

Feminization of International Migration and Transnational Household Bargaining Power Shifts: Disentangling the Underlying Migration Effect Channels

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This study investigates the effect of migrant parent's gender on the expenditure patterns of the household. It also attempts to disentangle the different channels underlying the effect of migration on the expenditures by applying the separate spheres bargaining framework in the context of a transnational household. Using a two-year cross-sectional dataset from the Philippines, an instrumental variable approach is used to address the endogeneity of migration by exploiting exogenous variation in the sex ratio of children in the household. Results show that spending for general, day-to-day, nondiscretionary, and demand-based expenditures such as food and health is influenced more by presence-based bargaining power while income-based bargaining power has more impact on longer term substantial expenditures like education.

Keywords: International migration, household bargaining power, Philippines, transnational families, gender, parental migration

1 Introduction

International labor migration is a dynamic and an ever-changing phenomenon. Recent trend points to a gender shift in today's migrants from a majority of men to women. With this, more transnational families are operating under a nontraditional setup—without a mother. This raises the need to reassess what and how much is known about migration and its impacts on the family.

Existing literature has placed focus on the effect of migration through the remittance channel. Despite the many studies on the topic, little consensus has been reached. Most of these studies treat the effect of migration as a single isolated force, thereby: (1) only scratching the surface with an overall net migration effect; and (2) failing to account for the different underlying mechanisms that might be in play.

This paper aims to fill this gap by exploring if the gender of a migrating parent has an impact on the family through the shifting bargaining power that occurs when one of the parents migrates. Following the cooperative bargaining model in household decision-making by Lundberg and Pollak (1993), this study also aims to test if the prediction of the said model holds in the context of a transnational family. The author takes advantage of the imbalance in resource control created by the migration of one of the spouses. This change in resource control can be represented directly through the relative income share of spouses or indirectly through which spouse is granted with custodial responsibilities over pooled household funds. The Philippine case is explored due to the pervasive culture of migration (MPI, n.d.) in the country where 10% of its labor force are labor migrants based on the latest stock estimate of temporary migrants by the Commission on Filipinos Overseas in 2013,¹ and remittances account for an average of 9.65% of the country's Gross Domestic Product (GDP) for 2011 to 2019.² More importantly, feminization of international migrants has also been recently observed in the country with female migrants comprising close to 57% of overseas Filipino workers (OFWs). This study seeks to answer the following questions: Does parental migration in transnational families create two channels of resource control and how does this impact decisions on household expenditure? Will the predictions of the separate spheres bargaining framework hold in the context of a transnational

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¹ The Commission on Filipinos Overseas has momentarily discontinued its annual release of stock estimates of Filipinos overseas until its proposed framework on counting overseas Filipinos is approved by the Philippine Statistics Authority (CFO, 2013, para. 1).

² Calculated based on The World Bank (2011-2019).

family? What implications can be drawn from this study in the context of migration-related policies and business?

Various studies provide evidence that households receiving remittances have shown increased “spending on investments in physical assets and human capital such as education, housing, and health” (Ang et al., 2009, p. 8). With remittance flows as the “single most important source of foreign exchange” inflow for the Philippines (Ang et al., 2009, Abstract), its impact on economy boosting investment expenditures is just expected to be more significant. A study by Clemens and Tiongson (2017) finds that household spending and saving are also affected by migration-induced shifts in household decision-making power. Given this, various stakeholders stand to benefit from an understanding of which spouse exerts more influence on household spending decisions of transnational families especially in light of the current trend of feminization among labor migrants. A detailed discussion follows in the Conclusion section.

1.1 Labor Migration in the Global Scale

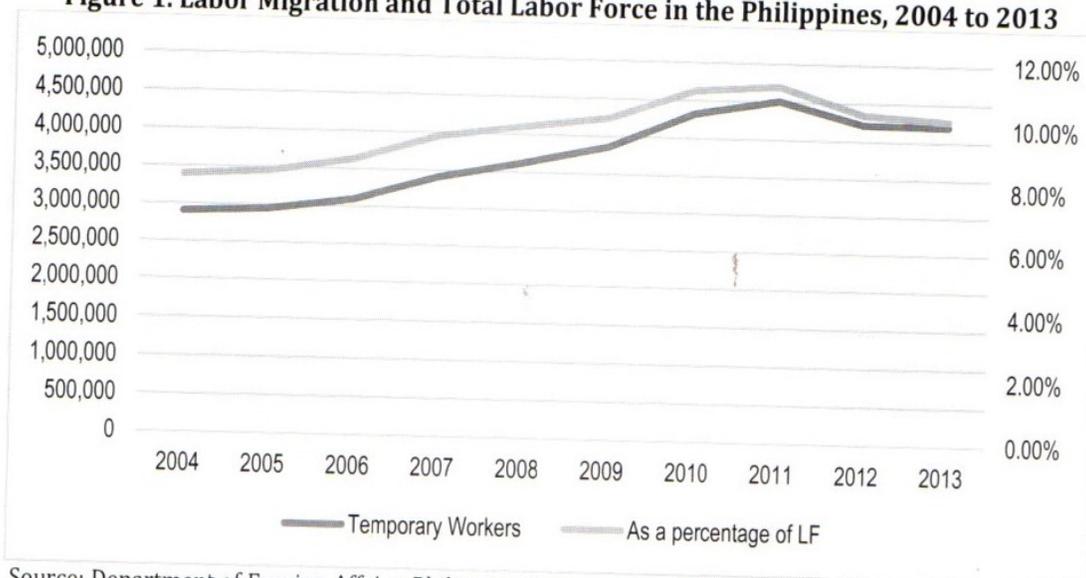
One of the most important, if not the most important, facets of globalization is labor migration. Of the estimated 258 million international migrants, 64% are migrant workers making employment the top reason for mass migration (ILO, 2018). Labor migration is more common for employees in developing economies who are forced to migrate abroad in search of better work opportunities. In the same report from ILO, 68% of migrants are employed in high-income countries.

The majority (86.5%) of the total labor migrants belong to prime-age adults (25 to 64 years old) who are expected to have the highest contribution to the economy of their country of origin (ILO, 2018). The precise effect of this labor force displacement is quite ambiguous; it could negatively impact the economic development of the source country as its most productive portion of the labor force is depleted whilst benefiting the economy with increased remittances. Total annual workers’ remittance inflows is estimated at US\$ 68.9 billion, with 76.78% directed to low- and middle-income countries for the year 2018 (The World Bank, 2019). For some countries, remittances play a pivotal role in the economy as it comprises a significant portion of their GDP. Several studies have covered this matter, but no consensus has been reached on whether labor migration from developing countries results to a net benefit or loss to the source country.

1.2 Overseas Migration in the Philippines

In the Philippine context, overseas migration is a well-accepted and embraced phenomenon. Several organizations have been established and some in partnerships with each other to promote the welfare of migrants and their families. OFWs are often cited as the country’s modern-day heroes as they sacrifice for the chance of a brighter future for their family.

Figure 1. Labor Migration and Total Labor Force in the Philippines, 2004 to 2013

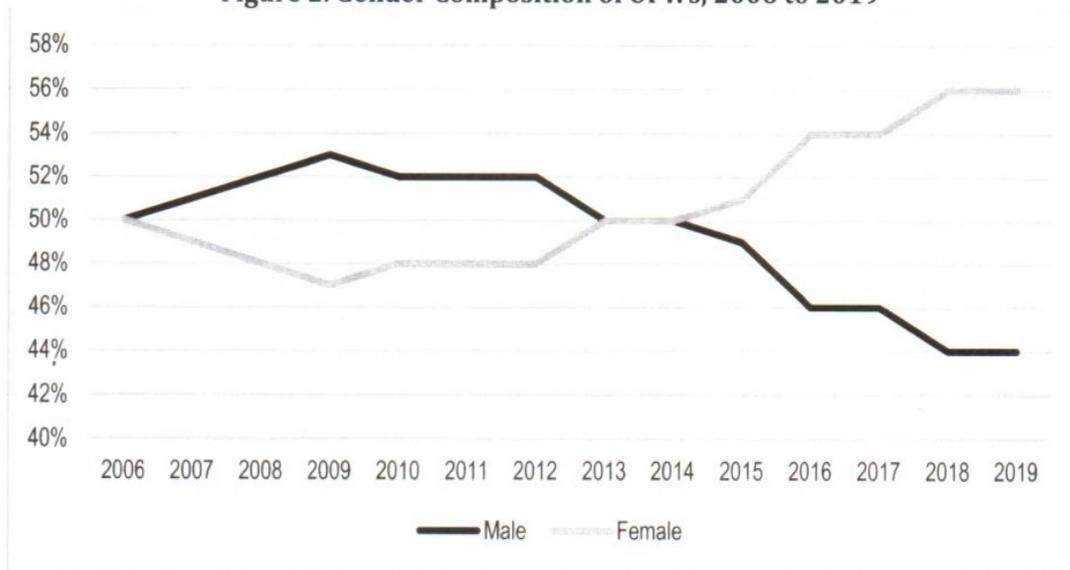


Source: Department of Foreign Affairs, Philippine Overseas Employment Administration, Commission on Filipinos Overseas

Sending workers abroad has provided means to “improve the well-being of family members left behind and to some extent boost the economies of receiving countries” through remittances (Amuedo-Dorantes, 2014, p. 1). Remittance was estimated at US\$ 34 billion, or 10.2% of Philippine GDP in 2018 (World Bank, 2019). Of all the households covered in the Family Income and Expenditure Survey (FIES), 25.61% and 31.41% for 2012 and 2015, respectively, receive contribution from abroad.

The number of OFWs has been consistently growing over the years. Figure 1 shows the number of OFWs classified as temporary workers and as a percentage of the country’s labor force population. Temporary migrants are those who stay abroad on a provisional basis owing to the employment-related nature of their status in their host country. Because of this temporary status, they are not able to move overseas with their families. In 2013, approximately 4.2 million Filipinos or 10.3% of the country’s labor force are working abroad as temporary workers (PSA, 2018 or 2019).

Figure 2. Gender Composition of OFWs, 2006 to 2019



Source: PSA (2022)

Interest in the “negative effects of migration on the family left behind has been increasing alongside the gender shift of temporary migrants in the Philippines and other countries” (Cortes, 2015, p. 62). Figure 2 shows the female proportion of OFWs peaking at 54% in 2017 and a shift from males to females in the historical gender composition rate of OFWs.

1.3 Feminization of International Migration

The increasing number of female migrants is observed not only in the Philippines but also in other countries, especially developing and poor ones. Female migrants from Sri Lanka have accounted for 33% of total departures in 1986 and jumped to 67.5% by 2001 (Chammartin, 2002). Female migrants in Thailand have been estimated at 51% of total migrants in 2013, a proportion that has been growing since 1990 (UN, 2013). Such increase has persisted despite women having less chances to migrate legally due to male-biased and stringent migration laws. Because of this, there is a higher chance for female migrants to be undocumented, making them more susceptible to discrimination, abuse, and violence (Chammartin, 2002).

Typically, international employment opportunities for female migrants reflect traditional female roles and sex stereotypes. One explanation for this is the growing care crisis that has been troubling developed nations. An aging population structure creates excess demand for care that cannot be supported internally by the smaller younger population (Parreñas, 2002). These instances of “care deficit” create opportunities for women from poorer countries to fill this gap by undertaking employment associated with women’s traditional duty of nurturing families (Parreñas, 2002). As these women tend to the elderly and children of the wealthier nations, another cycle of “care deficit” is created right in their own homes.

Another driving factor for increased demand for female workers abroad is the increase in employment rates of middle and highly skilled native females in developed countries. Faced with a

higher opportunity cost of time, these women are more likely to outsource household production by purchasing cheaper domestic services provided by foreign domestic workers (Cortes & Pan, 2013).

In countries where traditional gender roles³ are still intact such as the Philippines, geographic separation from the mother results in a greater disruption to a child's upbringing compared to a father's absence. A study by Cortes (2015) has found that "children of migrant mothers are more likely to lag behind in school compared to children with migrant fathers". In another study by Lahaie et al. (2009), migration of a caregiver spouse is significantly associated with academic, behavioral, and emotional problems for children left behind in Mexico.

1.4 Prevalence of Transnational Families and Its Impact on the Traditional Family Structure

Along with this flight in labor force is the emergence of transnational families wherein one or more family members reside and work abroad to support majority of the dependents left behind. Securing an international job is a challenge by itself, but bringing family members abroad is an even greater hurdle that is almost impossible for majority of labor migrants. Because of this, traditional family arrangements are being disrupted, and a significant number of children are growing up in households with one or both parents away. Due to lack of dedicated datasets capturing such phenomenon, there is no unified accurate estimate for the number of children belonging to transnational households. Bryant (2005) estimates that 2% to 3% of children, or about a million and half million children in Indonesia and Thailand, respectively, have overseas parents.

Considering the costs of migration, families who can afford to send a family member abroad are not considered poor prior to departure of migrant member. Migration is often seen as a means to improve quality of life and not to get out of poverty. Parents often choose to work abroad to provide their children access to better education and health care and to afford other household investments on durable goods such as housing.

Concerns from the perspective of family echo the concerns at the national economy level. Does having a migrant family member benefit or worsen family outcomes? Being the main caretakers of a family unit, having a migrant parent can be considered as the most disruptive form of transnational family. Although transnational families can benefit from the increase in resources resulting from migration, parental care is at the very least an equally essential factor in the overall well-being and development of children. *Aside from this, having a dependable and reliable household member managing remittances is crucial in ensuring that the increased economic resources translate into actual benefit to the whole household left behind.*

2 Review of Related Literature

With majority of labor migrants having temporary employment status, it is unsurprising that there's a plethora of research interest on various aspects of family outcomes of transnational families. From a financial perspective, the impact of migration, particularly remittances, on poverty, inequality, household consumption, and investment is usually covered. Another important aspect receiving growing interest is the less obvious social impact of migration on the education and labor force participation of the family members left behind, particularly the children.

2.1 Social Impact

Researches on educational outcome of children in migrant households highlight two important channels: income effect from remittances and time investment from parents. Although a positive impact is expected from relaxation of budget constraints due to increase in income from remittance, it is argued that decreased parental time investment could potentially outweigh such positive effects. There is no consensus on whether the overall net impact from both channels is positive or negative.

³ Definitions of traditional gender roles were based from Sekścińska (2016).

A quasi-experimental study on migration using a policy discontinuity in the Philippines by Clemens and Tiongson (2017) found that expenditure on education and health tripled, with families sending children to private schools and clinics. Children in these households were also found to perform better in school and receive academic rewards. Using data from El Salvador, Edwards and Ureta (2003) found a large and significant effect of remittances on school retention. Using the “1997 Asian Financial Crisis as source of exogenous shocks on remittance from changes in exchange rate,” Yang (2008, p. 592) found that favorable shocks are associated with increased schooling and less child labor among children of migrants.

Contrary to these results, parental migration is found to have negative impact on long-term “school attendance with higher chances of school dropouts for children left behind” (Giannelli & Mangiavacchi, 2010, Abstract). Similar findings are found in rural Mexico with “migration having a significant negative effect on school attendance and attainment of children of migrants” due to migration of sons and increased housework for daughters (McKenzie & Rapoport, 2011, p. 1332).

Arguillas and Williams (2010, p. 300) claim that separation due to “overseas migration often has either a neutral or a positive effect on school outcomes, at least among older children.” Other studies argue that gendered pattern effects might exist such as in Meyhoefer and Chen (2011) where parental labor migration in China is associated with a significant lag in the educational progress of girls due to increased time-use allocation toward home production.

2.2 Household Consumption and Investment

There is mixed evidence on migration effect in terms of household consumption and investment. Generally, households marginally spend less on consumption goods such as food (Adams & Cuecuecha, 2010; Adams, 2006; Ang et al., 2009). Increase in income from migration is usually spent on investment goods such as education, housing, and entrepreneurial activities (Adams & Cuecuecha, 2010; Adams, 2006; Yang, 2008; Pernia, 2008). Remittances are also found to enhance household savings and health care spending and help the poor move out of poverty (Pernia, 2008). Ducanes (2015) has found evidence of a windfall in income transfers for migrant households—moving them up the income ladder and supporting increased expenditure on education, health, food, clothing, recreation, and accumulation of real property and equipment. Unlike previous studies, Ang et al. (2008) find no significant influence of remittance on education and health care expenditures.

Despite the extensiveness of economic outcomes covered by existing literature on the impact of migration, there is clearly no strong consensus on whether it has a positive or negative effect on the particular outcome of interest. This can be attributed to the fact that research on migration has focused more on breadth rather than depth. Most studies tackle estimation of an overall or net effect of migration on outcomes, rather than decomposing such effects to understand the underlying mechanisms (Constant & Zimmerman, 2013). Hence, careful consideration should be made in interpreting the varying results of existing studies as each could differ significantly in terms of the mechanisms in play.

2.3 Gender of the Migrant Parent

In relation to this, a relatively underexplored area in migration research is the study of the effects of the gender of the migrant parent, along with the corresponding migrant-induced change in bargaining power among household decision makers. Cortes (2015) and Jampaklay (2006) find that maternal migration is more detrimental than paternal absence and has an overall negative impact on educational outcome of children. Consistent with a shift in bargaining power toward women when the husband migrates, Antman (2010, 2011) exploits longitudinal data and finds support on increased spending on girls relative to boys in both clothing and education.

3 Data and Descriptive Statistics

The merged version of the FIES and the Labor Force Survey (LFS) datasets for the years 2012 and 2015 is used in this study. The FIES captures, among others, household level data on sources of income, income level, and consumption level by item of expenditure, while the LFS contains individual level demographics and labor-related data such as nature of employment, level of pay, and hours dedicated

to work. The surveys cover approximately 50,000 sample households every year. The FIES is a rider survey to LFS conducted every three years while the LFS is conducted quarterly; hence, respondents belong to the same respective households for any given year’s annual FIES and last quarter LFS. It is necessary to merge the two datasets as both individual and household level data are considered in the analysis. In addition, only the LFS dataset contains information on which household member is working as a migrant, and hence linking of both datasets is necessary to identify which households have migrant members. Each household is assigned a unique identification number which is present in both datasets and is a key variable in appending the individual level data from LFS with household level data from FIES.

Table 1 shows the key demographics for households according to migration status of parents. Households with a migrant parent: (1) are relatively smaller in size; (2) with both mother and father significantly older by almost 10 years compared to nonmigrant household parents; and (3) have a relatively higher average age of children as inferred from having a higher number of children aged five to 17 and lesser children aged lower than five. Households with migrant mothers have significantly less children aged lower than five years which could be attributed to mothers delaying their planned migration until their children are old enough to be left.

Migrant households have more educated parents than nonmigrant households. Comparing within migrant household types, parents in migrant father households are more educated than those in migrant mother households.

Migrant households are twice more likely to be living with a grandparent and more likely to live in extended families than nonmigrant households. These extended family members could offer help and assistance in the upbringing of children when one of the parents is away. Contrary to other earlier researches which claim that households with migrant mothers are more likely to be living with extended family given that the father rarely becomes the primary caretaker in the absence of the mother (Cortes, 2015), households with migrant mothers in this sample are found to be less likely to live with extended family members compared to households with migrant fathers. Such disparity is also observed when the extended family members are limited to grandparents, although the difference between the two migrant household types is much less significant in this case. A few arguments can explain this observation; one perspective is that mothers could be more comfortable leaving their children with their own parents, hence the smaller disparity observed for likelihood of living with a grandparent. In addition, it could also be argued that children in migrant mother households are in need of less supervision given the earlier discussion on the lower number of younger children in these households. Lastly, in line with literature on migration, daughters in migrant households are reported to have increased hours of household work (Cortes, 2015) as necessitated by the need to assume the homemaker role of the absent mother. A study in Albania by Mendola and Carletto (2009) has found a decrease in female paid labor supply and increase in unpaid work. A similar study has found “women affected by migration are much more likely to be employed in unpaid family work compared to women in nonmigrant households” (Binzel & Assaad, 2011, Abstract).

Table 1. Demographics based on migration status of parents

| | 2012 | | | 2015 | | |
|---------------------------------|-------|--------|--------|-------|--------|--------|
| | None | Father | Mother | None | Father | Mother |
| Family size | 4.66 | 4.20 | 4.20 | 4.58 | 4.18 | 4.20 |
| # of employed household members | 1.99 | 1.34 | 1.68 | 1.92 | 0.92 | 1.28 |
| Children | | | | | | |
| Aged < 5 | 0.72 | 0.59 | 0.47 | 0.22 | 0.24 | 0.17 |
| Aged 5 - 17 | 1.75 | 1.69 | 1.75 | 1.02 | 1.36 | 1.43 |
| # of children | 2.12 | 2.39 | 2.26 | 2.03 | 2.30 | 2.29 |
| Age of eldest child | 16.29 | 16.05 | 15.82 | 16.52 | 15.59 | 15.43 |
| # of children in school | 1.07 | 1.58 | 1.52 | 1.05 | 1.58 | 1.52 |
| Children sex ratio (M/F) | 0.96 | 0.88 | 0.84 | 0.92 | 0.87 | 0.91 |

| | 2012 | | | 2015 | | |
|----------------------------|---------------|------------|------------|---------------|------------|------------|
| | None | Father | Mother | None | Father | Mother |
| Age | | | | | | |
| Father | 34.73 | 44.83 | 44.97 | 34.80 | 44.49 | 44.45 |
| Mother | 32.60 | 42.76 | 42.43 | 32.73 | 41.38 | 40.73 |
| Father's education | | | | | | |
| None | 29.22 | 0.12 | 0.84 | 30.32 | - | 0.55 |
| Elementary | 29.69 | 3.96 | 18.82 | 28.45 | 2.96 | 19.70 |
| Some HS | 9.22 | 3.96 | 10.59 | 8.79 | 2.72 | 12.86 |
| HS graduate | 19.38 | 37.18 | 41.51 | 17.44 | 22.84 | 39.81 |
| Some college | 5.71 | 16.90 | 13.45 | 7.96 | 27.04 | 16.28 |
| College plus | 6.78 | 37.88 | 14.79 | 7.05 | 44.44 | 10.81 |
| Mother's education | | | | | | |
| None | 29.03 | - | 0.34 | 29.94 | 0.25 | - |
| Elementary | 26.31 | 4.55 | 7.90 | 24.41 | 4.57 | 8.62 |
| Some HS | 10.07 | 4.08 | 7.73 | 9.85 | 4.07 | 10.94 |
| HS graduate | 20.49 | 38.81 | 49.08 | 18.87 | 28.15 | 37.89 |
| Some college | 5.54 | 16.78 | 16.81 | 8.10 | 28.02 | 24.08 |
| College plus | 8.57 | 35.78 | 18.15 | 8.83 | 34.94 | 18.47 |
| Living with | | | | | | |
| A grandparent | 3.24 | 6.53 | 6.55 | 3.22 | 8.02 | 6.98 |
| Extended family | 23.89 | 29.6 | 25.38 | 23.3 | 30.37 | 25.58 |
| Domestic helper | 1.73 | 8.04 | 3.36 | 1.43 | 6.67 | 1.09 |
| No. of observations | 36,890 | 858 | 595 | 38,078 | 737 | 688 |

Source: PSA (2012 & 2015)

Table 2 summarizes the key financial data on income and expenditure per overseas household type. All figures are presented in real terms with 2006 as reference year. This study focuses on labor migrants who are also parents in a household with children, and this only represents 3.7% of the full sample group and 43% of total transnational families in the pooled survey data.

Overall, having a migrant member significantly improves household income. However, such increase is not even, with a huge gap in income increase between households with migrant father and migrant mother. In 2012, households with a migrant father have income higher by 121%, while households with a migrant mother only experienced an increase of 31% versus nonmigrant households. A higher gap is observed in 2015 with migrant father household income improving by 103% while income for migrant mother households only increased by 16%.

Despite positive selection in terms of education among migrants, 37.1% of OFWs are still employed in elementary occupations (PSA, 2018). Observed large gender pay gap can be partly explained by the difference in job opportunities faced by male and female laborers. In the same survey, it is estimated that 59% of female migrants are employed in elementary occupations, while only 13% of male migrants are employed in such occupations. Female migrants are highly concentrated in terms of occupational distribution with two occupation groups accounting for almost 80%, elementary occupations and service and sales workers. Top three occupations for male migrants include plant and machine operators and assemblers, trades workers, and service and sales workers employing 64% of the entire group.

This study focuses on five items of expenditure: food, education, health, alcohol, and tobacco. Absolute amount of expenditure on food is significantly higher for migrant households. From a budget share perspective, migrant households allocate a lower budget share to food expenditures. This is in

line with the consumption theory prediction that as household income increases, the budget share allocated to food decreases.

Significant increase in education expenditure is evident especially for migrant father households (360% increase in expenditure) versus migrant mother households (190% increase). Although increase is at a much lower scale, improvement in educational expenditure of households with migrant mothers is more significant when looking at its relative increase in the expenditure amount and budget share. In 2012, education expenditure has increased by 127% while budget share has increased by 112%. Similar trend is observed in 2015 with 60% increase in both amount and budget share.

The FIES defines health expenditures as hospitalization expenses incurred when a patient is accommodated in a hospital for the duration of a treatment. It includes both medical products and services (PSA, 2018). Health expenditure for households with migrant mothers is lower when compared to the expenditure of nonmigrant households; this is despite the increase in income of migrant mother households. Contrary to this, a significant increase in expenditure on health hazard items such as alcohol and tobacco is observed for migrant mother households, while a corresponding significant decrease is observed in households with migrant fathers.

Table 2. Income, expenditure, and budget shares based on migration status of parents

| | 2012 | | | 2015 | | |
|---|---------------|------------|------------|---------------|------------|------------|
| | None | Father | Mother | None | Father | Mother |
| Total income (in PHP) | 168,057 | 372,211 | 220,853 | 178,039 | 361,017 | 205,899 |
| Per capita income | 42,525 | 96,518 | 58,459 | 45,630 | 96,042 | 56,716 |
| Total expenditure | 139,504 | 279,563 | 174,918 | 144,646 | 276,842 | 163,553 |
| Consumption level by item of expenditure and budget share | | | | | | |
| Food | 46,964 | 70,449 | 52,837 | 44,692 | 63,294 | 47,790 |
| | 42.29 | 29.11 | 34.88 | 38.30 | 26.43 | 33.62 |
| Education | 4,961 | 23,010 | 11,284 | 4,597 | 21,553 | 7,295 |
| | 2.36 | 6.90 | 5.01 | 2.26 | 6.49 | 3.61 |
| Health | 5,042 | 8,765 | 3,900 | 5,375 | 8,047 | 4,646 |
| | 2.76 | 2.55 | 1.78 | 2.91 | 2.63 | 2.07 |
| Alcohol | 921 | 340 | 1,381 | 608 | 211 | 1,140 |
| | 0.82 | 0.13 | 1.01 | 0.53 | 0.08 | 0.82 |
| Tobacco | 1,282 | 456 | 1,681 | 1,341 | 428 | 1,819 |
| | 1.22 | 0.19 | 1.21 | 1.22 | 0.18 | 1.43 |
| No. of observations | 36,890 | 858 | 595 | 38,078 | 737 | 688 |

Source: PSA (2012 & 2015)

4 Theoretical Framework and Empirical Model

4.1 Separate Spheres and Bargaining Power Dynamics in a Transnational Family

In this section, basic concepts and existing models on household decision-making will be introduced. Unique features of the Lundberg and Pollak's separate spheres bargaining model that makes it a suitable model for transnational families in the Philippines will also be discussed.

Earlier consensus model by Samuelson (1956) assumes that individuals in families act in unity to maximize a single utility function. This model allows analysis of a family as a single unit and implies that the effect of any additional income is independent of which family member receives it since the

family operates within a pooled joint budget. Despite its theoretical simplicity and usefulness, there has been a growing body of evidence invalidating the implications of this model (Alderman et al., 1995).

On the other side of the spectrum, contemporary alternative models treat household decision-making as a cooperative game where conflicting preferences are assumed to be resolved through some explicit bargaining solution. The impact of resources controlled by each spouse individually is a distinguishing feature of bargaining models and plays a key role in determining equilibrium since bargaining outcomes depend on threat points. In a cooperative game, the threat point refers to the “outcome that would be obtained in the absence of agreement” (Lundberg and Pollak, 1993).

Popular cooperative bargaining models consider the value of divorce as a threat point, referring to the individual’s maximal level of utility outside the family. These models imply that “preferences of individuals with more attractive opportunities outside the family are more strongly reflected in the intrafamily distribution of resources” (Lundberg and Pollak, 1993).

This paper tests the separate spheres bargaining model proposed by Lundberg and Pollak against data on Philippine transnational households where either of the spouses is the migrant member. In this model, a noncooperative equilibrium analogous to voluntary contributions derived from income controlled independently by each spouse in their respective “separate spheres” is considered as the threat point. In other words, without cooperative agreement, spouses will only make voluntary contributions to household public goods based on their independent income. Klaveren (2008) identifies household income as a public good.⁴ This model predicts the cooperative equilibrium to depend on which spouse controls income and other resources within the family.

The model has been considered more suitable due to the attractiveness of the threat point used. This appeal is rooted from two sources. First, an income disparity is created in transnational household families by the migration of one of the spouses. Hence, separate spheres can be considered as more significant in transnational households. Second, divorce as a threat point is not as applicable in the Philippines considering that the only legal remedy available is annulment, which is a very costly and lengthy process. Accordingly, the noncooperative equilibrium in the separate spheres model is a more precise representation of the outcome of marital noncooperation. In the context of migrant households, model resource control will be incorporated into the model through two channels: income-based and presence-based. A deeper discussion follows in Section 4.4.

4.2 Basic Empirical Model

This research focuses on the differences in spending patterns of different household types on five key expenditure items: food, education, health, alcohol, and tobacco. Households are classified into nonmigrant, migrant mother, and migrant father households. By doing so, it can be determined if the family structure (i.e., which parent is a migrant and which parent is left with household management responsibilities) has an effect on expenditure pattern even after controlling for income differences.

The author followed the direction of Cortes (2015) in the choice of control groups. Two main control group setups are used: (1) sample including all household types with nonmigrant households as control group and (2) sample including only migrant households with migrant father as the control group. “The first control group is a natural control group since the relevant counterfactual for having a migrant parent is having both parents in the household” (Cortes, 2015). The second group is utilized to further investigate the significance of relative resource control between spouses particularly which between income-induced and presence-induced bargaining power is more significant for each type of expenditure.

The empirical specification used has been inspired by the Almost Ideal Demand System (AIDS), particularly the quadratic extension of the AIDS model derived by Banks et al. (1997). The AIDS and Quadratic AIDS models have been extensively applied in various research on consumer demand involving micro-level data such as household surveys (Blundell et al. (1993); Abdulai (2002); Atkinson et al. (1990)). The study by Banks et al. (1997, p. 528) confirms that “share equations quadratic in the

⁴ This does not imply that no commodities for personal consumption of any member can be purchased out of the household income; rather, it implies that a purchase by one of the spouses would need an explicit or implicit approval from the other spouse.

logarithm of total expenditures can provide a good approximation to the Engel relationship.⁵ The relative flexibility of the “quadratic logarithmic model that allows for goods to be luxuries at some income levels and necessities at others” has been also particularly attractive (Banks et al., 1997, p. 528). The main empirical specification for the ordinary-least square (OLS) model is as follows:

$$Expshare_{it} = \alpha + \beta HHType_{it} + \gamma \log(TotalExp_{it}) + \delta [\log(TotalExp_{it})]^2 + \theta X_{it} + Year_t + \varepsilon_{it} \quad (1)$$

where $Expshare_{it}$ = budget share for expenditure i with values ranging from 0 to 1, p. 528o 1

$HHType_{it}$ = categorical variable for the three household types

$TotalExp_{it}$ = household's total level of expenditure

X_{it} = household level characteristics such as parents' age and education, number of children currently in school, number of children aged less than five, number of children aged five to 17, number of employed members, and total number of members present in the household: nonmigrants, senior members (age ≥ 60), and adult male (60 > age > 17)

$Year_t$ = dummy variable for the year a household was covered in the survey.

4.3 Two-Stage Least-Squares (2SLS) Regression with Child Sex Ratio as Instrument Variable

A key issue in studies of the impact of migration on family outcomes is the inherent endogeneity of migration. For example, if jobs available to migrants require a minimum level of education, families with educated parents would be in a better position to send migrant members abroad. At the same time, educated parents have a higher regard for learning and are more likely to allocate higher portions of the household budget to education expenditures. Hence, in a comparison of households with and without migrant parents, the effect of higher education among parents in migrant households and consequently the higher regard for education may be picked up by the endogenous variable (migration status). Such could create an upward bias in the estimated coefficient for the endogenous variable. In most cases, the variable correlated to both the explanatory and outcome variable is unobservable and hence could not be controlled for in the empirical model. Migrant members are not randomly allocated, and it is likely that migration is correlated with other unobserved factors that also influence family outcomes. This creates an omitted variable problem that if left unaddressed would make it impossible to disentangle a causal relationship between migration and the outcome of interest.

Next, we'll explore available approaches used in resolving the endogeneity issue in migration. Propensity score matching methods is one remedy, but it “assumes that selection into migration is based on observable factors, making it ineffective against the omitted variable problem” (Antman, 2013). “Other researchers have turned into some variant of fixed-effects estimators to net out observed and unobserved variation, but it is only valid for omitted variables that are constant at the family or individual level and not expected to vary over time” (Antman, 2013). Due to these limitations, research on migration have often turned to instrumental variables approach to address this omitted variable problem. Most popular instrumental variables used in existing literature include “historical migration rates and variables linked to economic conditions in destination areas” (Hanson & Woodruff, 2003; Hildebrandt & McKenzie, 2005; McKenzie & Rapoport, 2011; Amuedo-Dorantes & Pozo, 2010; Amuedo-Dorantes et al., 2010; Antman, 2011b; Cortes, 2010; Yang, 2008, as cited from Constant & Zimmerman, 2013, p. 294).

Since a single equation that treats migration as exogenous could cause simultaneous equation bias, the approach taken is that of a two-stage least-squares regression. This simultaneous equation system includes two equations where the first stage regression involves the instrument and the endogenous explanatory variable. The second stage then regresses the outcome variable against the predicted values of the explanatory variable from the first stage regression and other exogenous explanatory variables enumerated in equation 1. The 2SLS basic empirical specification is as follows:

⁵ According to Engel's Law, as household income increases, the percentage spent on a particular good or service decreases.

$$Expshare_{it} = \alpha + \beta \widehat{HHType}_{it} + \gamma \log(TotalExp_{it}) + \delta [\log(TotalExp_{it})]^2 + \theta X_{it} + Year_t + \varepsilon_{it} \tag{2}$$

where \widehat{HHType}_{it} = predicted values for $HHType$ from the first stage least squares regression

Other variables defined in Equation 1.

A critical element to the 2SLS approach is the choice of instrumental variable. The instrument should be highly correlated to the endogenous variable from Equation 2, $HHType_{it}$, which represents the migrant parent of the household. The study makes use of the randomness in sex ratio of children in migrant households. Sex ratio is defined as the ratio of male to female children. This choice is based on the conjecture that propensity for migration in mothers is correlated with the sex composition of children. The author banks on the relatively strong persistence of traditional gender roles and stereotypes in the Philippines. Mothers would be more willing to leave knowing that a daughter would be left home that can be relied on for housekeeping responsibilities. Several studies have provided evidence that in the absence of the primary caregiver wife, daughters are more likely to take on household responsibilities (Cortes, 2015; McKenzie & Rapoport, 2011; Parrenas, 2005).

4.4 Model Extension: Migration-Induced Change in Bargaining Power

As mentioned in Section 4.1, resource control and the associated bargaining power will be modeled through two channels: income-based and presence-based. This follows the idea that in a migrant household, resource control can be based either on which spouse is the principal breadwinner or on which spouse is physically present and has custodial responsibilities over household funds. The absence of one parent in a migrant household, which is typically the same breadwinner parent,⁶ creates a migration-induced shift in bargaining power in favor of the parent left behind. From this, two conflicting channels emerge that can determine a transnational household’s consumption behavior. While income-based bargaining power shifts decision-making toward the preference of the migrant spouse, presence-based bargaining power favors the nonmigrant parent. To test the prediction of the separate spheres model that the cooperative equilibrium for intrahousehold allocation depends on which spouse has control of resources, both of these channels should be incorporated in the econometric specification. By controlling for income share and migration household type simultaneously, the effect of migration through the two main channels can be identified: income-induced shift in bargaining power in favor of the migrant parent and migration-induced shift in bargaining power in favor of the parent left behind managing the household. The new econometric specification is as follows:

$$Expshare_{it} = \alpha + \beta \widehat{HHType}_{it} + \partial WifeIncShare_{it} + \gamma \log(TotalExp_{it}) + \delta [\log(TotalExp_{it})]^2 + \theta X_{it} + \mu WifeParent_{it} + \pi HusbandParent_{it} + Year_t + \varepsilon_{it} \tag{3}$$

where \widehat{HHType}_{it} = predicted values for $HHType$ from the first stage least squares regression
 $WifeIncShare_{it}$ = income share of the wife with values ranging from 0 to 1

Other variables defined in Equation 1.

This extension is only applied on the sample with migrant households as migration-induced shift in bargaining power is not observed in domestic households. There is no data on the actual income of the wife and husband. But given that either of the parents is the principal breadwinner for households in the sample group, data on remittance and total household income is used as approximation for

⁶ Several studies have shown that remittance has helped move families out of poverty and up the income ladder (Pernia, 2008; Ducanes, 2015). The sample data also shows that remittances from abroad account for a significant share in total household income for the migrant households.

relative income shares. All remittances are attributed to the migrant parent while the excess income is attributed to the nonmigrant parent.

5 Results

Tables 4 to 8 summarize the regression results for each expenditure type. Each table includes a total of seven regression results organized per sample group and model specification. The first sample group includes all households while the second sample group only includes households with one migrant parent. Each model specification differs based on the control variables and regression method used.

The most extensive model specification aims to determine which specific channel has a more significant influence on the expenditure outcome variable. As discussed in Section 4.4, two conflicting migration channels are reviewed: income-based bargaining power which favors the migrant parent and presence-based bargaining power which favors the parent left behind. The table below summarizes which channel is determined to be dominant for each expenditure type.

Table 3. Summary of Results

| Expenditure Type | Dominant Channel |
|---------------------|------------------|
| Food | Presence-based |
| Education | Income-based |
| Health | Presence-based |
| Alcohol and Tobacco | Presence-based |

In summary, local context is necessary in order to understand how households would normally behave in terms of their expenditures. The nature of the expenditure also influences which channel would play a pivotal role in managing and determining the level of a particular expenditure. Results from the two-stage least squares method are generally higher in magnitude than the OLS estimates exhibiting a downward bias in the OLS results. Food, health, alcohol, and tobacco expenditures have been found to be significantly affected by presence-based or migration-induced bargaining power shift while education expenditures are affected by income-based bargaining power.

The F-statistic for the instrument appears to be consistent and statistically significant signifying the strength of instrument used. The first stage coefficient is statistically significant as well, and the sign is intuitive—the negative sign indicates that a higher sex ratio (i.e., less occurrence of having daughters) translates to lesser likelihood of having a migrant mother.

5.1 Food

$$\begin{aligned}
 FoodShare_{it} = & \alpha + \beta HHType_{it} + \partial WifeIncShare_{it} + \gamma \log(TotalExp_{it}) \\
 & + \delta [\log(TotalExp_{it})]^2 + \theta X_{it} + \mu WifeParent_{it} \\
 & + \pi HusbandParent_{it} + Year_t + \varepsilon_{it}
 \end{aligned}
 \tag{3.1}$$

Table 4 indicates that having a migrant mother decreases budget share allocated to food by 1.47% while having a migrant father increases the budget share by 0.18% albeit statistically insignificant. The coefficient for having a migrant mother is consistently negative and significant across OLS specifications. Coefficients from the 2SLS model reflect the same trend as the OLS results, although 2SLS coefficients are higher at 8.6% budget decrease compared to 1.2% decrease under the OLS model. Having a migrant mother reduces the portion of total expenditure allocated to food. Shifting household management to the father results in a decrease in budget share allocated to food—both in comparison to nonmigrant households and migrant father households. Existing literature generally finds a decrease in food budget allocation although these studies focused on remittances as independent variable (Adams & Cuecuecha, 2010; Adams, 2006; Ang et al., 2009).

Income share does not have a significant contribution in determining the budget share allocated to food as evidenced by the insignificant coefficient for the wife’s income share. This can be attributed to

the nature of food expenditure as a necessity for survival, and decision on food spending is made on a more frequent basis.

Hence, this expenditure behavior depends more on which parent is present rather than which parent is the principal breadwinner—presence-based bargaining power rather than income-based.

5.2 Education

$$\begin{aligned}
 EducShare_{it} = & \alpha + \beta HHT\widehat{Type}_{it} + \partial WifeIncShare_{it} + \gamma \log(TotalExp_{it}) \\
 & + \delta [\log(TotalExp_{it})]^2 + \theta X_{it} + \mu WifeParent_{it} \\
 & + \pi HusbandParent_{it} + Year_t + \varepsilon_{it}
 \end{aligned}
 \tag{3.2}$$

Table 5 shows coefficients for parental migration status of the mother that are negative and statistically insignificant for the migrant households' sample group across different OLS specifications. Contrary to this, 2SLS coefficient for the parental migration status is positive and statistically significant. The coefficient for the wife's income share is consistently significant across OLS and 2SLS specifications suggesting that expenditure on education is influenced more by income-based bargaining power. Educational expenditures are made on a less frequent basis with each payment constituting a substantial amount. Due to this nature, proper planning must be made in advance, thereby giving the principal breadwinner ample time to get more involved in the decision-making process. As income of the wife increases, budget share allocated to education decreases. At face value, this seems counterintuitive, but such could be explained by the relationship between budget share and magnitude of expenditure increase discussed in the descriptive statistics section. In comparison with nonmigrant households, households with migrant mothers have increased their education budget shares and expenditure value in the same proportion (i.e., 127% and 112% increase in expenditure amount and budget share for 2012, respectively, compared to migrant husband households with a 360% increase in expenditure amount and only 190% increase in budget share for the same year) which is suggestive of a significant initial education expenditure budget increase from being a nonmigrant household to being a migrant mother household. Due to this, a further increase in the wife's income share in a migrant mother household may no longer translate to a further marginal increase in the budget share since the initial budget share is already high.

5.3 Health

$$\begin{aligned}
 HealthShare_{it} = & \alpha + \beta HHT\widehat{Type}_{it} + \partial WifeIncShare_{it} + \gamma \log(TotalExp_{it}) \\
 & + \delta [\log(TotalExp_{it})]^2 + \theta X_{it} + \mu WifeParent_{it} \\
 & + \pi HusbandParent_{it} + Year_t + \varepsilon_{it}
 \end{aligned}
 \tag{3.3}$$

Table 6 shows that parental migration status influences health expenditure behavior rather than income share, similar to food expenditure. The OLS specification containing the full sample indicates that both migrant household types have lower budget shares for health expenditure in comparison to domestic households, a trend that is consistent to what has been observed in the summary statistics. However, when the sample group is limited to migrant households, the coefficients move in an opposite direction from the trend in the summary statistics wherein having a migrant mother increases the budget share of health expenditures by 0.90% for the OLS models and 1.9% for the 2SLS models compared to a household with a migrant father. In the Philippines, a significant portion of the population is not covered by proper medical insurance, and health expenditures are usually made on an as-needed basis. As defined earlier, health expenditures in the survey mainly refer to medical products and services that are curative in nature. Given such, it is intuitive why presence-based bargaining power carry more weight and influence in the household decision of how much will be spent on health. To a certain degree, the level of expenditure is reflective of the level of well-being and fitness of the household members, another aspect influenced by how the household is being managed by the parent left behind—the father. The positive and statistically significant coefficient for the migrant mother households is evidence for an increase in required spending on health which suggests that children in households headed by the father require more curative care than children in households where the mother is present.

5.4 Alcohol and Tobacco

$$\begin{aligned} \text{AlcoholShare}_{it} = & \alpha + \beta \widehat{\text{HHType}}_{it} + \delta \text{WifeIncShare}_{it} + \gamma \log(\text{TotalExp}_{it}) \\ & + \delta [\log(\text{TotalExp}_{it})]^2 + \theta X_{it} + \mu \text{WifeParent}_{it} \\ & + \pi \text{HusbandParent}_{it} + \text{Year}_t + \varepsilon_{it} \end{aligned} \quad (3.4)$$

$$\begin{aligned} \text{AlcoholShare}_{it} = & \alpha + \beta \widehat{\text{HHType}}_{it} + \delta \text{WifeIncShare}_{it} + \gamma \log(\text{TotalExp}_{it}) \\ & + \delta [\log(\text{TotalExp}_{it})]^2 + \theta X_{it} + \mu \text{WifeParent}_{it} \\ & + \pi \text{HusbandParent}_{it} + \text{Year}_t + \varepsilon_{it} \end{aligned} \quad (3.5)$$

Tables 7 and 8 show that the parental migration status coefficients are consistently significant for both expenditures and across specifications for the OLS models. In Table 7, migrant father households have been found to allocate 0.33% less budget share to alcohol while migrant mother households increase such allocation by 0.29% both with respect to domestic households. Similarly, in Table 8, tobacco expenditure budget share decreases by 0.49% for a migrant father household and increases by 0.11% for a migrant mother household. Limiting the sample group to migrant households indicate that migrant mother households still allocate more of the household budget to alcohol and tobacco. This is not surprising as it is expected that adult males in households, mainly the father, are prone to vices. An interesting finding here is that having an absent wife increases the likelihood of the men in such households engaging in vices. Although the wife is the principal breadwinner and contributes most of the resources for use by the household, the coefficient for the wife's income share is not statistically significant. Having any of the grandparents living with the household is also not effective in curbing such behavior by the husband. Although 2SLS results are generally consistent with the direction of the OLS results, most of the 2SLS coefficients are statistically insignificant.

Table 4. Food budget share and parental migration status

| | Dependent variable: Food expenditure percentage budget share | | | | | | |
|-------------------------|--|-----------------------|------------------------|----------------------------|------------------------|-----------------------|------------------------|
| | Sample: All households | | | Sample: Migrant households | | | |
| | (1) OLS | (1) OLS | (1) 2SLS | (2) OLS | (2) 2SLS | (3) OLS | |
| Migrant father | 0.0018 (0.0027) | -0.0122** (0.0051) | -0.0865*** (0.0221) | -0.0120** (0.0051) | -0.0855*** (0.0226) | -0.0128** (0.0051) | -0.0861*** (0.0224) |
| Migrant mother | -0.0147*** (0.0028) | | | | | | |
| Wife's income share | | | | -0.0045 (0.0069) | -0.0067 (0.0105) | -0.0044 (0.0069) | -0.0059 (0.0105) |
| Wife's parent | | | | | | -0.0062 (0.0090) | -0.0225** (0.0104) |
| Husband's parent | | | | | | 0.0053 (0.0101) | 0.0067 (0.0112) |
| First-stage coefficient | | | -0.0997*** (0.0104) | | -0.0986*** (0.0104) | | -0.0970*** (0.0102) |
| F-stat | | | 75.5878 | | 73.9887 | | 86.0865 |
| (p-value) | | | (0.0000) | | (0.0000) | | (0.0000) |
| No. of observations | 77,846 | 2,878 | 2,878 | 2,878 | 2,878 | 2,878 | 2,878 |

Note: Presented in the table are coefficients and corresponding p-value.

(1) Main control variable is limited to parental migration status

(2) Main control variable includes parental migration status and wife's income share

(3) Main control variables include parental migration status, wife's income share, and dummy variables for living with husband's parent or wife's parent. Standard errors clustered at the regional level.

*Significant at 10%, ** 5%, *** 1%

Table 5. Education budget share and parental migration status

| | Dependent variable: Education expenditure percentage budget share | | | | | | |
|-------------------------|---|---------------------|------------------------|----------------------------|------------------------|-----------------------|-------------------------|
| | Sample: All households | | | Sample: Migrant households | | | |
| | (1) OLS | (1) OLS | (1) 2SLS | (2) OLS | (2) 2SLS | (3) OLS | (3) 2SLS |
| Migrant father | 0.0111*** (0.0014) | | | | | | |
| Migrant mother | -0.0005 (0.00141) | -0.0047 (0.0040) | 0.0350** (0.0163) | -0.0042 (0.0040) | 0.0377** (0.0169) | -0.0036 (0.0041) | 0.0387** (0.0165) |
| Wife's income share | | | | -0.0112** (0.0055) | -0.0174*** (0.0050) | -0.0114** (0.0055) | -0.0179*** (0.0055) |
| Wife's parent | | | | | | 0.0089 (0.0071) | 0.0124 (0.0103) |
| Husband's parent | | | | | | -0.0010 (0.0080) | -0.0125** (0.0051) |
| First-stage coefficient | | | -0.0997*** (0.0104) | | -0.0986*** (0.0104) | | -0.09700*** (0.0102) |
| F-stat | | | 75.5878 | | 73.9887 | | 86.0865 |
| (p-value) | | | (0.0000) | | (0.0000) | | (0.0000) |
| No. of observations | 77,846 | 2,878 | 2,878 | 2,878 | 2,878 | 2,878 | 2,878 |

Note: Presented in the table are coefficients and corresponding p-value.

(1) Main control variable is limited to parental migration status

(2) Main control variable includes parental migration status and wife's income share

(3) Main control variables include parental migration status, wife's income share, and dummy variables for living with husband's parent or wife's parent.

Standard errors clustered at the regional level.

*Significant at 10%, ** 5%, *** 1%

Table 6. Health budget share and parental migration status

| | Dependent variable: Health expenditure percentage budget share | | | | | |
|-------------------------|--|-----------------------|------------------------|----------------------------|------------------------|------------------------|
| | Sample: All households | | | Sample: Migrant households | | |
| | (1) OLS | (1) OLS | (1) 2SLS | (2) OLS | (2) 2SLS | (3) 2SLS |
| Migrant father | -0.0053*** (0.0018) | | | | | |
| Migrant mother | -0.0024 (0.0018) | 0.0084*** (0.0029) | 0.0182* (0.0100) | 0.0086*** (0.0029) | 0.0189* (0.0101) | 0.0095*** (0.0030) |
| Wife's income share | | | | -0.0042 (0.0040) | -0.0047 (0.0033) | -0.0044 (0.0040) |
| Wife's parent | | | | | | 0.0076 (0.0052) |
| Husband's parent | | | | | | -0.0060 (0.0059) |
| First-stage coefficient | | | -0.0997*** (0.0104) | | -0.0986*** (0.0104) | -0.0970*** (0.0102) |
| F-stat | | | 75.5878 | | 73.9887 | 86.0865 |
| (p-value) | | | (0.0000) | | (0.0000) | (0.0000) |
| No. of observations | 77,846 | 2,878 | 2,878 | 2,878 | 2,878 | 2,878 |

Note: Presented in the table are coefficients and corresponding p-value.

(1) Main control variable is limited to parental migration status

(2) Main control variable includes parental migration status and wife's income share

(3) Main control variables include parental migration status, wife's income share, and dummy variables for living with husband's parent or wife's parent. Standard errors clustered at the regional level.

*Significant at 10%, ** 5%, *** 1%

Table 7. Alcohol budget share and parental migration status

| | Dependent variable: Alcohol expenditure percentage budget share | | | | | |
|-------------------------|---|-----------------------|------------------------|----------------------------|------------------------|------------------------|
| | Sample: All households | | | Sample: Migrant households | | |
| | (1) OLS | (1) OLS | (1) 2SLS | (2) OLS | (2) 2SLS | (3) 2SLS |
| Migrant father | -0.0033*** (0.0004) | | | | | |
| Migrant mother | 0.0029*** (0.0004) | 0.0058*** (0.0007) | 0.0039 (0.0033) | 0.0058*** (0.0007) | 0.0037 (0.0033) | 0.0059*** (0.0007) |
| Wife's income share | | | -0.0001 (0.0009) | -0.0001 (0.0009) | 0.0018 (0.0012) | -0.0001 (0.0009) |
| Wife's parent | | | | | | 0.0017 (0.0012) |
| Husband's parent | | | | | | -0.0001 (0.0014) |
| First-stage coefficient | | | -0.0997*** (0.0104) | | -0.0986*** (0.0104) | -0.0970*** (0.0102) |
| F-stat | | | 75.5878 (0.0000) | | 73.9887 (0.0000) | 86.0865 (0.0000) |
| No. of observations | 77,846 | 2,878 | 2,878 | 2,878 | 2,878 | 2,878 |

Note: Presented in the table are coefficients and corresponding p-value.

(1) Main control variable is limited to parental migration status

(2) Main control variable includes parental migration status and wife's income share

(3) Main control variables include parental migration status, wife's income share, and dummy variables for living with husband's parent or wife's parent.

Standard errors clustered at the regional level.

*Significant at 10%, ** 5%, *** 1%

Table 8. Tobacco budget share and parental migration status

| | Dependent variable: Tobacco expenditure percentage budget share | | | | | |
|-------------------------|---|-----------------------|------------------------|----------------------------|------------------------|------------------------|
| | Sample: All households | | | Sample: Migrant households | | |
| | (1) OLS | (1) OLS | (1) 2SLS | (2) OLS | (2) 2SLS | (3) OLS |
| Migrant father | -0.0049*** (0.0006) | | | | | |
| Migrant mother | 0.0011* (0.0006) | 0.0075*** (0.0010) | 0.0066 (0.0057) | 0.0074*** (0.0010) | 0.0065 (0.0057) | 0.0074*** (0.0010) |
| Wife's income share | | | | 0.0012 (0.0014) | 0.0008 (0.0014) | 0.0011 (0.0014) |
| Wife's parent | | | | | | 0.0015 (0.0015) |
| Husband's parent | | | | | | 0.0015 (0.0018) |
| First-stage coefficient | | | -0.0997*** (0.0104) | | -0.0986*** (0.0104) | 0.0012 (0.0020) |
| F-stat | | | 75.5878 (0.0000) | | 73.9887 (0.0000) | -0.0970*** (0.0102) |
| (p-value) | | | | | | 86.0865 (0.0000) |
| No. of observations | 77,846 | 2,878 | 2,878 | 2,878 | 2,878 | 2,878 |

Note: Presented in the table are coefficients and corresponding p-value.

(1) Main control variable is limited to parental migration status

(2) Main control variable includes parental migration status and wife's income share

(3) Main control variables include parental migration status, wife's income share, and dummy variables for living with husband's parent or wife's parent.

Standard errors clustered at the regional level.

*Significant at 10%, ** 5%, *** 1%

6 Conclusion

6.1 Theoretical Contributions

This paper explores the potential channels driving consumption changes in a migrant household and how such could differ based on the gender of the parent migrant. In addition, it offers another source of empirical evidence to support the predictions of the separate spheres bargaining model for household decision-making. Relying on the relatively rigid traditional gender roles in the Philippines, child sex ratio is used as an instrumental variable to address the inherent endogeneity of migration. Controlling for income share and parental migration status allows the determination of which aspect of migration has more impact on bargaining power—*income contribution or household management contribution*. This study finds evidence indicating that the major channel in play differs per expenditure being considered. In general, day-to-day, nondiscretionary, and demand-based expenditures are influenced more by the bargaining power exercised by whichever parent is left behind while long-term and more substantial expenditures are influenced by income-based bargaining power.

While existing literature on migration has extensively covered a range of impacts of migration from social to monetary outcomes, little emphasis has been given on decomposing the channels influencing such overall effect. This study aims to fill this gap so that further research could arrive at a more coherent and plausible conclusion on whether migration has a net positive or negative impact on the outcome variable of choice. This study could also be extended to cover other household expenditures and investments such as spending on housing, entrepreneurial activities, savings as well as other social outcomes on labor force participation, and education.

6.2 Policy Guidance

Feminization of migration is a trend that is currently unfolding on a global scale. A deeper understanding of this phenomenon and its implications is necessary for policymakers to be able to update existing migration policies to make them suitable for the needs of today's migrants. By disentangling the channels through which migration affects a household, more effective policies could be designed and implemented by making sure that the right audience is being targeted or incentivized by a policy. In this section, the author explores how the results of this study can contribute to the development and improvement of policies in the field of labor and business.

Given the extent and impact remittance has, the government would benefit from maximizing the portion of remittance spending that is allocated to investments in human and physical capital such as in health and education. Spending on education is one key component for economic growth. Based on a 2016 World Bank article, the share of human capital value in total wealth is at 62% (Patrinos, 2016). Boosting of education expenditures in migrant households could potentially counter some of the negative costs of labor migration.

While the Philippines has a wide range of institutions and policies designed for almost every aspect of migration and worker development (Orbeta Jr. et al., 2009), limited policies exist when it comes to household management and welfare of the family left behind. For instance, current welfare programs from the Overseas Workers Welfare Administration website focus on repatriation and reintegration programs. Reintegration programs normally highlight entrepreneurial support such as credit facilitation and lending. Though some programs on financial planning and management exist, these are also centered on savings and investment on businesses for capacity-building purposes (DOLE, n.d.) and mainly targets returnee OFWs (OWWA Member, n.d.).

An elementary review of existing programs and policies highlights the lack of programs targeted on driving education expenditures for the children left behind in migrant families. The results of this study show that expenditures on education are reliant on income-based bargaining power. In other words, there is some evidence that decisions on education spending are normally influenced by the migrant parent. The government could highlight the importance of education as another avenue for capacity-building in its existing financial literacy and management programs for OFWs.

Other expenditures examined in this study such as food, health, alcohol, and tobacco have been identified to be controlled by presence-based bargaining power. This finding could help the

government to retarget its financial literacy programs concerning general budget management toward household heads that are left in the Philippines. Returnee OFWs are the typical target audience for existing programs on financial literacy by the National Reintegration Center for Overseas Filipino Workers⁵ which is expected considering that these programs focus on highlighting savings and entrepreneurial investments in connection with repatriation and reintegration. The usefulness of such programs could also be diminished by covering returnee OFWs considering that they are already beyond their peak earning capacity. Hence, a combination of expanding the target audience to include household heads left behind and changing the timing for activating these programs could make them more effective.

Migration-induced shifts in bargaining power wherein household management and day-to-day decision-making are left to the husband are becoming more typical as incidence of migrating mothers increase along with the feminization of global migration. Given that wives are the natural caretakers of the household, policies targeted toward assisting and guiding these husbands left behind would also be of greater importance.

Based on the 2018 Survey of Overseas Filipinos, banks are the top mode of remittance choice accounting for the highest volume of cash remittances at 52.76%. From the perspective of private institutions, the same trend in public institutions is observed where having easier means to save money is highlighted as a key service needed by OFWs. Typical services offered by top private universal banks include savings account with lower maintaining balance, higher interest rates, and some form of life and accident insurance coverage ("5 best OFW," n.d.). "The Overseas Filipino Bank (OFBank), formerly Philippine Postal Savings Bank Inc., is a government digital-only bank mandated to provide financial products and services catered to serve the needs of Overseas Filipinos" ("About Us," n.d., para. 1). Other than providing more comprehensive, effective, and convenient options for remittance, other services offered by OFBank are just similar to those of the top universal banks. Other highlighted key features in OFW savings accounts such as fully online electronic fund transfers, bills payment facilities, and 24/7 online banking are readily available even to other domestic bank account holders.

Considering how basic and introductory current services are, it can then be inferred that there is an opportunity for banks to develop products and services that could maximize customer value and increase revenues. Since banks already serve as the main mode of remittance for OFW funds, they are in a strategic position to capture higher returns by being involved in how these funds are being disbursed. This study could help banks in two ways. First, an understanding of how migrant households make decisions on spending remittances could provide banks with valuable insight that could help in designing products and services that could potentially expand revenue sources. Second, being able to identify which household head (migrant or spouse left behind) assumes the decision maker role on certain expenditures could help with target market segmentation and refinement of marketing communications.

6.3 Limitations

In this section, we enumerate the limitations of the study and possible implications. First, the data used is from a secondary source that makes use of a multistage stratified sampling survey design. Because this creates inequality in the probability of being included in the sample for each population element, sampling weights would need to be considered to correct any effects on the estimates and their respective standard errors (Cochran, 1977; Deaton 1997, as cited from Rufino, 2013). No adjustment has been made to account for such effects and, if significant, could result to errors in the final results. Nonsampling errors from deliberate under- or overreporting of income and expenditures could also arise due to various reasons such as unwillingness of respondents to reveal true values, incorrect valuation of noncash items, and memory bias.

Second, the income shares of each spouse have been approximated using total household income and remittance. Since the sample is limited to households with no migrant members other than either of the spouses, remittance is a reasonable approximation for the migrant spouse income share. However, treating the nonmigrant spouse's income share as residual creates a potential issue for households where there is undisclosed income contribution from household members other than the spouses. In such cases, the nonmigrant spouse's income share would not be representative of his/her