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**"Determinants and Impacts of International Remittances on Household Welfare in Vietnam"**

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**Abstract**

Remittances can potentially help to promote economic development by providing a mechanism to share risks, reduce poverty, and improve equality. However, the overall impacts of remittances are uncertain from the view of economic theory as different mechanisms lead to opposite impacts. Since the 1990s, Vietnam has experienced a dramatic growth in remittance flows from abroad. Vietnam is a unique case for study, as economic motives historically played a smaller role in outward migration. Fortunately, household survey data is available for this time period, allowing for a detailed analysis of the impacts of international remittances on Vietnam. Specifically, we examine the characteristics of recipients and the impacts of international remittances on economic inequality and poverty. We conclude that international remittances are helping to improve equality. As such, new development policies must also account for potential impacts on remittance flows.

## **Introduction**

Vietnam presents an important case study for the microeconomic impact of remittances on a country, and Vietnamese household survey data provide an excellent source to analyze many important questions about remittances at the microeconomic level. In an attempt to fulfil some of these research needs, this paper seeks to quantify the impact and the evolution of international remittances on the people of Vietnam by using the Vietnam (Household) Living Standards Surveys in 1992/93, 1997/98, 2002, and 2004. Remittances from international sources have grown rapidly in the years between 1992 and 2004, and they represent an important part of the Vietnamese economy. But in contrast to many other countries where remittance flows have been studied, economic motivations likely have played a smaller role in the decisions to migrate abroad, at least for the early survey years. A large portion of Vietnamese migrants living overseas are political refugees. Nonetheless, Vietnam has undergone rapid economic transformation in the years for which the Vietnam (Household) Living Standards Surveys have been conducted, and so the role of remittances can be tracked over time as economic conditions change and as economic motivations have become more important. As such, this paper sets out to examine questions regarding international remittances in Vietnam. More specifically, we have three objectives in mind. First, we seek to document the growth of remittances and their spread throughout the population. Second, we examine the characteristics of remittance recipients, how they compare to non-recipients, and how these characteristics have changed over time. Finally, we examine the impact of remittances on inequality and poverty in Vietnam. By understanding the role of remittances, policymakers can better plan how to introduce a variety of social welfare measures to improve the safety net.

Before considering these research questions, we focus more on why Vietnam represents a special case worthy of study. First, Vietnam has experienced rapid growth in receipts of international remittances in recent years in line with worldwide trends. According to the World Bank's *Global Economic Prospects* for 2006, for example, remittances to developing countries grew from USD \$31.2 billion (thousand million) in 1990 to an estimated \$166.9 billion in 2005 (p. 88). In Vietnam's case, Hernandes-Cross (2005)

reports that the amount of remittances sent to Vietnam from other countries totalled USD \$1.2 billion in 1999. By 2003, they grew to \$2.6 billion. In terms of Gross Domestic Product (GDP), this represents a growth from 4.4 percent of GDP in 1999 to 7.4 percent of GDP in 2003. Since 2000, foreign remittances to Vietnam have been larger than official development assistance and at a comparable level to foreign direct investment.

Second, with regard to international remittances, Vietnam's case provides a potential contrast to the countries where remittance behaviour has been most studied. Most studies of international remittances work from the assumption that international migration is driven by economic factors. We will consider these theories in the literature review, but in Vietnam's case, much of its international migration has been driven by non-economic factors, at least before the early 1990s. Barbieri *et al.* (1996) identify that of the more than 1.2 million people who left Vietnam between 1975 and 1993, 60 percent were illegal refugees and 40 percent were part of the Orderly Departure Programme set up by Vietnam's government. Though it is not possible to distinguish between politics and economics as the true motive for emigration, it was the case that many of these refugees were fleeing the Communist government. United States immigration data, which represented the destination of 62.1 percent of Vietnamese emigrants between 1975 and 1993, makes this more clear (Barbieri *et al.* 1996). Adams and Page (2005) follow a similar approach to understand the situation in labour-exporting countries by looking to the records of immigration for the US and OECD, since, as they indicate, most labour-exporting countries do not publish good records about their migrants. Niedzwiecki and Duong (2004) accumulate data from the US Immigration and Naturalization Service about Vietnamese immigration to the United States between 1971 and 2001, separated as either refugees or non-refugee immigrants. For refugees, the largest spike occurred in 1975 with the fall of Saigon, and another spike occurred in the years around 1980 as the Communist government strengthened its position against political opponents. Meanwhile, there were few non-refugee immigrants until the late 1980s and early 1990s, when a spike occurred in immigration numbers and more than 40,000 Vietnamese non-refugee immigrants arrived to the United States in each of 1991 and 1992. Because migration from Vietnam has been connected to political more than economic factors, it can provide a contrast on the role of remittances compared to other labour-exporting countries.

The third important motivation for studying the case of Vietnam is that the available data represents a time of rapid economic transformation, which began with the *Doi moi* (economic innovations) in 1986. As an example of this rapid economic transformation, note that poverty rates in the country fell from 57.6 percent in the 1992/93 survey to 19.3 percent in the 2004 survey. Also, Vietnam's real GDP grew by more than 8 percent for each year between 1992 and 1997, and after decreasing to 4.8 percent in 1999, has stayed above 6.8 percent in each year since 2000 (International Monetary Fund 2008). The growth of new industries and the service sector reduced the importance of agriculture, leading to many changes in the lives of the Vietnamese population. Foreign investment led to rural-urban migration and significant growth of Ho Chi Minh City and Hanoi in just a few years during the mid 1990s (Long *et al.* 2000). In the context of Vietnam's elderly, Giang and Pfau (2007) document how traditional living arrangements are breaking down as more elderly are living alone or in households with only other elderly, and elderly are increasingly losing the support of living with their children, which may also change the context of remittance flows.

Consequently, it is worthwhile to chart the changing determinants and impacts of international remittances under such rapid growth and transformation. To pursue these objectives, we first review the literature on remittances. Then we present our data and methodology, as well as advantages and limitations of the data. This is followed by our analysis. The last part will present concluding remarks and policy suggestions. To summarize our findings, over time, the destinations of foreign remittances are becoming more diverse as they move away from Ho Chi Minh city and other urban areas, in particular, to other regions and to rural areas. While distinguishing between the various motives can be difficult, we do find evidence which suggests that remittances flow to households with greater needs in Vietnam, such as households headed by the elderly and the unemployed. In this regard, remittances may be playing the role of a safety net for society and altruism may be important in the Vietnamese case. Our results suggest that for Vietnam, remittances are generally helping to promote greater equality, and though the effects are small, they are increasing over time. We observe this by noting an increase of Gini coefficients in the counterfactual situation in which remittance receipts

are removed from household incomes and expenditures, and also by finding that international remittances help to reduce poverty in a logistic regression.

## **Review of the Literature**

Scholars have identified many theories to explain international migration, and these different theories have varying implications for remittances. In this section, we consider the existing literature about our research questions. We analyze the socioeconomic and demographic determinants for which households receive remittances from abroad. This issue is largely relevant to gain insight into why people send and receive remittances, as the literature on the new economics of migration extending to Lucas and Stark (1985) has developed many potential explanations. The most basic possibility is altruism, in which the sender of remittances does so out of a selfless desire to help the recipients. But other motivations of a more economic nature, summarized by Rapoport and Docquier (2005), may include that the sender is buying services from the recipient such as taking care of assets or relatives, or the implicit repayment of loans for education or migration expenses. Remittances may also represent a diversification strategy for family income sources to reduce the risk to income from natural disasters or other misfortunes in a particular region. Another possibility is that senders provide remittances out of a desire to gain favour for potential inheritances.

More generally, remittances take place after migration, and Massey *et al.* (1993) review economic motives for migration, including first the neoclassical economic theory that identifies the cause of migration as wage differentials, so that the net flow of migrants should be from low wage to high wage areas. The new economics of migration has extended the theory to the household level, in which migration represents a way to reduce risk by diversifying income sources, and especially migration can provide insurance against local shocks when market failures otherwise prevent the availability of such insurance. With decisions made at the household level, remittances could play an important role for this theory, and migration can take place even in the absence of wage differentials. Another theory, the dual labour market theory, identifies the cause of migration as the continuous needs of receiving countries for foreign workers. Finally, the

world systems theory indicates that foreign investment drives outward migration by undermining the traditional peasant economies of developing countries.

Related to these motives, the theory about remittances and migration explains different mechanisms whereby remittances may either increase or decrease inequality. Thus, the overall effect of remittances on inequality cannot be known without an empirical examination. Remittances may increase inequality if only the well-off have enough resources to afford international migration for some family members, which then provides them with further wealth through the receipt of remittances. Perhaps only the wealthiest people will be able to afford the education and training and the costs of migration, in order to make the receipt of remittances possible (Ravallina and Robleza 2003). Remittances may also finance the accumulation of capital, which leads to greater wealth, or may provide an insurance mechanism which helps households to weather the effects of economic shocks (Taylor 1992). This effect would be more prevalent if local credit and insurance markets are not complete. If wealth is needed to take advantage of these opportunities, then inequality may increase as the rich become richer.

On the other hand, perhaps the wealthiest members of society are content, and it is only those in weaker positions who will make the sacrifices needed to send family members to more economically prosperous areas. Then, the receipt of remittances would tend to promote income equality. Also, to the extent that insurance motives or altruism may be important, one could expect remittances to flow from the well-off to the less well-off to fulfil these motives, particularly in the absence of strong social insurance systems.

Regarding the impact of remittances on inequality, researchers must make a decision between considering remittances as exogenous transfers or as a substitute for home earnings. In the former case, the counterfactual situation is no remittances, and in the latter case, it is necessary to impute earnings in the counterfactual situation that the migrant remitter had stayed and worked at home (Adams 2007; World Bank 2006). Poverty and income equality with remittances can then be compared to the preferred alternate scenario. Barham and Boucher (1998) find that this distinction is important, as inequality increased when imputing local earnings for remitters, but inequality decreased

when remittances were treated as exogenous. In other studies, Adams (1991) treats remittances as exogenous and finds that while international remittances did reduce poverty in Egypt by a small amount, their overall impact on the income distribution was negative. In summarizing the global evidence, Adams (2007) concludes that remittances tend to reduce both the level and depth of poverty. World Bank (2006) also concludes that remittances do reduce poverty but have a mixed effect on inequality. For instance, Stark and Taylor (1989) find that relatively poor households in rural Mexico are more likely to have members migrate abroad than are better-off households. Stark, Taylor, and Yitzhaki (1986) also find that while remittances may initially increase inequality, over time these effects weaken and may reverse as more migration becomes possible. This finding also supports the network theory discussed in Massey *et al.* (1993), which indicate that once migration begins, it subsequently becomes easier and less costly as networks form to give information and help to new migrants.

For Vietnam, a few studies about remittances are available. For instance, Cox (2004) uses the 1992/93 and the 1997/98 VLSS surveys to consider the issue of private interhousehold transfers in Vietnam, which includes both remittances and loans. He examines the characteristics associated with transfer receipt, the impact of transfers on inequality, and the flow of transfers between generations. He finds remittances to be a main source of income redistribution that are more than twice the size of public transfers. Another study that includes coverage of remittances is Babieri (2006). This study uses the 3 percent public use sample of the 1999 Census and the Vietnam Living Standard Survey (VLSS) 1997/8 to analyze rates of coresidence and flows of remittances between the elderly and their children.

## **Data and Methods**

In this paper, we use the Vietnam (Household) Living Standard Surveys for the years 1992/93, 1997/98, 2002, and 2004. These four surveys were conducted by the General Statistics Office of Vietnam (GSO), along with other international agencies, as a part of the World Bank's Living Standard Measurement Surveys. Detailed descriptions of these surveys can be found in numerous research reports, such as Grosh and Glewwe (1998),



GSO (2004 a, b), and World Bank (2000, 2001, and 2005). Unless otherwise noted, our calculations will use sample weights to make the data representative of the entire Vietnamese population, both in urban and rural areas and across different regions.

// Table 1 About Here //

The surveys are organized by household, but they also include some characteristics for each individual in the household, such as age, gender, relationship to household head, marital, working, and migrant status, salary, health, and education. Table 1 shows the number of households and individuals interviewed for each survey. At the household level, these surveys provide extensive data on sources of income, business and agricultural enterprises, detailed household expenditures, ownership of consumer durables, poverty incidence, poverty alleviation programs, and housing conditions.

Remittances are defined in the surveys as the amount of money and monetary value of in-kind benefits received by a household from people not living in the household, such as family and friends, which do not require repayment. With respect to information about remittances, we can think of the two surveys from the 1990s as similar to one another, but different from the two surveys in the 2000s. And generally speaking, the information about remittances in the 1990s surveys is much richer than in the 2000s surveys. For remittances received, this information includes which household member received it, the relationship of the remittance sender to the receiver, the gender of the sender (only in the 1997/98 survey), and where the sender lives, including which country if the remittance came from overseas, and whether the location is urban or rural. We also know the value of the remittance. For 1997/98, we even know the household's report of how it spent the remittance. The corresponding information is available for remittances sent as well. Because we have details about both remittances received and sent by each household, we can determine whether the household is a net receiver or sender, and we can study the flow of remittances in both directions.

Nonetheless, the data presents a clear limitation because it is one-way in the sense that while we have detailed information about remittances sent and received by each household in the survey, we only have the limited information just described for the other

half of the remittance transaction, the receivers and senders of those remittances, respectively. Also, not all of these details are included in the 2002 and 2004 surveys. For the later surveys, we only know the total amount of remittances received by each household, divided into domestic and international remittances. Furthermore, besides wages, most income sources are only identified at the household level, so it is not clear which member is the source of the income. Wealth and expenditure data are also only available at the household level. This limits the analysis of intra-household sharing.

In this paper, we will analyze our research objectives by using data tabulations and logistic regression for each survey to observe trends over time. We use the individual and household weights so that the results are representative for the entire Vietnamese population. The logistic model, which we will use to explain both the determinants of remittance receipt and the determinants of poverty, allows us to determine which factors are significant after controlling for covariates. In the first case, the dependent variable is an indicator variable equal to one for households receiving international remittances and zero otherwise, and in the second case it is equal to one for poor households and zero otherwise. The explanatory variables provide a variety of household characteristics that may help to delineate who receives remittances or who tends to be poor. For each category, when compared to the reference group, an odds ratio of less than one means that the category is less likely to receive remittances or be poor, while a value of more than one indicates a greater likelihood. Statistical significance is indicated for the 5 percent level. The reported probability is how the estimated probability of receiving remittances from abroad or of being poor changes for that category in comparison to its reference group value, when other explanatory variables are equal to their mean values.

## **Results**

### *Characteristics of Remittance Flows in Vietnam*

The role of remittances in the Vietnamese economy is growing, as we document through the increasing percentage of households receiving and sending them. This information is in Table 2. First, regarding the households that received remittances, 20.7 percent of households (weighted by household size) received remittances in 1992/93, and this

increased to 22.7 percent in 1997/98. Then, between 1997/98 and 2002, a major jump occurred as the percent of households receiving remittances grew to 80 percent in 2002 and 88.7 percent in 2004. Most of this growth occurred for domestic remittances though, as the percent of households receiving from international sources grew from only 5.6 percent in 1992/92 to 7.3 percent in 2004.

// Table 2 About Here //

// Table 3 About Here //

Remittances can flow either within the same province, between different provinces, or to and from abroad. The origin of remittance flows is explored more carefully in Table 3. Data for the origin of remittances are much more extensive for the 1990s surveys than for the 2000s surveys. From Table 3, we can observe a trend of rapid growth in the proportion of domestic remittances, which fits with the findings in Table 2. In 1992/93, 71.7 percent of the total value of remittance flows came from overseas sources, and this amount gradually reduced to 36.8 percent in 2004. Thus, while international remittances grew rapidly during this time, we find that the pace of growth for domestic remittances was even more rapid. As for the source of international remittances, by continents, in both surveys, North America led with the largest amount of remittances, followed by Europe, Australia, and Asia. These data do show correspondence to the destination countries reported by Barbieri *et al.* (1996), which shows that between 1975 and 1993, 74.2 percent of Vietnamese emigrants went to North America, 11.9 percent to Europe, 12 percent to Australia, and 1.8 percent to other destinations.

// Table 4 About Here //

Next, Table 4 shows that international remittances tend to be quite large relative to the poverty line, perhaps because of large fixed costs for sending remittances from abroad or because of larger wage differentials for overseas workers. In terms of poverty lines, the table shows the mean and median household remittance amount as a percentage of the per-capita poverty line for each survey year. This should be thought of as a way to consider the general impacts of inflation on remittances over time, since for each

household it would be necessary to multiply the per-capita poverty line by the number of household members to find the poverty threshold, and the remittance amounts shown in the table are the totals for the household rather than per-capita amounts. For recipient households, the median amount received from abroad grew from 178 percent of the per-capita poverty line in 1992/93 to 386 percent of the much larger poverty line in 2004.

*Determinants of Household Remittance Receipt from International Sources*

Table 5 provides information about the characteristics of households receiving international remittances, including the regional location, urban/rural status, marital status, gender, age, and employment status of the household head. For each survey year, there are three columns. First, the percentage of Vietnam's population represented by each category is shown. Then, we see the percentage of remittances received by the category group. The third column shows the ratio of remittances received to the portion of population represented by the group. If the ratio is above one, then the group receives a disproportionate share of remittances, while those with a ratio less than one receive a relatively smaller share. This table provides the characteristics of those who are more likely to receive remittances. As we describe Table 5, we will also refer to Table 6, which shows the results of a logistic regression model to determine which of the characteristics are important and statistically significant after controlling for the effects of other confounding factors. Table 6 generally supports the conclusions of Table 5, with an exception regarding the role of marital status, which we will discuss.

// Table 5 About Here //

First, by region, Table 5 shows that the South East region of the country consistently receives the most remittances from overseas. Throughout the time period, the South East contained about 15 percent of Vietnam's population. Meanwhile, at the low point in 2002, the South East received 29.2 percent of the total international remittances, and in 1997/98, the South East received 49.1 percent of the total international remittances. The South East includes Ho Chi Minh city, which is particularly known as a home for families with relatives abroad. After the South East, no region can consistently claim a relatively large proportion of international remittances, though there are regions that

consistently receive less remittances relative to their populations, such as the Central Highlands and North East. By 2004, the gap between the regions had narrowed as remittances become increasingly spread throughout the country. Table 6 shows that these trends are statistically significant.

// Table 6 About Here //

Regarding urban/rural status, urban areas consistently claim a larger share of remittances from overseas, though rural areas have been gaining ground over time. In 1992/93, rural areas contained 80 percent of Vietnam's population, but only received 20.9 percent of the total foreign remittance amount. By 2004, the rural areas lost some population so that they represented 74.1 percent of the country's people, while the portion of foreign remittances grew to 49.9 percent. Thus, just as the share of remittances going to the South East region decreased over time, we are able to see evidence of growing geographic diversity in terms of where foreign remittances flow in Vietnam. Again, Table 6 shows that this result is statistically significant in all four years. This is an important finding, as it implies that international migration from rural areas is becoming more important in recent years.

The next categories in Table 5 are the marital status and gender of the household head. Across the years, households with a married head tend to receive relatively smaller remittances. Instead, these remittances tend to flow more to widows and those otherwise not married. Similarly, while males tend to head about 78 percent of Vietnamese households (weighted by household size), such households only receive about 55 percent of the foreign remittances over time. By 2004, females headed 21.7 percent of households, and their households accounted for 47.9 percent of foreign remittances. Actually, increasing remittances to female headed households can be observed over time, as in 1992/93 females headed 22.7 percent of households and received 42.5 percent of the value of overseas remittances. However, while the regression analysis of Table 6 shows that female-headed households receive more remittances at a statistically significant level in two of the four survey years, once we control for other factors, married household heads receive more remittances, and this is significant in two of the four survey years.

We should note that the fact that female-headed households receive more remittances is not necessarily because of a spouse providing remittances. For evidence of this, we refer to the more detailed 1997/98 survey, in which only 4.8 percent of the total international remittances (by value) arriving to female-headed households came from spouses. Rather, children provided the most remittances to female-headed households (41.4 percent) followed by siblings and nieces or nephews (35.9 percent). This shows the important of family in supporting such households in the absence of a strong social safety net.

The next grouping is by the age of the household head. Here we can see evidence of international remittances being used to support elderly family members, though both Table 5 and Table 6 show that this trend weakens over time. The relationship is mostly only statistically significant in the 1990s surveys. Nonetheless, these numbers do not provide the full story because we do not know about who else is living with the household head for the purposes of this table. For instance, if a child moves from overseas back to Vietnam to take care of elderly parents directly instead of providing remittances, then the table would show declining remittance flows to the elderly without properly characterizing the shift in type of support. Giang and Pfau (2007) provide some evidence regarding this matter by characterizing elderly households as those who are dependent on younger family members and those who are not. They find that the number of elderly living as dependents is declining in favour of elderly living alone. This would imply that a breakdown is occurring as elderly also receive less overseas remittances, and so further research is warranted in this area.

Finally, Table 5 shows that regarding work status, the tendency is for the head of households to not be working when they receive international remittances and Table 6 shows this relationship to be significant in two of the four survey years. In 1992/93, 10.7 percent of household heads were not working, and these households received 32.3 percent of the overseas remittance flows. By 2004, 15.3 percent of household heads were not working, and they received 35.8 percent of the remittance value. However, this correlation does not reveal the underlying causation. It could be that households who can receive international remittances become lazy and less likely to work, or it could be that such household heads are unable to work and thus their family members are more willing

to sacrifice to provide them with remittance income. It could be that both possibilities are playing a role.

### *Impact of Remittances on Income Inequality and Poverty in Vietnam*

With Table 7 we explore the relationship between remittances and income inequality in Vietnam by examining Gini coefficients, using the assumption that remittances are exogenous to the household. These numbers measure the impact of remittances on the income distribution, where the income distribution is defined separately as both per-capita expenditures and per-capita income (household income is only available in the 2002 and 2004 surveys). A Gini coefficient shows the degree of equality with which income or expenditures are divided in a society, with a measure of zero showing perfect equality and a measure of one showing that all resources in society are held by one household.

// Table 7 About Here //

The conclusion of Table 7 is that both domestic and foreign remittances are contributing to greater equality in Vietnam. This is found by first removing all per-capita remittances receipts from the income or expenditure measure of the household, and then calculating the Gini coefficient. Then, domestic remittances are added to the income measure to find another Gini coefficient. Domestic remittances are then removed and foreign remittances are added to the income measure to find the Gini coefficient in the third column. The fourth column provides the Gini coefficient with all remittances included.

We observe that the Gini coefficients are smaller after including the remittances, which shows greater equality. For instance, in 1992/93, foreign remittances help to reduce the Gini coefficient from 0.3580 to 0.3344. In 1997/98, Vietnam is tending toward greater overall inequality, but foreign remittances nonetheless help to reduce the Gini coefficient from 0.3645 to 0.3583. In both cases, domestic remittances help to produce even more equality. In 2002 and 2004, we have Gini coefficients for both income and expenditures. The Gini coefficients for income tend to be larger than for expenditures on account of consumption smoothing behaviour. For income, 2002 shows the only instance of

increased inequality, as foreign remittances increase the Gini coefficient from 0.5036 to 0.5049. However, with expenditures, we see the same trend as before. Inequality is increasing in Vietnam, but international remittances reduce the Gini coefficient from 0.4113 to 0.3870. Finally, in 2004, international remittances again reduce the Gini coefficients, as the Gini coefficient moved from 0.5042 to 0.5040 (a negligible difference) for income, and from 0.4176 to 0.3948 for expenditures. Meanwhile, domestic remittances improve equality for both measures.

// Table 8 About Here //

Finally, Table 8 provides the results of a logistic regression model explaining the determinants of poverty in Vietnam. Here, we are interested in the coefficient for international remittances, and we find that after controlling for other factors, including variables about household composition such as the percentage of working age members and the logarithm of household size, international remittance receipt does help to reduce poverty at a statistically significant level in all four surveys. Though this does not refer specifically to the impact on inequality, it does provide evidence that at least remittances are helping to reduce poverty.

## **Conclusions**

International remittances are clearly playing an important part in the Vietnamese economy. This paper seeks to determine how international remittances are impacting Vietnamese households. Our findings include that international remittances come from throughout the world, but are dominated by the United States as a main source. Also, over time, the destinations of foreign remittances are becoming more diverse as they move away from Ho Chi Minh city and other urban areas, in particular, to other regions and to rural areas. Nonetheless, the percentage of households receiving international remittances held steady at around 5 to 7 percent of the population. International remittances are received disproportionately by the elderly, female-headed households, and households where the head does not work. This helps to ensure that these remittances actually improve equality in Vietnam with regard to per-capita household



expenditures, though the improvements are small. International remittances are also found to reduce poverty.

Because Vietnam has a weak social safety net, remittances seem to be helping to fulfil this role for the society. This is important, as the motives for migration in the past were political, but in recent years are economic. There is still much more to be said about the role of international remittances in Vietnam, and this paper hopes to serve as a starting point for further analysis. In particular, this paper does not account for the macroeconomic impacts of remittances in a general equilibrium framework. If remittances lead to greater investment, then they can be an important source of economic growth. Also, we are interested to know more about how remittances impact the living standards of Vietnam's elderly. The social insurance infrastructure is still weak, and as economic reform is producing many changes in Vietnamese society, and the impact on remittances must be part of the consideration of policy makers when considering new social policies and programs.

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**TABLE 1**  
**Number of Households and Individuals**  
**in the Vietnam (Household) Living Standards Surveys**

Year	Number of Households	Number of Individuals
1992/93	4,800	24,068
1997/98	6,002	28,633
2002	29,530	132,384
2004	9,189	39,696

Source: Own calculations from VLSS 1992/3 & 1997/8, and VHLSS 2002 & 2004

**TABLE 2**  
**Percentage of Households Receiving Remittances**  
**Based on Origin of Remittances**

	1992/93	1997/98	2002	2004
<b>Households Receive Remittances From:</b>				
No Remittances	79.3%	77.3%	20.0%	12.3%
Domestic Remittances	16.1%	17.8%	77.3%	86.7%
International Remittances	5.6%	5.6%	5.9%	7.3%

Note: Table columns do not sum to 100 percent because households receiving both domestic and international remittances are counted twice.

Source: Own calculations from VLSS 1992/3 & 1997/8, and VHLSS 2002 & 2004

**TABLE 3**  
**Vietnam's Flow of Remittances by Origin**  
**(Percent of Total Value of Remittances)**

	<b>1992 / 93</b>	<b>1997 / 98</b>
<b>Source of Remittances</b>		
Within Same Province	18.9%	27.8%
Between Provinces	9.4%	17.0%
International	71.7%	57.3%
<b>Source of International Remittances</b>		
North America	47.3%	63.8%
Europe	22.0%	15.6%
Australia	7.3%	8.6%
Asia	4.2%	5.6%
Other	19.2%	6.5%
	<b>2002</b>	<b>2004</b>
<b>Source of Remittances</b>		
Domestic	61.3%	63.2%
International	38.7%	36.8%

Source: Own calculations from VLSS 1992/3 & 1997/8, and VHLSS 2002 & 2004

**TABLE 4**  
**Distribution of Non-Zero International Remittance Amounts Received by**  
**Households**  
**(in thousands of Vietnamese Dong )**

	<b>1992/93</b>	<b>1997/98</b>	<b>2002</b>	<b>2004</b>
Per-capita poverty-line	1160	1790	1917	2070
Mean Amount	8405	10691	13051	16119
% of Poverty-line	725%	597%	681%	779%
Median Amount	2070	4300	5000	8000
% of Poverty-line	178%	240%	261%	386%
1st Percentile	50	200	60	120
5th Percentile	200	500	150	400
25th Percentile	1000	1500	1500	3000
50th Percentile	2070	4300	5000	8000
75th Percentile	6360	12555	15000	21500
95th Percentile	34000	42500	50000	54000
99th Percentile	77500	85000	100000	100000

Source: Own calculations from VLSS 1992/3 & 1997/8, and VHLSS 2002 & 2004

**TABLE 5**  
**Flow of International Remittances in Vietnam**  
**Based on Household Characteristics**

	1992/93			1997/98			2002			2004		
	Percent of Population	Percent of International Remittances Received	Ratio of Intl. Remittances Received to Population	Percent of Population	Percent of International Remittances Received	Ratio of Intl. Remittances Received to Population	Percent of Population	Percent of International Remittances Received	Ratio of Intl. Remittances Received to Population	Percent of Population	Percent of International Remittances Received	Ratio of Intl. Remittances Received to Population
<b>Region</b>												
Red River Delta	20.2%	30.9%	1.5	19.6%	15.8%	0.8	21.9%	9.5%	0.4	22.1%	19.5%	0.9
North East	14.2%	3.0%	0.2	15.1%	2.8%	0.2	11.9%	5.7%	0.5	11.6%	3.9%	0.3
North West	2.6%	0.2%	0.1	2.9%	0.0%	0.0	2.7%	1.0%	0.4	3.0%	0.7%	0.2
North Central Coast	12.8%	1.2%	0.1	13.8%	6.9%	0.5	13.4%	9.5%	0.7	13.1%	10.9%	0.8
South Central Coast	9.5%	8.0%	0.8	8.5%	9.9%	1.2	8.5%	9.8%	1.2	8.7%	9.9%	1.1
Central Highlands	2.3%	0.7%	0.3	2.8%	0.3%	0.1	5.8%	2.8%	0.5	5.0%	1.8%	0.3
South East	15.9%	42.6%	2.7	15.9%	49.1%	3.1	14.6%	29.2%	2.0	16.2%	31.6%	2.0
Mekong River Delta	22.5%	13.3%	0.6	21.5%	15.3%	0.7	21.3%	32.5%	1.5	20.4%	21.8%	1.1
<b>Urban / Rural Status</b>												
Rural	80.0%	20.9%	0.3	77.6%	25.2%	0.3	76.8%	49.0%	0.6	74.1%	49.9%	0.7
Urban	20.0%	79.1%	4.0	22.4%	74.8%	3.3	23.2%	51.0%	2.2	25.9%	50.1%	1.9
<b>Marital Status of H. Head</b>												
Married	85.4%	76.7%	0.9	86.4%	78.7%	0.9	85.6%	74.5%	0.9	84.8%	68.2%	0.8
Widowed	10.9%	15.1%	1.4	10.4%	11.8%	1.1	11.5%	17.5%	1.5	12.3%	23.6%	1.9
Otherwise Not Married	3.7%	8.2%	2.2	3.2%	9.6%	3.0	2.9%	8.0%	2.8	2.9%	8.3%	2.8
<b>Gender of Household Head</b>												
Male	77.3%	57.5%	0.7	78.4%	55.0%	0.7	79.5%	57.0%	0.7	78.3%	52.1%	0.7
Female	22.7%	42.5%	1.9	21.6%	45.0%	2.1	20.5%	43.0%	2.1	21.7%	47.9%	2.2
<b>Age of Household Head</b>												
20 - 29	10.7%	2.0%	0.2	5.4%	2.5%	0.5	5.0%	4.9%	1.0	3.2%	3.3%	1.0
30 - 39	29.6%	29.4%	1.0	28.3%	17.1%	0.6	26.2%	20.5%	0.8	23.1%	12.5%	0.5
40 - 49	22.5%	12.5%	0.6	29.4%	29.5%	1.0	31.5%	26.7%	0.8	32.4%	28.5%	0.9
50 - 59	18.3%	27.3%	1.5	17.8%	19.3%	1.1	17.0%	15.8%	0.9	20.0%	22.6%	1.1
60 - 69	13.1%	13.5%	1.0	13.4%	14.7%	1.1	11.5%	13.7%	1.2	11.5%	16.4%	1.4
70 - 79	4.9%	12.5%	2.6	4.9%	11.2%	2.3	7.0%	14.9%	2.1	7.4%	12.9%	1.7
80 - 89	0.7%	2.9%	3.9	0.8%	5.6%	7.4	1.7%	3.1%	1.8	2.1%	3.7%	1.7
90 and older	0.1%	0.0%	0.0	0.1%	0.2%	4.0	0.2%	0.2%	0.9	0.3%	0.0%	0.0
<b>Work Status of H. Head</b>												
Not Working	10.7%	32.3%	3.0	15.2%	39.5%	2.6	14.0%	35.6%	2.5	15.3%	35.8%	2.3
Working	89.3%	67.7%	0.8	84.8%	60.5%	0.7	86.0%	64.4%	0.7	84.7%	64.2%	0.8

Source: Own calculations from VLSS 1992/3 & 1997/8, and VHLSS 2002 & 2004

**TABLE 6**  
**Logistic Model for Determinants of International Remittance Receipt**

Dependent Variable	1992/93		1997/98		2002		2004	
	Odds Ratio	Prob.	Odds Ratio	Prob.	Odds Ratio	Prob.	Odds Ratio	Prob.
<b>Region</b>								
Red River Delta	0.320*	-0.028	0.368*	-0.03	0.382*	-0.033	0.514*	-0.027
North East	0.127*	-0.036	0.146*	-0.043	0.390*	-0.03	0.172*	-0.051
North West	0.062*	-0.032	n/a	n/a	0.642*	-0.016	0.161*	-0.045
North Central Coast	0.332*	-0.024	0.459*	-0.023	0.635*	-0.017	0.592*	-0.021
South Central Coast	0.496*	-0.017	0.453*	-0.023	0.799*	-0.009	0.536*	-0.024
Central Highlands	0.557	-0.014	0.246*	-0.032	0.437*	-0.026	0.288*	-0.037
South East (reference)	1	---	1	---	1	---	1	---
Mekong River Delta	0.346*	-0.025	0.406*	-0.028	0.788*	-0.01	0.670*	-0.017
<b>Urban / Rural Status</b>								
Rural (reference)	1	---	1	---	1	---	1	---
Urban	4.450*	0.073	4.043*	0.074	2.268*	0.043	2.215*	0.045
<b>Marital Status of H. Head</b>								
Married (reference)	1	---	1	---	1	---	1	---
Widowed	0.952	-0.001	0.555*	-0.019	0.758*	-0.011	0.796	-0.01
Otherwise Not Married	0.683	-0.01	0.653	-0.014	0.944	-0.002	1.27	0.012
<b>Gender of Household Head</b>								
Male (reference)	1	---	1	---	1	---	1	---
Female	1.189	0.005	1.654*	0.019	1.207*	0.008	1.143	0.006
<b>Age of Household Head</b>								
20 - 29 (reference)	1	---	1	---	1	---	1	---
30 - 39	1.01	0	1.736	0.024	0.936	-0.003	1.467	0.02
40 - 49	1.849*	0.023	1.579	0.02	1.149	0.006	1.786	0.03
50 - 59	1.494	0.014	2.290*	0.042	1.085	0.004	1.876	0.036
60 - 69	1.727	0.02	1.644	0.023	1.043	0.002	1.828	0.035
70 - 79	2.360*	0.038	2.843*	0.062	1.184	0.008	2.117*	0.047
80 - 89	3.534*	0.071	3.014*	0.071	1.172	0.007	2.197	0.052
90 and older	n/a	n/a	n/a	n/a	1.415	0.017	2.315	0.058
<b>Work Status of H. Head</b>								
Not Working (reference)	1	---	1	---	1	---	1	---
Working	0.843	-0.006	0.571*	-0.026	0.473*	-0.041	0.769	-0.013
<b>Sample Size</b>	4787		5868		29516		9029	
<b>Log Likelihood</b>	-828.508		-1198.681		-5801.867		-1962.111	
<b>Pseudo R<sup>2</sup></b>	0.146		0.143		0.059		0.064	

Source: Own estimates from VLSS 1992/3 & 1997/8, and VHLSS 2002 & 2004

Notes: \* indicates significance at the 5% level. Probabilities are calculated at the mean values of the explanatory variables.

**TABLE 7**  
**Impact of Remittances on Inequality in Vietnam: Gini Coefficients**

<b>1992 / 93 Per Capita Income / Expenditure</b>				
	<b>Excluding Remittances</b>	<b>Including Domestic Remittances Only</b>	<b>Including Foreign Remittances Only</b>	<b>Including All Remittances</b>
<b>Expenditure per capita</b>	0.3580	0.3534	0.3344	0.3305
<b>1997 / 98 Per Capita Income / Expenditure</b>				
	<b>Excluding Remittances</b>	<b>Including Domestic Remittances Only</b>	<b>Including Foreign Remittances Only</b>	<b>Including All Remittances</b>
<b>Expenditure per capita</b>	0.3645	0.3551	0.3583	0.3501
<b>2002 Per Capita Income / Expenditure</b>				
	<b>Excluding Remittances</b>	<b>Including Domestic Remittances Only</b>	<b>Including Foreign Remittances Only</b>	<b>Including All Remittances</b>
<b>Income per capita</b>	0.5036	0.4964	0.5059	0.4988
<b>Expenditure per capita</b>	0.4113	0.3899	0.3870	0.3703
<b>2004 Per Capita Income / Expenditure</b>				
	<b>Excluding Remittances</b>	<b>Including Domestic Remittances Only</b>	<b>Including Foreign Remittances Only</b>	<b>Including All Remittances</b>
<b>Income per capita</b>	0.5042	0.4943	0.5040	0.4947
<b>Expenditure per capita</b>	0.4176	0.3868	0.3948	0.3694

Source: Own calculations from VLSS 1992/3 & 1997/8, and VHLSS 2002 & 2004

**TABLE 8**  
**Logistic Model for Determinants of Poverty**

Dependent Variable	1992/93		1997/98		2002		2004	
	Odds Ratio	Prob.	Odds Ratio	Prob.	Odds Ratio	Prob.	Odds Ratio	Prob.
<b>Region</b>								
Red River Delta	3.666*	0.276	4.705*	0.358	3.496*	0.245	2.369*	0.105
North East	6.620*	0.353	8.551*	0.49	5.312*	0.357	6.342*	0.303
North West	8.827*	0.344	24.045*	0.622	15.924*	0.599	16.312*	0.553
North Central Coast	5.031*	0.314	6.802*	0.444	7.050*	0.42	5.889*	0.283
South Central Coast	1.384*	0.076	3.570*	0.301	2.442*	0.178	3.234*	0.169
Central Highlands	1.09	0.021	4.029*	0.332	6.745*	0.423	4.476*	0.242
South East (reference)	1	---	1	---	1	---	1	---
Mekong River Delta	0.925	-0.019	2.717*	0.228	1.694*	0.095	2.675*	0.125
<b>Urban / Rural Status</b>								
Rural (reference)	1	---	1	---	1	---	1	---
Urban	0.274*	-0.313	0.236*	-0.25	0.207*	-0.203	0.223*	-0.119
<b>Marital Status of H. Head</b>								
Married (reference)	1	---	1	---	1	---	1	---
Widowed	1.793*	0.133	1.984*	0.157	1.499*	0.073	2.471*	0.118
Otherwise Not Married	1.819*	0.134	1.924*	0.151	2.107*	0.147	3.554*	0.196
<b>Gender of Household Head</b>								
Male (reference)	1	---	1	---	1	---	1	---
Female	0.767*	-0.064	0.809*	-0.045	0.764*	-0.044	0.630*	-0.047
<b>Age of Household Head</b>								
Age	0.979*	-0.005	0.971*	-0.006	0.986*	-0.002	0.989*	-0.001
Age <sup>2</sup>	1.212*	0.046	1.167*	0.032	1.117*	0.018	1.123*	0.012
<b>Work Status of H. Head</b>								
Not Working (reference)	1	---	1	---	1	---	1	---
Working	0.972	-0.007	0.809*	-0.046	1.001	0	0.975*	-0.003
<b>Education of Household</b>								
None or Primary (reference)	1	---	1	---	1	---	1	---
Secondary or Higher	0.444*	-0.197	0.391*	-0.2	0.366*	-0.161	0.824*	-0.02
<b>Percentage of Working Age</b>								
	0.502*	-0.166	0.416*	-0.184	0.256*	-0.225	0.127*	-0.209
<b>Percentage of Under 15</b>								
	6.346*	0.446	4.387*	0.311	5.811*	0.291	7.122*	0.198
<b>Log of Household Size</b>								
	2.253*	0.196	5.144*	0.345	2.809*	0.171	3.037*	0.112
<b>Pension</b>								
None (reference)	1	---	1	---	1	---	1	---
Received Pension	0.706*	-0.085	0.516*	-0.124	0.462*	-0.105	0.686*	-0.034
<b>International Remittances</b>								
None (reference)	1	---	1	---	1	---	1	---
Received Intl. Rem.	0.359*	-0.250	0.318*	-0.187	0.441*	-0.108	0.426*	-0.065
<b>Sample Size</b>	4789		5996		29516		9029	
<b>Log Likelihood</b>	-1.29E+04		-3.77E+07		-3.54E+07		-3.05E+07	
<b>Pseudo R<sup>2</sup></b>	0.211		0.247		0.231		0.218	

Source: Own estimates from VLSS 1992/3 & 1997/8, and VHLSS 2002 & 2004

Notes: \* indicates significance at the 5% level. Probabilities are calculated at the mean values of the explanatory variables.

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