help with baby sitting, housework, or errand-running in exchange for money from adult children. Elderly parents sometimes assume primary care responsibilities for their grandchildren on a long-term basis in the absence of migrating parents (Hashimoto 1991, Richter 1996, 1997), which is related to the receipt of remittances (Piotrowski 2007).

In a theoretical sense, it is difficult to imagine how this model can be expanded to include a multi-provider perspective. It is also difficult to differentiate the mutual aid

model from an altruistic perspective. Nevertheless, it represents an important motivation for transfers, and therefore should also be considered. In addition to this model, there are several other factors that I will take into account when evaluating the influence of siblings on remittance transfers. Some migrant children choose not to remit in spite of the needs of the origin household, thus individual characteristics are also significant in determining remittance behavior (Cai 2003).

Competing commitments, such as marriage, for instance, can be important to determining remittance behavior, since role strain can impact the time that children have available to provide support. Research in the United States has found that married children provide less support than unmarried children (Stoller 1983), which can be accounted for by competing obligations between the family of procreation and the family of orientation. The child's birth order or relative age could also be important, as some research has suggested that children make themselves available to help in serial order, beginning with the eldest child (Cantor 1975, Johnson 1983, Shanas 1979).

Another important consideration is gender, which represents one of the most robust differences in determining help for older persons as noted in findings from research in the United States. Daughters are more likely to provide care to elderly parents (England 2005, Silverstein et al. 2006, Wolf et al. 1997), and women provide a wider variety of activities compared to men (Spitze and Logan 1990). In family contexts characterized by gender differences between sibling care providers, a division of labor has been documented involving women's disproportionate care burden (Hequembourg and Brallier 2005, Pillemer and Suito 2006). Many of the studies of gender differences

among siblings are small-scale qualitative studies. Therefore, there is a need for studies such as the present one, which uses quantitative analysis of a large sample of sibling sets.

Gender scholars interpret the gender gap in care as evidence for gender stratification related to the way that labor is divided to express gender differences (Connell 2002, Ferree 1990, Lorber 1994) or alternatively as evidence for gender as a social institution or structure (Martin 2004, Risman 2004). However, gender differences in support behavior observed in more developed contexts are not universal. Studies in China and Taiwan, contexts characterized by filial norms that dictate that elderly care is the responsibility of sons, have found that compared to daughters, sons are more likely to provide financial and instrumental support to their aging parents (Hermalin et al. 1992, Lee et al. 1994, Lin et al. 2003). Similar findings exist for remittances, where, in China, males are more likely to remit compared to females (Cai 2003). Therefore, cultural norms about filial support may be just as important as gender differences in determining remittance behavior.

In Thailand, research has found that females are more likely to send remittances, but such behavior is consistent with Thai norms of filial support (Curran 1995, Curran and Saguy 2001, Osaki 2003, Phongpaichit 1993, Richter and Havanon 1995, VanWey 2004) as well as a gender stratification perspective. I now describe Nang Rong, the setting for this study. This is followed by a description of the data, the basic approach, measures used in the analysis, the research method, results, and conclusions.

Setting

Nang Rong is a rural district located in the Buriram province in Thailand's Northeast Region. The district was a frontier region at the turn of the twentieth century, but the

frontier closed during the 1970s and 1980s. Rain-fed paddy rice cultivation dominates the local economy. Villagers in the district live in clusters of dwellings surrounded by agricultural fields. While industrial development led to some scattered wage employment, the overall level of non-agricultural employment in Nang Rong remains low (VanWey 2003).

High levels of poverty, poor quality land, and national-level changes in demographic, developmental, and economic structures made Northeast Thailand (where Nang Rong is located) the largest migration-sending region. Starting in the 1960s, the country experienced a rapid and extensive decline in fertility and a substantial rise in life expectancy (Knodel et al. 1987, Knodel and Saengtienchai 2007). Therefore, the Thai population is aging, although young adults included in this study tend to have a large number of siblings.

The shift from an agricultural to a manufacturing base was associated with new economic opportunities. Economic growth in Thailand was steady in the latter part of the twentieth century until it was temporarily interrupted during the financial crisis of 1997 (Knodel and Saengtienchai 2007). The decades of economic expansion are associated with greater geographic mobility, especially rural-to-urban internal migration, most of which is aimed at metropolitan Bangkok. Migrants cite economic motives as the most common reasons for movement (Curran 1995, Knodel and Saengtienchai 2007, Pejaranonda et al. 1995). Many of them find low skill jobs in factories and construction sites. Temporary, circular, and seasonal migration is also common in the region, which is related to labor demand fluctuations stemming from seasonal variations in the

agricultural cycle (Chamrathirong et al. 1995, Curran et al. 2005, Pejaranonda et al. 1995, Richter et al. 1997).

Migration tends to be selective of young people, which creates a concern for the well-being of the elderly, who typically remain behind in rural areas. Care for the elderly in Thailand is the responsibility of family, and co-residence (or proximity of residence) among aging parents and adult children represents a major opportunity for the provision of support (Knodel et al. 1995, Knodel and Chayovan, 1997). Thai children are brought up to feel a moral obligation to support and care for their parents out of gratitude and as a form of parental repayment (Chamrathirong et al. 1988, Knodel et al. 1995, Knodel and Saengtienchai 1996).

Norms of filial support are imbued with disparate gender expectations. There is an indication that parental debt is more demanding for daughters than sons, since sons have the option of repaying their debt by joining the Buddhist *sangha* (monkhood), an option not available to women (Chamrathirong et al. 1988, DeJong 2000). Daughters are generally thought to be better suited for caring for parents, due to their dependability and perceived emotional closeness to parents (Curran 1995, Curran et al. 2005, Knodel, Saengtienchai et al. 1995).

Sons obligation to their natal household ends at marriage, since matrilineal postnuptial residence customs encourage men to move in with their bride's family. A customary Thai household life cycle involves having a married daughter and her husband move into her parents household for a short time until either the next daughter marries or the couple have a child. Frequently the youngest daughter has the responsibility of caring for the elder parents, so the final stage of the life cycle is a stem family including the

daughter, her husband, their children, and her parents (Limanonda 1995, Limanonda and Kowantanakul 2002, Knodel et al. 1995, Tan 2002).

According to data from the National Statistics Office, the most common source of income and material support for Thai elderly is their children (Knodel et al. 2005).

Remittance support from migrating adult children to elderly parents is probably common, although estimates of its prevalence are not available. Research in Nang Rong suggests that remittances are more likely to be sent if aging parents are residing in the natal origin household (Piotrowski 2006). While money exchanges flow from both parents-to-children and the children-to-parents, the latter is more common than the former (Knodel and Chayovan 1997). Frequently, migrant children bring monetary or in-kind remittances in person during visits (Knodel and Saengtienchai 2007).

For some households, the receipt of remittances has been linked to repayment for childcare provided by elderly parents to their grandchildren (the young children of the adult second generation) during the absence of the middle generation (Knodel et al. 1995, Knodel and Saengtienchai 2007, Piotrowski 2007). Such an arrangement, referred to as the skipped generation household (a residential pattern in which a grandparent is the primary care provider and neither parent is present; see Casper and Bryson 1998), has been observed throughout Thailand (Hashimoto 1991, Piotrowski 2007, Richter 1996). Migrants send money and goods to pay for their children's expenses and to provide for the living costs of their aging parents.

Data

Data for this study comes from the 1994 and 2000 waves of the Nang Rong Project social survey. The Nang Rong data includes three prospective panels of data collected in 1984,

1994, and 2000. A full census of all households was collected in 1984 for a sample of 51 villages, which was repeated in subsequent panels in 1994 and 2000. Data were collected for all households previously enumerated as well as any new households that were present at each wave.

Using a household survey, information was collected on sociodemographic characteristics of all household members, including proxy reports for migrants. The survey also included measures of migrant remittances, and characteristics of the household, such as agricultural activities, land use, and ownership of consumer durables and productive assets¹.

Basic Approach

To understand how siblings influence each others' remittance behaviors, I estimate a series of regression models. The dependent variable is remittance behavior, and the main independent variables of interest are relative attributes of siblings. Based on theoretical considerations and the nature of filial norms in Thailand, I estimate separate models for men and women, in addition to a pooled model that includes the main effect of gender. I limit my analysis to remittances sent by individuals, aged 13-45, who are children of the household head. Preliminary analysis suggests that these are the ages when most migrants send remittances. Furthermore, the majority of those who send remittances in this age range (approximately 86 percent) are children of the household head.

I construct an analysis sample in which the unit of analysis is a migrant-sibling pair. This research design makes it possible to compare the relative attributes of siblings, which can be used to determine the influence of their characteristics on remittance

¹ For more information on the Nang Rong data see the project website (www.cpc.unc.edu/projects/nangrong) or published sources: Entwisle et al. 2007, Rindfuss et al. 2007, Curran et al. 2005.

behaviors. To construct the analysis sample, I randomly select one migrant child of the household head from each household, who I will henceforth refer to as ego. I then match ego's information to characteristics of each of his or her migrant siblings, thus creating a series of unique ego-sibling records. Individuals whose migrant siblings cannot be identified from the household data are not included in this analysis. Nonetheless, I consider their characteristics in subsequent analysis, and I will speculate how their exclusion might effect results.

Measures

I use a prospective approach to defining migration. A migrant is defined as any individual about whom information was collected in the 1994 panel, who has been living continuously outside of his or her sample village at the time of the 2000 survey for two or more months. This definition limits analysis to households having data in both the 1994 and 2000 panel. As they are probably characterized by a later stage in the household life cycle, these households may be unrepresentative of all households in sample villages. This is especially true for new households that formed between 1994 and 2000. Such selectivity may not be problematic, however, since the households being included are most likely to contain several generations of family members. Thus, these households are probably the very ones that are most at risk of experiencing intergenerational financial and material transfers from adult children to elderly parents.

Remittances, which include money and goods sent from the migrant to the household, are measured as transfers sent anytime within a year prior to the survey. In-kind remittances include transfers of clothing, food (valued at 100 Baht² or more),

² The baht is the Thai unit of currency; in 2000, at approximately the middle of the year (June 15), 1 baht = 39.07 USD (Federal Reserve 2007).

electrical appliances, household goods, and vehicles³. I combine remittance types into a single overall measure of remittances, and I consider the remittance sending of both the ego and sibling (which I sometimes refer to as alter) within a single variable. I measure remittance as a four-category nominal variable indicating whether both ego and alter sent remittances, only ego sent remittances, only alter sent remittances, or neither ego nor alter sent remittances.

[Table 1 about here]

Table 1 shows the percentage distribution of remittance categories, the dependent variable. The most common situation is for both ego and sibling to send remittances, with just under half (about 42 percent) of all ego-sibling pairs falling in this category. In about a quarter of cases, neither one sent remittances, while in almost an equal share of the remaining cases either ego (17 percent) or the alter sibling (17 percent) was the only one to send remittances. These results show that in approximately two-thirds of cases ego-sibling pairs behaved similarly with regard to remittances. Thus, it appears that for the majority of households, a single child is not taking sole responsibility for sending remittances to elder parents, although this may be true for some households.

[Table 2 about here]

To measure the relative influence of siblings' attributes on remittance behavior, I construct several measures of ego-sibling differences. Descriptive statistics for these variables can be found in Table 2. To test the implications of altruism/corporate group and power and bargaining models, I compare relative human capital endowments

³ Money was the most likely form of remittance sent to the household (59 percent of ego migrants in the sample sent this), followed by food (31 percent), clothing (25 percent), household goods (8 percent), electrical appliances (5 percent), and vehicles (1 percent). In analysis that used just monetary remittances, results were similar to those using an overall measure, thus only the overall measure was used in the final analysis.

(education and occupation) of egos and siblings. I measure education as a series of dichotomous variables indicating whether ego is more educated, less educated, or has the same education as the sibling. I also include a variable for whether the educational difference cannot be determined. These are cases in which either the ego or sibling has completed non-formal education (a general equivalency degree), which makes it difficult to categorize that individual's education level.

The table shows that educational levels are equivalent in 55 percent of the cases, while in a nearly equal percent of the remaining cases ego is more educated (19 percent) or less educated (17 percent). If the altruism/corporate group model is correct, prior investments in education should translate into a greater propensity for sending remittances, while the power and bargaining model predicts just the opposite effect.

Occupational differences are measured as a dichotomous variable indicating whether one of the individuals in each ego-sibling pair is employed in a non-agriculture position while the other is employed in either agriculture or is unemployed. In the regression analysis, I include an interaction between this variable and ego's employment in non-agriculture in order to get a more clear indication of how occupational differences determine remittances. I expect non-agricultural workers are likely to have better-paying and more stable jobs than those in agricultural positions. Occupation differences are present in just over one third of cases (37 percent). If the altruism/corporate group model is correct, those employed in non-agricultural jobs should be more likely to send remittances. The bargaining model predicts the opposite: that those with more stable and better paying employment would opt out of support tasks.

I also measure whether other individual differences in sibling characteristics contribute to remittance behavior. I include a measure of sex differences between the ego and sibling. In the regression models, I also include an interaction between this variable and the gender of ego to get a better understanding of the nature of the gender effect. From Table 2, it can be seen that there is a gender difference between ego-sibling pairs in nearly half the cases (47 percent), although gender differences are slightly more common for females, suggesting that more migrants are male.

I also measure age differences between ego and sibling by constructing a dummy variable for whether ego is older than the sibling, and for the absolute age difference between them. The table shows that ego is older in just under half of the cases (49 percent) and the absolute age differences separating siblings is 5.74 years, on average. If siblings are sending remittances in serial order, both variables should be positively associated with sending remittances for any contrast in which the ego is sending.

To test the competing commitments argument, I include a dichotomous measure of marital status differences, which indicates whether one member of the ego-sibling pair is ever-married while the other is never married. In the regression models, I include an interaction term between the ego being never-married and marital differences. I expect that ever-married siblings are less likely to send remittances compared to their married counterparts. The table shows marital differences in about one third of the cases.

The rest of the variables are controls. I include measures of the ego's demographic characteristics including gender, age, marital status, education, occupation, and number of migrant siblings. Characteristics of the household are also included, such as separate variables for whether the mother and father are 55 or older, younger than 55,

or whether their age cannot be determined.⁴ I also include counts of the number of ever-married and never-married siblings residing in the household disaggregated by gender, and separate dummy variables for whether the ego or sibling's children live in the household. Measures of the household economy, such as the amount of land used by the household, dummy variables for whether the household grows rice, owns agricultural equipment, and engages in animal husbandry, and a measure of household wealth are also used.

Monetary values of assets and income are not available in the Nang Rong data. In order to develop a comprehensive picture of wealth, I create an index of household wealth using measures of consumer durables and characteristics of the dwelling unit. Following Filmer and Pritchett (2001) the index uses the first principal component as a weight for an additive index of assets⁵. Since some of the assets are measured at the nominal level, I use a polychoric principal components procedure (see Kolenikov and Angeles 2004). Using the raw index, I group households into wealth tertiles⁶.

Method

To relate the remittance measures to the set of independent and control variables, I use a multinomial logit model. The reference category is whether neither ego nor sibling sent remittances. Because the data are organized into ego-sibling pairs, they are not

⁴ These represent cases in which the father or mother are not in the household. In most cases these individuals are dead; 61 percent of fathers and 72 of mothers are known to be dead. The majority of the rest are not listed in the household data, which may imply that some of them died before the 1994 data wave or they may be estranged from the family.

⁵ Asset measures include the number of televisions, VCRs, refrigerators, *itans* (agricultural trucks), bicycles, motorcycles, cars/trucks/pickups, and sewing machines owned by the household. I also include measures for whether the dwelling unit has glass paned windows, the household cooks with electricity or gas, the household owns a large tractor, small tractor, or rice thresher.

⁶ The procedure uses all Nang Rong households in the sample to construct the index, while only households included in the analytical sample are included in the analysis. Therefore, the proportion of households in Table 2 does not conform exactly to the expected tertile breakdown. Indeed, wealthier households are slightly under-represented (27 percent are in the top tertile), while middle and bottom tier households are slightly over-represented.

independent and thus violate a regression model assumption. To correct for this assumption violation, I use heteroskedastically robust standard errors (see White 1980) that account for the clustering of ego-sibling pair records within ego records. Results of regression models are presented in exponentiated form as odds ratios, which can be interpreted as the effect of a unit increase in the independent variable on the odds of a change in the dependent variable. An odds ratio of one indicates a zero effect, odds ratios below one indicate a negative effect, and odds ratios above one indicate a positive effect.

Results

[Table 3 about here]

Table 3 shows results for the full sample, while Tables 4 and 5 show separate results for males and females, respectively. Table 3 demonstrates that educational differences are significant determinants of remittance behavior. Compared to cases in which ego and sibling have equivalent education levels, when ego is more educated, the odds are higher that both will send remittances and that only ego will send remittances. When the ego is less educated, the odds are higher that only the sibling will send remittances. Taken together, these results indicate that the more educated sibling has a higher likelihood of remitting. This finding supports the educational repayment hypothesis and is consistent with the altruism/corporate group model.

Occupational effects are less clear-cut than educational differences, although they offer more support for the altruism/corporate group model than the power and bargaining model. As predicted by the altruism/corporate group model, occupational differences increase the odds for both ego and sibling and sibling only sending remittances. However, they are non-significant in predicting remittances sent by ego alone. Also

consistent with the model, compared to agricultural workers, the odds of non-agricultural workers sending remittances are higher for all remittance contrasts.

The interaction between non-agricultural occupation and occupation difference (which implies that ego is employed in a non-agricultural position and the sibling is employed in agriculture or is unemployed) shows lower odds for both sending remittances and for only the sibling sending remittances. While the effect of only the ego sending remittances is positive for this variable, which is consistent with the altruism corporate group model, the results are not statistically significant.

Turning to gender differences, results show that female siblings have higher odds of remitting than males. This can be seen from the main effects of ego's gender, sex differences, and their interaction. The main effect of gender shows that males have lower odds of remitting compared to females for each remittance contrast. Sex differences are associated with lower odds of both ego and sibling sending remittances, higher odds of only ego sending remittances, and (somewhat surprisingly) with lower odds of only sibling sending remittances. The interaction term (which implies that ego is male while the sibling is female) shows that the odds are higher that both will send remittances, are lower for only ego (male) sending remittances, and are much higher for only the sibling (female) sending remittances. Clearly, if a male migrant has a sister, the likelihood that some form of remittances will be sent is higher.

There is some evidence that age differences are associated with remittance sending, although results are not consistent for all contrasts. When the ego is older than the sibling (compared to if the sibling is younger or the same age) the odds are lower that they will both send remittances and that only the sibling will send remittances. Although

the odds of only the ego sending remittances are higher (which would demonstrate a consistent age effect), this finding is not statistically significant.

Marital differences also lack consistent effects across all contrasts, when interactions with marital status are taken into account. Although marital differences increase the odds of remittances for all contrasts, the odds of never-married migrants sending remittances is higher for only one contrast (egos only sending remittances). Furthermore, the interaction between ego being never-married and marital differences (which implies ego is never-married while the sibling is ever-married) is non-significant for the contrast in which only the ego sent remittances. Thus the competing commitment argument is not supported when considering sibling differences.

Turning to results of control variables, several interesting effects are worth noting. Recalling the reference category for father's age is 54 or younger, for all contrasts, fathers aged 55 or older, who reside in the natal household, increase the odds of sending remittances, as do fathers whose age is unknown. The former effect confirms the old age support hypothesis, while the latter suggests that households in which the father does not live in the household (most likely because of the father's death) are more likely to receive remittances. Both effects are indicative of a household's level of need or their ability to maintain their level of sustenance, and both are consistent with the altruism corporate/group model.

The effect of having an ever-married female sibling residing in the household also has a consistent effect across contrasts; in all cases, this reduces the odds of remittances. It is likely that these cases represent the final stage of the Thai household life cycle whereby married daughters co-reside with elder parents. Co-resident married daughters

probably take on the primary responsibility of providing support for their aging parents, which alleviates the burden on other siblings to provide financial support through remittances.

Another consistent effect is having children residing in the natal household. In contrasts involving remittances from ego, the odds of remittances increase if ego's children reside in the natal household. A parallel finding is evident for siblings, if their children reside in the household. This finding is consistent with the mutual aid model. Specifically, remittances may be sent in exchange for help with childcare in skipped generation households. However, given the low incidence of children living in the household (Table 2 indicates this arrangement is only evident in 10 percent of cases), the mutual aid model does not represent a dominant trend in remittance support. It is also noteworthy that the household wealth effect, when it was statistically significant, indicated that the wealthiest households had lower odds of receiving remittances. This finding provides further support for an altruism/corporate group model.

[Tables 4 and 5 about here]

Turning to separate analysis for males and females, a few differences are worth noting. First, the effect of ever-married female siblings residing in the household is only significant for males, not females, suggesting that daughters may be expected to provide support even in the event that their sister takes on primary care responsibilities for the parents. Second, the effect of fathers age 55 and over is only significant for females, which further suggests gender differences in care for the elderly.

Finally, I also estimate a logistic regression model for remittance behavior of individuals with no siblings. Results for the model are presented in an appendix table (see

table A1). For the small sample of individuals without siblings (N = 222), results show that only three variables predict remittances: gender, unemployment, and household wealth. Males have lower odds of remitting than females, while unemployed migrants have drastically lower odds of remitting compared to those in agricultural occupations. Also, compared to those in the middle tertile of the household wealth distribution, those in the top tertile have a lower odds of receiving remittances.

It is likely that those with no siblings may be from households that are wealthier, and may have a lower overall level of fertility. Their exclusion may put a slight downward bias on the effect of household wealth or possibly education. However, considering their small number, it is unlikely that bias is substantial.

Conclusion

In this study, I examine remittances as a form of financial and material support from adult migrant children to their aging parents in a developing country experiencing massive social, economic, and demographic changes in past several decades. This study advances the literature on migrant remittances by situating remittances within a broader literature on *inter vivos* financial transfers and by examining the influences of a broader set of social actors to include the influence of siblings.

I consider extensions of well-known models of household decision-making related to financial and material transfers. Although I find evidence for multiple models, results are most consistent with the altruism and corporate group model. This model describes resource pooling within a household that ensures the joint well-being of household members, and the efficient distribution of family resources that ensure the

family's continued survival. In a multiple support-provider context, the model suggests that the siblings who are most well-off provide financial support for their aging parents.

The strongest support for this model comes from the effect of relative education of siblings. Migrants with relatively higher education are more likely to send remittances to their natal household, compared to their less educated siblings. This finding is consistent with an educational repayment of initial investments made by the parental generation in earlier life (Brown and Poirine 2005, Lucas and Stark 1985, Secondi 1997, Stark and Lucas 1988, Lillard and Willis 1997, Frankenberg et al. 2002). Furthermore, financial support in the form of remittances is sensitive to the age of the migrant's father, and to the father's absence. This too is consistent with an altruism perspective.

There is also evidence that migrants are sending remittances as repayment for childcare provided to their children by the children's grandparents. Remittances are more likely from both the ego migrant and the sibling if any of their children reside in the natal household. The incidence of this situation is not high, however, which suggests that this is not a dominant household strategy. Furthermore, exchange motivations are consistent with altruism more generally.

Findings also highlight the importance of gender in sibling support contexts. Results are consistent with research that demonstrates women's greater responsibility for caring for aging parents (England 2005, Hequembourg and Brallier 2005, Pillemer and Suito 2006, Silverstein et al. 2006, Spitze and Logan 1990, Wolf et al. 1997) and the finding that Thai women behave more altruistically than men in remittance contexts (Osaki 2003, Vanwey 2004). It adds the insight that sisters provide more support than brothers. This finding has implications for the household strategy perspective, in that it

suggests that careful consideration needs to be given to understanding family strategies from the perspective of individual lives, particularly as they relate to gender and age-based hierarchies (Folbre 1987, Moen and Wethington 1992).

It should be noted that while the gender effect is consistent with a theory of gender stratification (Connell 2002, Ferree 1990, Lorber 1994) or gender as a social institution or structure (Martin 2004, Risman 2004), findings may have been different had this study been carried out in another context. This is especially true for countries such as Taiwan or China where filial piety is the considered the responsibility of sons (Hermalin et al. 1992, Lee et al. 1994, Lin et al. 2003). Thus, gender theorists should consider broad historical and cultural factors that determine support behavior before making generalizations based on a limited set of contexts.

The findings also have implications for the future of old-age support for the elderly. As fertility rates drop and parents have fewer children available to provide support for them in their old age, it is reassuring that investments in their children's education shows evidence of promising returns to investment in both Thailand and elsewhere. In the future, if economic development is successful in raising educational levels, living standards, and per capita income, remittances may not be necessary for ensuring the continued support for the elderly, particularly if formal institutions develop to meet the growing needs of the older people. If, on the other hand, developing countries continue to experience persistent poverty along with population aging, remittances may become an ongoing feature of family support systems for the elderly. In addition, better-educated and well-off individuals may experience greater pressure to care for their aging parents, as there will be fewer siblings to provide support.

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Table 1. Frequency Distribution of Dependent Variable, Ego-Sibling Migrant Pairs

Category	Percent
Both Ego and Alter Sibling Sent Remittances	41.85
Only Ego Sent Remittances	16.93
Only Alter Sibling Sent Remittances	17.07
Neither Ego nor Alter Sibling Sent Remittances	24.14
Total	100.00
N	4358

Table 2. Descriptive Statistics, Ego-Sibling Migrant Pairs

Variable	Full Sample		Males		Females	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Ego-Sibling Differences						
Education Difference						
Ego is More Educated	0.19	0.39	0.19	0.39	0.18	0.38
Ego is Less Educated	0.17	0.38	0.18	0.38	0.17	0.37
Same Education	0.55	0.50	0.54	0.50	0.56	0.50
Education Difference Unknown	0.09	0.29	0.09	0.28	0.10	0.29
Occupational Difference ^a	0.37	0.48	0.36	0.48	0.38	0.49
Sex Difference	0.47	0.50	0.43	0.50	0.52	0.50
Ego is Older than Sibling	0.49	0.50	0.51	0.50	0.46	0.50
Absolute Age Difference (in years)	5.74	4.02	5.74	4.05	5.73	4.00
Marital Difference ^b	0.35	0.48	0.36	0.48	0.33	0.47
Ego Demographic Variables						
Gender (male)	0.55	0.50	-	-	-	-
Age (in years)	27.95	6.25	28.38	6.31	27.41	6.13
Marital Status						
Never Married	0.32	0.47	0.33	0.47	0.31	0.46
Currently Married	0.64	0.48	0.65	0.48	0.63	0.48
Post Married	0.04	0.19	0.02	0.14	0.06	0.23
Education						
Less than Primary	0.23	0.42	0.23	0.42	0.22	0.42
Primary Only	0.46	0.50	0.45	0.50	0.47	0.50
Greater than Primary	0.25	0.43	0.26	0.44	0.24	0.43
Non-Formal	0.06	0.24	0.06	0.23	0.07	0.26
Occupation						
Unemployed	0.08	0.26	0.05	0.22	0.11	0.31
Non-Agricultural	0.65	0.48	0.62	0.49	0.68	0.47
Agricultural	0.28	0.45	0.33	0.47	0.21	0.41
Number of Migrant Siblings	5.88	1.65	5.91	1.65	5.83	1.66
Household Characteristics						
<i>Parent's Age (Residing in Household)</i>						
Father is Younger than 55 Years of Age	0.23	0.42	0.22	0.42	0.24	0.42
Father is 55 Years or Older	0.56	0.50	0.57	0.49	0.54	0.50
Father's Age Unknown ^d	0.21	0.41	0.20	0.40	0.22	0.41
Mother is Younger than 55 Years of Age	0.35	0.48	0.36	0.48	0.35	0.48
Mother is 55 Years or Older	0.59	0.49	0.59	0.49	0.59	0.49
Mother's Age Unknown ^d	0.05	0.22	0.05	0.21	0.06	0.23
<i>Household Demographics^c</i>						
Ever-Married Male Sibling	0.08	0.27	0.08	0.27	0.07	0.26
Ever-Married Female Sibling	0.26	0.44	0.30	0.46	0.21	0.41
Never-Married Male Sibling	0.31	0.46	0.29	0.45	0.33	0.47
Never-Married Female Sibling	0.23	0.42	0.23	0.42	0.24	0.43
Ego's Child	0.10	0.29	0.04	0.20	0.16	0.37
Migrant Sibling's Child	0.09	0.28	0.09	0.28	0.08	0.28
Household Sibling's Children (count)	0.40	0.76	0.45	0.80	0.33	0.70
<i>Household Economy</i>						
Land Used (in 1,000 Rai)	11.74	15.26	12.42	15.46	10.90	14.96
Household Grows Rice	0.74	0.44	0.77	0.42	0.71	0.46
Household Owns Agricultural Equipment	0.37	0.48	0.41	0.49	0.33	0.47
Household Engages in Animal Husbandry	0.88	0.32	0.88	0.33	0.88	0.32
Relative Household Wealth						
Top Tertile	0.27	0.44	0.27	0.44	0.27	0.45
Middle Tertile	0.36	0.48	0.35	0.48	0.38	0.49
Bottom Tertile	0.37	0.48	0.39	0.49	0.35	0.48
N	4358		1947		2411	

Notes: ^a non-agricultural vs. agricultural or unemployed^b ever-married vs. never-married^c refers to those residing in the household^d individual does not live in household

Table 3. Multinomial Logit Estimates of Remittances, Ego-Sibling Migrant Pairs

Variable	Both Sent / Neither Sent		Only Ego Sent/ Neither Sent		Only Alter Sibling/ Neither Sent	
	Odds Ratio	Std Err ^a	Odds Ratio	Std Err ^a	Odds Ratio	Std Err ^a
Intercept	1.41	0.55	0.26 *	0.66	0.47	0.53
Ego-Sibling Differences						
Education Difference ^b						
Ego is More Educated	1.40 *	0.15	1.43 *	0.17	1.16	0.17
Ego is Less Educated	0.99	0.16	1.28	0.19	1.63 ***	0.17
Education Difference Unknown	1.41	0.21	1.49	0.24	1.38	0.24
Occupational Difference	1.81 ***	0.16	0.95	0.22	3.20 ***	0.17
Sex Difference	0.64 ***	0.13	1.73 ***	0.16	0.47 ***	0.17
Ego is Older than Sibling	0.80 *	0.11	1.25	0.14	0.69 **	0.14
Absolute Age Difference (in years)	0.98	0.01	0.99	0.02	0.99	0.01
Marital Difference	1.51 **	0.14	1.54 *	0.18	2.29 ***	0.16
Ego Demographic Variables						
Gender (male)	0.37 ***	0.16	0.67 *	0.18	0.60 **	0.16
Age (in years)	1.03	0.02	1.01	0.02	1.00	0.02
Never Married	1.38	0.18	1.69 *	0.21	1.21	0.20
Education ^b						
Less than Primary	0.75	0.21	0.53 **	0.24	0.74	0.19
Greater than Primary	0.89	0.18	0.89	0.20	0.78	0.17
Non-Formal	1.29	0.31	1.13	0.37	0.87	0.35
Occupation ^b						
Unemployed	0.31 ***	0.31	0.28 ***	0.37	1.78 *	0.23
Non-Agricultural	3.35 ***	0.17	2.09 ***	0.21	2.68 ***	0.19
Number of Migrant Siblings	0.88 **	0.04	0.93	0.05	0.94	0.04
Household Characteristics						
<i>Parent's Age (Residing in Household)^b</i>						
Father is 55 Years or Older	1.75 **	0.20	1.70 *	0.23	1.79 **	0.19
Father's Age Unknown	1.59 *	0.23	1.74 *	0.26	1.54 *	0.22
Mother is 55 Years or Older	0.87	0.19	0.90	0.23	1.03	0.18
Mother's Age Unknown	0.68	0.30	0.75	0.34	0.78	0.30
<i>Household Demographics</i>						
Ever-Married Male Sibling	0.68	0.24	0.71	0.29	0.62	0.26
Ever-Married Female Sibling	0.51 **	0.22	0.48 **	0.25	0.57 **	0.19
Never-Married Male Sibling	0.91	0.14	1.07	0.17	1.02	0.14
Never-Married Female Sibling	0.86	0.14	1.00	0.18	0.84	0.15
Ego's Child	2.04 **	0.28	3.28 ***	0.28	0.96	0.30
Migrant Sibling's Child	1.88 **	0.19	1.05	0.25	2.65 ***	0.21
Household Sibling's Children (count)	1.06	0.13	1.08	0.15	1.11	0.11
<i>Household Economy</i>						
Land Used (in 1,000 Rai)	1.00	0.01	1.00	0.01	1.00	0.01
Household Grows Rice	0.82	0.18	0.89	0.21	1.02	0.18
Household Owns Agricultural Equipment	0.94	0.16	0.95	0.19	1.14	0.16
Household Engages in Animal Husbandry	1.48	0.20	1.46	0.24	1.13	0.19
Relative Household Wealth ^b						
Top Tertile	0.60 **	0.16	0.73	0.18	0.79	0.16
Bottom Tertile	1.14	0.15	0.98	0.18	1.05	0.15
Interaction Effects						
Male × Sex Difference	2.29 ***	0.17	0.56 **	0.21	4.93 ***	0.21
Non-Agricultural × Occupational Difference	0.17 ***	0.21	1.38	0.27	0.14 ***	0.25
Never Married × Marriage Difference	0.54 **	0.23	0.89	0.28	0.32 ***	0.28
N	4358					
-2LL	10015.43					
* p < .05 ** p < .01 *** p < .001 (Two-Tailed Test)						

Notes: ^aCorrected for Clustering on Ego Records Using Heteroskedastically Robust Standard Errors^bReference Categories Include, In Order: Same Education, Primary School, Agricultural, Same Education, Father/Mother is Younger than 55, Middle Tertile

Table 4. Multinomial Logit Estimates of Remittances, Ego-Sibling (Male Egos Only) Migrant Pairs

Variable	Both Sent / Neither Sent		Only Ego Sent/ Neither Sent		Only Alter Sibling/ Neither Sent	
	Odds Ratio	Std Err ^a	Odds Ratio	Std Err ^a	Odds Ratio	Std Err ^a
Intercept	0.54	0.74	0.10 **	0.91	0.15 **	0.65
Ego-Sibling Differences						
Education Difference ^b						
Ego is More Educated	1.33	0.19	1.57	0.23	1.45	0.22
Ego is Less Educated	1.12	0.19	1.43	0.26	2.00 ***	0.21
Education Difference Unknown	1.30	0.26	1.29	0.32	1.17	0.31
Occupational Difference	2.15 ***	0.21	0.98	0.30	3.33 ***	0.22
Sex Difference	1.48 ***	0.12	0.95	0.15	2.39 ***	0.13
Ego is Older than Sibling	0.76	0.14	1.22	0.19	0.71 *	0.17
Absolute Age Difference (in years)	0.98	0.02	1.00	0.02	0.96 *	0.02
Marital Difference	1.68 **	0.19	2.36 ***	0.24	2.60 ***	0.21
Ego Demographic Variables						
Age (in years)	1.03	0.02	1.04	0.03	1.01	0.02
Never Married	1.25	0.25	1.55	0.30	0.99	0.25
Education ^b						
Less than Primary	0.77	0.26	0.39 **	0.33	0.62 *	0.23
Greater than Primary	1.23	0.23	1.26	0.26	0.74	0.23
Non-Formal	1.14	0.39	0.96	0.56	1.29	0.42
Occupation ^b						
Unemployed	0.13 ***	0.62	0.23 *	0.61	2.06 *	0.35
Non-Agricultural	3.06 ***	0.22	1.52	0.28	3.14 ***	0.22
Number of Migrant Siblings	0.91	0.05	0.98	0.07	0.94	0.05
Household Characteristics						
<i>Parent's Age (Residing in Household)^b</i>						
Father is 55 Years or Older	1.50	0.25	1.55	0.31	1.65 *	0.25
Father's Age Unknown	1.42	0.29	1.85	0.36	1.38	0.27
Mother is 55 Years or Older	0.88	0.24	0.69	0.29	1.16	0.22
Mother's Age Unknown	0.70	0.37	0.66	0.47	0.70	0.42
<i>Household Demographics</i>						
Ever-Married Male Sibling	0.56	0.32	0.67	0.38	0.56	0.33
Ever-Married Female Sibling	0.48 **	0.26	0.48 *	0.35	0.57 *	0.23
Never-Married Male Sibling	0.84	0.18	1.00	0.23	0.94	0.17
Never-Married Female Sibling	1.10	0.19	1.03	0.26	0.89	0.18
Ego's Child	1.64	0.49	3.22 *	0.50	0.56	0.54
Migrant Sibling's Child	2.68 ***	0.26	1.52	0.34	2.91 ***	0.28
Household Sibling's Children (count)	1.23	0.15	0.92	0.20	1.13	0.13
<i>Household Economy</i>						
Land Used (in 1,000 Rai)	1.01	0.01	1.01	0.01	1.00	0.01
Household Grows Rice	0.87	0.24	0.93	0.29	1.36	0.22
Household Owns Agricultural Equipment	0.88	0.20	1.03	0.24	1.08	0.19
Household Engages in Animal Husbandry	1.18	0.26	1.03	0.31	1.03	0.25
Relative Household Wealth ^b						
Top Tertile	0.67	0.21	0.99	0.24	0.89	0.20
Bottom Tertile	1.11	0.19	0.93	0.24	1.09	0.18
Interaction Effects						
Non-Agricultural × Occupational Difference	0.13 ***	0.28	1.43	0.37	0.13 ***	0.32
Never Married × Marriage Difference	0.49 *	0.30	0.73	0.37	0.34 **	0.34
N	2411					
-2LL	5664.60					
* p < .05 ** p < .01 *** p < .001 (Two-Tailed Test)						

Notes: ^aCorrected for Clustering on Ego Records Using Heterskedastically Robust Standard Errors

^bReference Categories Include, In Order: Same Education, Primary School, Agricultural, Same Education, Father/Mother is Younger than 55, Middle Tertile

Table 5. Multinomial Logit Estimates of Remittances, Ego-Sibling (Female Egos Only) Migrant Pairs

Variable	Both Sent / Neither Sent		Only Ego Sent/ Neither Sent		Only Alter Sibling/ Neither Sent	
	Odds Ratio	Std Err ^a	Odds Ratio	Std Err ^a	Odds Ratio	Std Err ^a
Intercept	1.54	0.92	0.50	1.02	2.19	0.91
Ego-Sibling Differences						
Education Difference ^b						
Ego is More Educated	1.44	0.24	1.28	0.27	0.74	0.29
Ego is Less Educated	0.88	0.27	1.11	0.30	1.25	0.31
Education Difference Unknown	1.51	0.37	1.66	0.41	1.98	0.40
Occupational Difference	1.45	0.24	0.91	0.33	2.92 ***	0.28
Sex Difference	0.63 ***	0.13	1.69 ***	0.16	0.47 ***	0.17
Ego is Older than Sibling	0.84	0.19	1.30	0.21	0.70	0.25
Absolute Age Difference (in years)	1.00	0.02	0.99	0.02	1.03	0.02
Marital Difference	1.32	0.21	0.99	0.26	1.98 **	0.26
Ego Demographic Variables						
Age (in years)	1.03	0.03	0.98	0.03	0.97	0.03
Never Married	1.88 *	0.30	2.21 *	0.34	1.87	0.36
Education ^b						
Less than Primary	0.73	0.36	0.69	0.37	0.97	0.34
Greater than Primary	0.53 *	0.28	0.51 *	0.30	0.71	0.28
Non-Formal	1.64	0.56	1.40	0.60	0.28	0.67
Occupation ^b						
Unemployed	0.53	0.40	0.43	0.50	1.38	0.33
Non-Agricultural	3.85 ***	0.30	3.03 **	0.35	1.64	0.35
Number of Migrant Siblings	0.83 **	0.07	0.87	0.07	0.92	0.06
Household Characteristics						
<i>Parent's Age (Residing in Household) ^b</i>						
Father is 55 Years or Older	2.41 **	0.32	1.99	0.35	2.01 *	0.33
Father's Age Unknown	2.11	0.38	1.70	0.41	1.99	0.37
Mother is 55 Years or Older	0.71	0.32	1.11	0.35	0.78	0.32
Mother's Age Unknown	0.60	0.53	0.87	0.56	0.88	0.46
<i>Household Demographics</i>						
Ever-Married Male Sibling	0.97	0.42	0.87	0.46	0.83	0.44
Ever-Married Female Sibling	0.59	0.41	0.50	0.40	0.59	0.34
Never-Married Male Sibling	1.01	0.23	1.20	0.25	1.15	0.24
Never-Married Female Sibling	0.58 *	0.24	0.87	0.28	0.74	0.26
Ego's Child	2.26 *	0.35	3.46 ***	0.35	1.43	0.38
Migrant Sibling's Child	1.23	0.29	0.66	0.37	2.61 **	0.31
Household Sibling's Children (count)	0.86	0.24	1.26	0.25	1.09	0.22
<i>Household Economy</i>						
Land Used (in 1,000 Rai)	0.99	0.01	1.00	0.01	0.99	0.01
Household Grows Rice	0.71	0.29	0.75	0.31	0.61	0.30
Household Owns Agricultural Equipment	0.97	0.26	0.88	0.28	1.08	0.27
Household Engages in Animal Husbandry	2.15 *	0.32	2.20 *	0.36	1.13	0.30
Relative Household Wealth ^b						
Top Tertile	0.49 **	0.26	0.53 *	0.29	0.67	0.26
Bottom Tertile	1.14	0.26	1.05	0.28	1.03	0.26
Interaction Effects						
Non-Agricultural × Occupational Difference	0.23 ***	0.33	1.44	0.41	0.19 ***	0.44
Never Married × Marriage Difference	0.53	0.39	1.03	0.44	0.25 **	0.53
N	1947					
-2LL	4155.42					
* p < .05 ** p < .01 *** p < .001 (Two-Tailed Test)						

Notes: ^aCorrected for Clustering on Ego Records Using Heterskedastically Robust Standard Errors

^bReference Categories Include, In Order: Same Education, Primary School, Agricultural, Same Education, Father/Mother is Younger than 55, Middle Tertile

Table A1. Bivariate Logit Estimates of Remittances, Egos with no Migrant Siblings

Variable	Odds Ratio	Std Err ^a
Intercept	1.93	1.35
Ego Demographic Variables		
Gender (male)	0.46 *	0.36
Age (in years)	0.99	0.04
Never Married	2.01	0.44
Education ^b		
Less than Primary	0.55	0.53
Greater than Primary	0.41	0.52
Non-Formal	1.19	0.65
Occupation ^b		
Unemployed	0.06 *	1.20
Non-Agricultural	2.18	0.46
Household Characteristics		
<i>Parent's Age (Residing in Household)^b</i>		
Father is 55 Years or Older	1.33	0.65
Father's Age Unknown	3.12	0.64
Mother is 55 Years or Older	1.48	0.67
Mother's Age Unknown	1.64	0.76
Ego's Child	2.61	0.50
<i>Household Economy</i>		
Land Used (in 1,000 Rai)	1.00	0.02
Household Grows Rice	0.63	0.50
Household Owns Agricultural Equipment	1.54	0.64
Household Engages in Animal Husbandry	0.93	0.43
Relative Household Wealth ^b		
Top Tertile	0.38 *	0.47
Bottom Tertile	0.94	0.62
N	222	
-2LL	224.6	
* p < .05 ** p < .01 *** p < .001 (Two-Tailed Test)		

Notes: ^aCorrected for Clustering on Ego Records Using Heterskedastically Robust Standard Errors

^bReference Categories Include, In Order: Primary School, Agricultural, Father/Mother is Younger than 55, Middle Tertile