

Migration and shock-coping mechanisms: evidence from Vietnam

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1. Introduction

According to the 2009 Vietnamese Population Census, 6.6 million people migrated within Vietnam over the period 2004-2009 (United Nations Viet Nam, 2010), an increase of 46% with respect to the number of internal migrants recorded in the 1999 Census. The 2004 VHLSS survey unveils that almost 89% of households with a migrant receive remittances, which constitute a substantial means by which households can pay daily expenses such as education or health care expenses.

The aim of this paper is to provide an overview of the characteristics of migrant households and analyse the effects of migration in Vietnam, on the basis of the VARHS survey conducted in 2012. The economics literature has extensively explored the determinants of migration. The seminal paper by Harris and Todaro (1970) modelled the rural to urban migration decision. According to their theory, the main determinant of migration is the expected wage differential between the origin place of residence and the destination. Later contributions to the literature analysed other factors besides wage differentials and introduced income uncertainty and relative deprivation as further determinants of the migration decision (Stark, 1991). The new economics of migration modelled the migration decision as a risk-sharing decision, whereby households can diversify risk by letting a member migrate to another labour market, with the aim of reducing the income risk facing households¹.

In this paper, we will discuss differences across migrant households on the basis of reasons for migrating and we will explore the features of migrants and migrant households. We will also examine the households that receive remittances and how they are used. Finally, we will uncover the role of migration and remittances as shock-coping mechanisms in rural Vietnam.

This paper is organized as follows. Section 2 provides a policy background on migration directives in Vietnam. Section 3 describes the data, while Section 4 compares migrant versus non-migrant households. Section 5 discusses the characteristics of migrants, while remittance behaviour is explored in Section 6. Section 7 presents the results of the econometric investigation of the role of migration as a risk-coping mechanism. Section 8 concludes.

2. Policy background

The 'Doi Moi' policy, introduced in Vietnam in 1986, led to a drastic increase in domestic migration, in response to the rapid economic growth experienced with the opening up of the economy. Moreover, since 1986, Vietnam has seen an increase in the population leading to a

¹ See Bauer and Zimmermann (1994) for an extensive review of the literature.

shortage of arable land in the countryside. This has motivated many individuals to move from rural to urban areas, where industrial development offers more employment opportunities.

The socio-economic repercussions of migration have spurred the Vietnamese Government to implement a number of national regulations aimed at managing internal migration. Census 2009 figures for ‘unplanned’ internal migration in Vietnam experienced reveal that migration between provinces reached 1.3 million individuals, about 2.5% of the total population, in 1989, 2 million or 2.9% of the total population in 1999, and 3.4 million or 4.3% of the total population in 2009. Furthermore, the annual rate of migration within provinces increased from 0.6% in 1999 to 4.2% in 2009. Forecasts predict that migration will continue to rise, reaching 6 million or 6.4% of the total population by 2019.

Directive 660/TTg (17/10/1995) ‘On solutions for voluntary migration to the Central Highlands and other provinces’ acknowledged that voluntary migration was increasing, notably in the North mountainous areas, especially during the period 1991-1994 when there was a huge flow of migrants from ethnic minority communities to the Central Highlands and other provinces. This caused many social and economic problems as well as administrative management issues for the provinces in the Central Highlands. After a high annual average of 160,000 voluntary migrants between 1991 and 1995, the government promulgated this Directive to reduce migration numbers. They did so through detailed planning, creating jobs and reallocating cultivated land. As a result, the annual average number of migrants reduced to 90,000 in 1996-2000 period, 40,000 in 2001-2002 and 20,000 in 2003.

The Prime Minister’s *Decision No. 190/2003/QĐ-TTg* ‘On the migration policies for realisation of population planning and relocation in the 2003-2010 period’, issued in September 2003, lists the objectives of migration policies for the realisation of population planning and relocation for the 2003-2010 period. The objectives are as follows: to relocate, arrange and resettle populations in necessary areas in order to exploit labour and land potential, develop agricultural, forestry and fishery production, create jobs, increase incomes, eliminate hunger, alleviate poverty, stabilise and raise standards of living; to minimise free migration; and to build new areas with adequate infrastructure, thus ensuring sustainable development.²

Decision No. 190/2003/QĐ-TTg also clarifies the groups targeted by this policy, which include: nomadic households; landless households (due to natural disasters); households located in areas which lack productive land and clean water; households who migrated to defence areas; households that need to be taken out of dense forest lands; households that migrated to border areas and island communes; officers and soldiers; young volunteers; and intellectuals participating in the migration programmes in planning migration areas; households who migrated to natural parks and protected natural reserves in an unplanned and unauthorised way who as a result are required to move out. Households are encouraged to migrate to new economic zones for agricultural production, forestry, aquaculture, salt and other industries.

According to the *Decision*, migrants are guaranteed financial support by the state for reclaiming land (2-5 million VND per hectare), border-area migrants (15 million VND per

² <http://policy.mofcom.gov.cn/english/flaw!fetch.action?libcode=flaw&id=ae1c12d5-9572-4b7f-a3ad-091a09de811d>

household); island migrants (50-100 million VND per household); and households migrating to project areas in and outside of the province, in particular, areas with poor living conditions (2-8 million VND per household, including transportation costs for those in highlands or depressed areas).

The areas welcoming migrants are also given funds to adapt their services and infrastructures. They receive 20 million VND per household for adjusting productive and residential land to allocate to new households; and undertaking or upgrading a number of essential infrastructure projects such as schools, clinics, public roads, and public water supply.

The *Decision* also states migrants' responsibilities. In particular, migrants must fully follow the regulations on migration (civil registration, the number of inhabitants in new settlements, land and natural resources usage); they must also show solidarity, respect customs and beliefs of the new communities they settle in; and they must use state funding effectively and following national regulations.

In 2006, *Decision No. 193/2006/QĐ-TTg* drafted the Program on population distribution in areas affected by natural disasters, border regions, islands, areas inhabited by voluntary migrants, and important areas of protected natural reserves in the 2006-2010 period, and orientations up to 2015. The *Decision*, issued in August 2008, specified a set of targets. Over the 2006 – 2015 period, it is planned to distribute 150,000 households, of which 75,000 households shall be redistributed in the 2006-2010 period, including: 30,000 households in natural disaster and difficulty-hit areas; 10,000 households in border regions and islands; 30,000 households of voluntary migrants; and 2,000 households in important or very important areas of protected forests or strictly protected zones of special-use forests. The aim of the redistribution is to reduce the rate of poor households to 15% in areas under population redistribution projects³.

In 2007, *Decision 33/2007/QĐ-TTg* was issued in relation to ethnic minorities from disadvantaged areas, migrating in the period between 2007 and 2010 to facilitate the settling process, ensure socio-economic development, ensure political security and social safety. This decision gives specific support to receiving communities by building essential infrastructure according to local needs, providing compensation and allocating land to landless households, and supporting staff to develop the community in the resettlement area. The latter includes supporting medical staff, funding scientific and technological projects, and diversifying local production in the first three years; offering direct support for migrant households via the allocation of residential land and arable land, and of a preferential loan policy after resettlement.

It is clear from the range of Decisions and Decrees issued over the last number of years that migration is at the forefront of the policy agenda in Vietnam. In this paper we aim to shed some light on the characteristics of households in 12 rural provinces of Vietnam who have sent migrants away to work, be educated or engage in other activities. We focus in particular on the welfare of sending households and the extent to which having a migrant is of benefit to those that stay behind, particularly in times of financial stress.

³ <http://policy.mofcom.gov.cn/english/flaw!fetch.action?libcode=flaw&id=94d0747d-e6e2-4b74-97b6-b692d06ea789&classcode=600>

3. Data

Our data come from the 2010 and 2012 Vietnam Access to Resources Household Survey (VARHS). The survey was developed in collaboration between the Development Economics Research Group, Department of Economics, University of Copenhagen and the Central Institute of Economic Management, the Institute for Labor Studies and Social Affairs and the Institute of Policy and Strategy for Agriculture and Rural Development in Hanoi, Vietnam. The survey provides a detailed picture of the incomes, assets and access to resources of rural households in 12 provinces. While data have been gathered using this survey instrument since 2006, in 2012, a new module was introduced to capture information on migration. While the full dataset includes over 3,000 households for the purpose of this paper we focus on 2,089 households that were surveyed in both 2010 and 2012 so retrospective data can be used.⁴

According to VARHS 2012, about 20% of interviewed households have at least one member who has migrated, of which 48% are working migrants⁵. About 22% of migrant households have a permanent migrant, while 63% of households have a migrant who is only away temporarily.

Table 1 presents the reasons for migration, distinguishing between temporary and permanent migrants. The majority of temporary migrants are away due to education and work, while the majority of permanent migrants are away either for family reunification or for work reasons⁶. Army service also plays a role with almost 4% of migrants away on army duty.

Table 1: Reasons for migrating

	All Migrants	Temporary Migrants	Permanent Migrants
Work/Looking for work	45.29%	46.05%	40%
Education	35.60%	46.49%	1.29%
Marriage/Family Reunification	13.62%	1.1%	52.26%
Army service	3.80%	5.26%	1.94%

Table 2 presents the percentage of households with a migrant by province and the percentage of households with a working migrant. The province which has the highest percentage of “migrant” households is Nghe An, where about 47% of interviewed households has at least one migrant living away, while about 36% of households has a working migrant. Quang Nam also reports a high percentage of households with a migrant (27%), although it shows a smaller fraction of households with a working migrant (8.8%).

⁴ See CIEM (2011) and CIEM (2013) for a comprehensive descriptive report of the data gathered in each round of the survey.

⁵ We will refer to these households as migrant households.

⁶ Given the small number of households answering that the migrant left the commune to look for job, we aggregate the “working” option with the “looking for work” motives.

Table 2: Province of origin

Province	Percent of HHs with a migrant	Percent of HHs with a working migrant
Ha Tay	18.51	9.52
Lao Cai	17.76	9.35
Phu Tho	17.52	6.47
Lai Chau	7.46	1.49
Dien Biem	13.06	7.03
Nghe An	46.90	36.28
Quang Nam	27.22	8.88
Khanh Hoa	20.18	7.34
Dak Lak	18.18	7.88
Dak Nong	17.19	7.81
Lam Dong	20.25	2.53
Long An	7.49	3.25

Where do migrants move to? Table 3 reports the list of the main migrant receiving provinces. Ha Noi and HCM provinces received the highest share of migrants in our sample, 26.55% and 16.51% respectively, supporting the idea that migrants tend to converge in big urban cities. It is interesting to see that the migration rate in Long An (next to HCM) is lower than in other provinces while a greater proportion of migrants migrate for work in both Long An and Ha Tay (next to Ha Noi).

Table 3: Province of destination

	Obs.	%
Ha Noi	193	26.55
TP.HCM	120	16.51
Da Nang	70	9.63
Nghe An	40	5.50
Quang Nam	37	5.09
Binh Duong	24	3.30
Phu Tho	22	3.03
Dien Bien	21	2.89
Dak Lak	19	2.61
Dong Nai	16	2.20
Long An	15	2.06

The majority of migration occurs across provinces: about 62% of the migrant households report that the migrant migrated outside of the province of origin, while 37% of migrants moved within the province. Less than 1% moved internationally. Working migrants are less likely to move within the province of origin and are more likely to either move to another province or to move internationally (see Table 4).

Table 4: Inter- and intra- province migration

	All Migrants	Working migrants
Same province	37.55%	34.06%
Another province	61.90%	65%
Abroad	0.55%	0.94%

4. Migrant and non-migrant household characteristics

Are migrant household wealthier? In order to address this issue we consider the distribution of migrant and non-migrant households by expenditure quintile. The results are shown in Table 5. A smaller percentage of migrant households is in the first food expenditure quintile, therefore indicating that a smaller percentage of migrant households is less wealthy. The difference is particularly striking if we look at working migrant households, where the percentage of households in the first quintile is just 10.16% compared to 21.99% of non-migrant households. A much higher percentage is in the last food expenditure quintile for working migrant households, therefore indicating that working migrant households are wealthier. The aim of Table 5 is to present a simple, but informative correlation between household wealth and migration status. However, we cannot infer from these summary statistics whether migrant households are wealthier because they have a migrant away (and potentially receive remittances) or whether they were able to send a migrant away because they are wealthier. Also, working migrants are likely to be wealthier than other migrants, as they are more likely to be educated and therefore better off.

Table 5: Distribution of migrant and non-migrant households by food expenditure quintile.

Food expenditure Quintile	Distribution of Migrant HHs	Distribution of Working Migrant HHs	Distribution of Non-migrant HHs
1	12.03%	10.16%	21.99%
2	18.23%	17.97%	20.79%
3	20.86%	25.39%	19.46%
4	19.55%	16.02%	20.06%
5	29.32%	30.47%	17.70%

Table 6 compares migrant versus non-migrant households in terms of a set of demographic features. Migrant household heads tend to be older than non-migrant household heads and the difference is statistically significant at the 5% level. There is no statistically significant difference between migrant and non-migrant households with respect to size, a rather surprising result and suggesting that larger households send migrants thus equalising the size of households on average. Migrant households have a higher net income than non-migrants households and the difference is statistically significant at the 5% level. As a consequence, a smaller proportion is classified as poor. This finding is indeed consistent with the summary statistics presented in Table 5 on food expenditure quintiles. Ethnicity also seems to play a role. A higher percentage of migrant households belong to the Kinh ethnic group, compared to the non-migrant households, suggesting that either they have more opportunities for migration or are more willing to do so. Finally, a larger proportion of migrant households are affected by natural shocks, but no difference appears to exist in terms of economic shocks.

Table 6: Migrant and non-migrant household characteristics

Variable	Migrant HH (1)	Non-migrant HH (2)	Difference (1)-(2)
Age of the HH head	52.60	50.94	1.66**
HH size	4.11	4.20	-0.09
Net income (000 VND)	97,355	81,639	15,716**
Classified as poor	12.03%	19.13%	-0.07***
Kinh	87.21%	77.82%	0.09***
Economic shock	7.89%	8.67%	-0.01
Natural shock	28.38%	22.40%	0.06***

Given the different reasons for migrating, Table 7 presents the characteristics of working migrant households with respect to non-working migrant households. Working migrant

households have a smaller household size, consistent with the fact that some of the core members of the households have left. There is no difference in terms of net income, being classified as poor, age of the household head or ethnicity. The most interesting aspect is the incidence of economic versus natural shocks. From Table 7, it appears that economic shocks are less prevalent in working migrant households, a finding which might be correlated to remittance behaviour by working migrants. There is no statistically significant difference between working migrant households and other migrant households with respect to natural shocks.

Table 7: Working migrant and non-working migrant household characteristics

Variable	Working Migrant HH(1)	Other migrant HH(2)	Difference(1)-(2)
Age of the HH head	53.33	51.93	1.40
HH size	3.88	4.33	-0.45***
Net income (000 VND)	93,875	100,583	-6,708
Classified as poor	14.06%	10.14%	0.04
Kinh	89.45%	85.14%	0.04
Economic shock	5.86%	9.78%	-0.04*
Natural shock	29.30%	27.54%	0.02

5. Migrant characteristics

Table 8 presents the characteristics of migrants by comparing working migrants with non-working migrants. A slight majority of migrants are men, although the percentage is higher for working migrants (almost 59%). About 30% of migrants are married, whilst this percentage slightly increases for working migrants. Working migrants tend to leave the commune later than other types of migrants, which might be related to the fact that they are more likely to be receive their education before migrating compared to households who migrate to attend school. Indeed a lower percentage of working migrants has no diploma. There is no difference in the length of the migration experience between the two groups. As expected, working migrants have a higher daily wage and the difference is statistically significant at the 1% level. This is not surprising given that the sources of income for non-working migrants are likely to be from part-time work of family supports. There does not seem to be any statistically significant difference between working and non-working migrants in terms of the intention of the length of stay.

Table 8: Working migrant and non-working migrant characteristics

Migrants characteristics	All migrants		Working migrants		t-test of difference
	Mean	S.D.	Mean	S.D.	
Male	51.05%	0.50	58.96%	0.49	***
Married	30.50%	0.46	36.70%	0.48	***
Age at migration	22.45	8.06	25.39	9.14	***
No diploma	62.43%	48.46	40.46%	0.49	***
Years since the migrant left	2.14	1.95	2.05	2.01	
Daily wage (VND)	3,917	3,891	4,423	4,195	***
Permanent	25.37%	0.43	22.79%	0.42	

What do migrants do? Table 9 presents the percentage of working migrants by occupation. The majority of migrants are employed in manual jobs and they work either as unskilled workers (33.41%) or as skilled workers (19.78%). A smaller percentage is employed in top or mid-level occupations (around 14%).

Table 9: Migrant occupation

Army	3.96%
Leaders in all fields and levels	7.25%
Top-level occupations in all fields	7.25%
Mid-level occupations in all fields	5.71%
Staff (elementary occupations, white-collar technical personnel	9.45%
Skilled workers in personal services, security protection and sales	2.86%
Skilled workers in agriculture, forestry, and aquaculture	1.54%
Skilled handicraftsmen and other relating skilled manual workers	19.78%
Assemblers and machine operators	7.69%
Unskilled workers	33.41%
Communal officials who are not public servants	0.88%

6. Remittance behaviour

Migrants may send remittances for altruistic motives, a sense of social responsibility; as a risk-sharing mechanism, to smooth consumption in the face of external shocks; or as a combination of these reasons (Maimbo and Ratha, 2005). While our data do not allow us to uncover the motives for sending remittances, we can explore the characteristics of those that receive remittances compared with those that do not and analyse the reasons for sending as reported by the receiving households. Around 25% of migrant households in our sample receive remittances. Remittance recipient households differ on many aspects with respect to migrant households that do not receive remittances. Table 10 shows that remittance recipient households have an older household head and smaller household size and they are more likely to be classified as poor. Remittances seem therefore to be used as a transfer to support older and poorer households. A higher fraction of remittance recipient households belongs to the Kinh ethnic group. Remittance recipient households are as likely as non-remittance recipient households to be affected by an economic or a natural shock. We will explore more the relationship between remittances and shocks in Section 7.

Table 10: Remittance recipient and non-remittance recipient household characteristics

Variable	Remittance recipient HH (1)	Non-remittance recipient HH (2)	Difference (1)-(2)
Age of the HH head	55.81	51.52	4.29***
HH size	3.55	4.30	-0.75***
Net income (000 VND)	86,741	100,929	-14,187
HH classified as poor	16.42%	10.55%	0.06*
Kinh	91.04%	85.93%	0.05
Economic shock	5.22%	8.79%	-0.04
Natural shock	32.84%	26.88%	0.06

A recent strand of the migration literature has focused on the ability of migrants to control how remittances are used. The issue is relevant given the asymmetric information which characterizes the relationship between migrants and their family of origin. McKenzie et al. (2013); Ashraf et al. (2011); Batista and Yang (2012), Elsner et al. (2013) and Batista et al. (2013) show that spatial distance and lack of monitoring harms the quality of information flows between migrants and their family and friends in the commune of origin. Table 11

compare how remittances are used by the household, with respect to the migrant’s purpose for sending remittances.

Table 11: Remittance use

	How household spends remittances	Migrant’s purpose for sending remittances
Daily meals and bills	44.57%	46.86%
Medical expenses	6.86%	5.14%
Educational expenses	5.14%	5.71%
Savings	14.29%	14.86%
Special occasion	6.86%	6.86%
House	9.14%	7.43%

According to Column 1, remittances are mainly spent for daily expenses, i.e. daily consumption and bills. The second category is savings, followed by expenses for special occasions and medical and education expenses. There is no statistically significant difference between the way households spend the remittances and the migrants’ purpose of sending remittances. This finding differs with respect to previous results found in the literature, but it is likely to be driven by the fact that the remittance recipients have a biased view of what the migrant’s purpose for sending remittances is and might simply respond to the question in a way that validates the way they spend the remittances.

There is some evidence that migrants receive transfers from the household of origin as well. About 39% of all migrants in our sample receive transfers, a result which is mainly driven by the large number of migrants who moved for education motives. However, it is interesting to note that also a small percentage of working migrants receive transfers (7%), therefore highlighting the potential vulnerability working migrants face, an issue which needs further investigation in future research.

7. How does migration impact on the welfare of sending households?

To explore this question we consider the extent to which migration serves as a risk coping mechanism. In order to test this hypothesis, Table 12 presents the results of a simple exercise. We analyse the impact of migration on the change in household food expenditure between 2012 and 2010, controlling for a set of variables and province fixed effects. As expected, economic and natural shocks (variable *shocks*) have a negative and statistically significant impact on the change in food expenditure (column 1)⁷. Migrant households show higher food expenditure per capita and the relationship is statistically significant at the 1% level. The next column adds the dummy variable “remittance recipient household”, which takes the value 1 if the household receives remittances and zero otherwise. We find no statistically significant difference between remittance-receiving households and other households. In column 3 we interact the shock dummy variable with the indicator variable of being a migrant household. We find that migrant households are not affected by shocks in a different way than non-migrant households. Of course the reason for migrating is very relevant, therefore in the next column we distinguish between working migrants and migrants who left the household for other reasons⁸. Column 4 shows that having a working migrant outside the household has a positive and statistically significant impact on the change in per capita food expenditure, both

⁷ A similar analysis was conducted using household income. Due to the likely measurement error in the income variable, results are not reported, but are available upon request.

⁸ Namely, education, family reunification, military service and other reasons.

for working migrant households and other migrant households, relative to non-migrant households. The results hold also when we control for other household characteristics, such as age of the household head, ethnicity, and whether the household head is a woman. Finally, in column 5, we interact the shock dummy variable with the indicator variable of having a migrant, distinguishing between working migrants and other migrants. We find that households with no migrants are still negatively affected by economic or natural shocks. On the other hand, having a working migrant is no more statistically significant. When we test the marginal effect of the shock coefficient with the coefficient of the interaction term (working migrant*shock), we cannot reject the null hypothesis that the sum of the coefficients is zero, meaning that having a working migrant offsets the impact of having a negative shock. This result does not hold for other migrant households.

Table 12: Migration and food expenditure

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Change in per capita food expenditure</i>					
Shock	-46.44*** [13.866]	-46.29*** [13.848]	-59.17*** [14.144]	-45.90*** [13.822]	-46.03*** [13.814]	-58.79*** [14.155]
Migrant	94.29*** [18.842]	99.87*** [20.987]	73.84** [29.207]			
Migrant*Shock			53.91 [35.063]			
Remittance recipient HH		-24.08 [36.706]	-25.12 [36.471]	-40.26 [46.331]	-37.53 [46.411]	-46.45 [45.128]
Kinh			3.22 [17.726]		3.74 [17.726]	2.16 [17.694]
Age of HH Head			-0.72 [0.488]		-0.72 [0.488]	-0.72 [0.487]
Female HH Head			10.78 [17.321]		10.08 [17.386]	10.80 [17.411]
Working Migrant				122.17*** [40.685]	119.65*** [40.749]	71.53 [53.821]
Other migrant				88.29*** [20.860]	86.31*** [20.972]	84.96*** [30.673]
Working migrant*shock						108.37** [54.776]
Other migrant*shock						6.57 [40.256]
Observations	2089	2089	2089	2089	2089	2089
Adjusted R-squared	0.029	0.028	0.029	0.029	0.028	0.030

Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Table 13 explores to greater extent the role of remittances in acting as a coping mechanism in the event of negative shocks. We interact the dummy variable capturing remittance recipient household with the shock dummy variable. As expected, per capita food expenditure is affected in a negative way by economic and natural shocks. Being a remittance recipient households is correlated with lower food expenditure, a result which can be explained in the light of the fact that remittances are likely to be sent to support poorer households. Interestingly, the estimated coefficient on the interaction term between remittances and shock is positive and statistically significant at the 10% level, thus providing evidence that remittances act as a shock-coping mechanism. Similar results hold when we control for household characteristics.

Table 13: Remittances and food expenditure

VARIABLES	(1)	(2)
	<i>Change in per capita food expenditure</i>	
Shock	-53.53*** [14.098]	-53.69*** [14.085]
Migrant	100.73*** [21.012]	98.65*** [21.080]
Remittance recipient HH	-90.52* [53.277]	-88.89* [53.070]
Remittance recipient HH*shock	120.04* [61.671]	121.54** [61.161]
Kinh		4.35 [17.685]
Age of HH head		-0.72 [0.488]
Female HH head		12.05 [17.253]
Observations	2089	2089
Adjusted R-squared	0.030	0.030

Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

The variable shock captures both economic and natural shocks. As a further exercise, we repeat the previous analysis and distinguish between the types of shock, to explore whether migrant households react differently to the type of shock they face. The results are presented in Table 14. Economic shocks do not seem to affect the change in per capita food expenditure, a result that may depend on the fact that only a small fraction of households is affected by economic shocks and there might not be enough variation for the analysis. Migrant households have a higher per capita food expenditure, although migration does not seem to be a shock-coping mechanism (column 3), given that the interaction term between migrant households and the economic shock indicator is not statistically significant. Columns 4 to 6 explore whether the type of migration matter in coping with economic shocks. The results of these specifications confirm the previous findings: working migrants and other migrants are positively correlated with higher per capita food expenditure, but the type of migration does not seem to be a coping mechanism in the face of economic shocks.

Table 14: Migration and economic shocks

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Change in per capita food expenditure</i>					
Economic shock	9.14 [23.016]	9.22 [23.115]	2.79 [20.827]	10.15 [23.052]	10.24 [23.149]	3.37 [20.897]
Migrant	98.62*** [20.963]	96.46*** [21.035]	93.75*** [22.107]			
Migrant*economic shock			29.20 [66.750]			
Remittance recipient HH	-25.45 [36.393]	-23.17 [36.460]	-22.57 [36.672]	-42.97 [46.131]	-40.37 [46.219]	-40.07 [46.280]
Kinh		7.00 [18.026]	7.09 [18.038]		6.31 [18.029]	6.32 [18.057]
Age of HH head		-0.70 [0.487]	-0.70 [0.487]		-0.69 [0.487]	-0.69 [0.487]
Female HH head		11.50 [17.377]	11.38 [17.407]		11.14 [17.443]	10.80 [17.525]
Working migrant				122.81*** [40.707]	120.24*** [40.775]	116.06*** [41.658]
Other migrant				86.06*** [20.836]	84.15*** [20.952]	82.48*** [22.182]
Working migrant*economic shock						58.89 [136.984]
Other migrant*economic shock						16.35 [66.729]
Observations	2089	2089	2089	2089	2089	2089
Adjusted R-squared	0.023	0.023	0.023	0.024	0.023	0.022

Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Table 15 analyses the impact of migration and natural shocks on the change in food expenditure between 2010 and 2012. Again, migration is associated with a positive and statistically significant increase in food expenditure, while the estimated coefficient on natural shocks is negative but it is not statistically significant. These findings hold also when we control for household characteristics. Next, we interact the migrant household dummy variable with the natural shock indicator. Migration seems to act as natural shock coping mechanism as migrant households are able to offset the impact of the natural shock on the change in per capital food expenditure. In columns 4 to 6 we distinguish between the reasons for migrating. Working migrants are positively associated with a change in food expenditure and so are other types of migrants. A word of caution is needed here. Wealthier households are more likely to send their children to study away from home (other migrant). This could explain the positive and statistically significant coefficient on the other migrant variable. On the other hand, having a working migrant might signal that the household is less wealthy and therefore had to send a member to work somewhere else. Interestingly, having a working migrant offsets the impact of negative shocks on the change in food expenditure (column 6).

Table 15: Migration and natural shocks

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Change in per capita food expenditure</i>					
Natural shock	-16.04 [13.969]	-16.16 [13.937]	-30.89** [14.419]	-15.35 [13.902]	-15.52 [13.868]	-30.63** [14.430]
Migrant	99.30*** [21.057]	97.05*** [21.118]	81.39*** [25.871]			
Migrant*natural shock			57.16* [33.019]			
Remittance recipient HH	-25.41 [36.464]	-23.04 [36.512]	-25.00 [36.187]	-42.24 [46.113]	-39.57 [46.191]	-44.62 [44.891]
Kinh		6.28 [17.813]	5.50 [17.824]		5.70 [17.824]	4.15 [17.865]
Age of HH head		-0.71 [0.488]	-0.73 [0.487]		-0.71 [0.488]	-0.73 [0.487]
Female HH head		10.46 [17.378]	10.87 [17.388]		10.13 [17.443]	10.59 [17.466]
Working migrant				122.48*** [40.646]	119.86*** [40.707]	98.71** [47.298]
Other migrant				87.24*** [20.955]	85.23*** [21.059]	75.73*** [26.830]
Working migrant*economic shock						82.80* [49.049]
Other migrant*economic shock						36.04 [39.442]
Observations	2089	2089	2089	2089	2089	2089
Adjusted R-squared	0.024	0.023	0.024	0.024	0.024	0.024

Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Finally, Table 16 presents the evidence related to the relationship between remittances and the type of shock. We do not find that remittances act as a coping mechanism in the face of economic or natural shocks. However, these results (or the lack of statistically significant results) might be driven by the fact that remittances are likely to be underreported or misreported by households.

Table 16: Remittances and type of shock

VARIABLES	(1)	(2)	(3)	(4)
	<i>Change in per capita food expenditure</i>			
Economic shock	3.70	3.69		
	[21.852]	[21.936]		
Migrant	98.56***	96.37***	99.20***	97.66***
	[20.965]	[21.034]	[21.056]	[21.146]
Remittance recipient HH	-32.95	-30.76	-33.12	-56.76
	[35.557]	[35.631]	[35.595]	[42.676]
Remittance recipient HH *economic shock	125.62	127.37		
	[203.158]	[203.968]		
Kinh		7.24		5.42
		[18.011]		[17.771]
Age of HH head		-0.70		-0.70
		[0.487]		[0.488]
Female HH head		11.53		10.78
		[17.384]		[17.384]
Natural shock			-16.23	-23.91*
			[13.856]	[14.127]
Remittance recipient HH *natural shock				98.79
				[61.707]
Observations	2089	2089	2089	2089
Adjusted R-squared	0.024	0.023	0.024	0.024

Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

8. Migration and access to credit

How does migration affect the financial behaviour of households? Given the potential endogeneity between economic shocks and household behaviour, in the rest of the analysis we will consider natural shocks only. The evidence reported in Table 17 shows that households with a working migrant show a decrease in the total amount borrowed, while other migrant households show no statistically significant relationship. This result could be explained by the fact that working migrant households have less collateral and therefore might have a limited access to credit market. Interestingly, remittance recipient households experience an increase in the total amount borrowed, a result which can be interpreted as showing that remittances increase collateral and ease access to credit. Column 2 presents the results related to the interaction between the type of migrant household and natural shocks. Being a working migrant household eases access to credit in the case of a negative natural shock, therefore supporting the view that working migrant households face natural shocks by resorting to more borrowing. The next column explores the impact of remittances in the presence of natural shocks. On the one hand, having a working migrant eases access to credit in the case of a natural shock; on the other, remittances counteract the negative impact of a natural shock by reducing the amount borrowed by the household.

Table 17: Migration, remittances and borrowing behaviour

VARIABLES	<i>Change in total amount borrowed</i>		
	(1)	(2)	(3)
Natural shock	-14,543.54 [9,938.882]	-17,149.42 [10,748.363]	-16,890.62 [10,745.948]
Working migrant	-10,962.71* [6,063.565]	-15,384.87** [7,126.094]	-19,078.29** [7,792.245]
Other migrant	-3,123.68 [5,593.554]	-3,346.08 [7,423.598]	-4,115.60 [7,381.762]
Working migrant*nat. shock		17,455.26* [8,935.332]	33,216.78*** [10,752.755]
Other migrant*nat. shock		1,589.62 [9,260.317]	3,456.24 [9,165.776]
Remittance recipient HH	17,962.65** [8,608.879]	16,724.21* [8,534.396]	25,689.64** [11,243.081]
Remittance recipient HH *natural shock			-30,521.77** [14,642.653]
Kinh	-1,599.90 [4,000.084]	-1,972.44 [3,993.259]	-2,057.89 [3,989.076]
Age of HH head	-41.95 [147.230]	-45.42 [147.662]	-50.87 [147.617]
Female HH head	3,237.40 [7,528.854]	3,313.10 [7,543.852]	3,282.33 [7,546.791]
Observations	2089	2089	2089
Adjusted R-squared	0.016	0.015	0.015

Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Finally, we focus on whether migration and remittances affect borrowing behaviour in the formal credit market. Again, working migrant households have lower access to the formal credit market than non-migrant households, although remittance recipient households seem to have better access to formal loans, possibly due to the greater collateral they might have available as a result of remittance flows. Column 2 explores the differential impact that natural shocks may have on the total amount borrowed with respect to working migrant households and other migrant households. Working migrant households are more likely to resort to formal borrowing than non-migrant household in the face of a shock. This result is consistent with the ease of credit access for working migrant households. Finally, column 3 explores whether remittances can counterbalance the need to resort to formal borrowing in the case a household is affected by a natural shock. The estimated coefficient on the interaction between the remittance recipient household indicator and the natural shock dummy variable is negative and statistically significant, thus indicating that remittances reduce the need to resort to formal borrowing in the presence of a natural shock.

Table 18: Migration, remittances and borrowing behaviour in the formal credit market

VARIABLES	(1)	(2)	(3)
	<i>Change in amount borrowed in the formal credit market</i>		
Natural shock	-1,211.30 [2,419.061]	-1,157.01 [2,758.591]	-1,027.07 [2,759.039]
Working migrant	-8,754.09** [4,386.624]	-10,524.27** [4,741.924]	-13,066.80** [5,539.881]
Other migrant	-2,062.63 [4,700.225]	168.72 [5,995.541]	-360.87 [5,919.466]
Working migrant*natural shock		7,169.19 [5,210.692]	18,019.01** [7,215.708]
Other migrant*natural shock		-7,183.76 [8,650.908]	-5,898.90 [8,574.116]
Remittance recipient HH	13,029.19* [7,538.119]	12,307.07* [7,465.967]	18,472.60* [10,139.094]
Remittance recipient HH *natural shock			-20,997.11* [11,679.097]
Kinh	-144.74 [3,913.627]	-364.57 [3,897.694]	-422.53 [3,893.862]
Age of HH head	-31.13 [102.193]	-31.84 [102.416]	-35.60 [102.484]
Female HH head	-3,299.54 [3,198.774]	-3,286.12 [3,190.854]	-3,308.53 [3,195.087]
Observations	2089	2089	2089
Adjusted R-squared	0.007	0.006	0.006

Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

9. Conclusions and policy recommendations

This paper provided an overview of the characteristics of migrant households and analysed the effects of migration in Vietnam, on the basis of the VARHS survey conducted in 2012. The data reveal significant movements of household members, both intra-province and inter-province, with about 20% of the interviewed households having at least one member who has migrated. The two main reasons for migrating are education and work related motives. Significant differences are uncovered between migrant and non-migrant households, as migrant households are wealthier than non-migrant households, as measured by food expenditure quintiles. We explored the features of remittance recipient households and found that remittance recipients are more likely to be classified as poor, indicating that remittances are used to support households of origin in their daily expenses. The econometric analysis shows that remittances and migration act as a shock coping mechanism, especially in the presence of natural shocks. Migrant and remittance recipient households are also more likely to have better access to the market for credit. In particular, remittance recipient households seem to react better to natural shocks, as the remittances flows counterbalance for the need for formal borrowing.

Given the large and increasing migration movements within Vietnam, it has become crucial to understand the role of remittances as a means of poverty reduction and as a risk coping mechanism and also the features of migrant households, especially in the face of shocks affecting household's welfare. This paper makes a significant first step in understanding these issues for the 12 provinces included in the VARHS dataset. Our results show that remittance recipient households are better off than non-recipients and are better able to cope with

shocks. This suggests that migration has the potential to act as a safety valve for vulnerable households in rural communities. Better off households are more likely to migrate, however, which suggests that there are constraints to migration for less well-off households. Our findings suggest that constraints to voluntary migration should be removed, particularly for poorer households where members may have the desire to leave their home community to find work but may not have the resources to do so. Moreover, there may be a role for government or other agencies in developing formal banking mechanisms to facilitate the remittance of funds back to sending households. On a final note, we would like to emphasise that the VARHS data focus on the characteristics of the sending households and not the migrants themselves. More data and research are needed on the vulnerability and welfare of the migrants who move to find work. This is beyond the scope of these data and this study.

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