

Nguyen Tran Lam; guyen Viet Cuong

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Intragenerational and intergenerational mobility in Viet Nam

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**INTRAGENERATIONAL
AND INTERGENERATIONAL
MOBILITY IN VIET NAM**

Nguyen Tran Lam and Nguyen Viet Cuong

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Nguyen Tran Lam is policy research specialist at Oxfam in Viet Nam. Nguyen Viet Cuong is affiliated with the National Economics University, Viet Nam.

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Please contact the authors for information about this paper.

Email: Lam.NguyenTran@oxfamnovib.nl

Asian Development Bank Institute
Kasumigaseki Building, 8th Floor
3-2-5 Kasumigaseki, Chiyoda-ku
Tokyo 100-6008, Japan

Tel: +81-3-3593-5500
Fax: +81-3-3593-5571
URL: www.adbi.org
E-mail: info@adbi.org

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Abstract

This study examines intragenerational and intergenerational mobility of employment and income in Viet Nam during 2004–2008 and 2010–2014. It finds rather high mobility across income quintiles. There was high mobility of individuals by occupational skills but less mobility by employment status and sectors. The upward mobility of occupation increased over time because of the increase in skilled occupation. The intergenerational elasticity of earnings for parents and children is estimated at around 0.36. The intergenerational elasticity is very similar for 2004 and 2014. Education plays an important role in improving intergenerational mobility. The intergenerational elasticity for children without education degrees and those with post-secondary degrees is 0.51 and 0.17, respectively. With a postsecondary degree, 80% of people whose parents are unskilled have skilled or nonmanual occupation.

Keywords: social mobility, intragenerational mobility, intergenerational mobility, occupational mobility, income mobility, Viet Nam

JEL Classification: J62

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1. INTRODUCTION

There are different definitions of social mobility (e.g., Behrman 2000; Torche 2015). Social mobility can refer to movement of individuals and households across different social positions. Social mobility includes intergenerational mobility and intragenerational mobility. Intergenerational mobility is the change in position of a person or a household as compared with previous generations, while intragenerational mobility is the change in position of a person or a household over time. Social mobility can be measured in terms of education, employment, and income. The movement can be downward or upward.

There is an association between social mobility and inequality. In a society with high-income inequality, there are very rich as well as very poor households, and family background can be an important factor in determining income of children (Corak 2013a). For example, being born in a rich family can result in better health and education for children. Family resources and networks also affect children's networks and employment (Corak 2013a). Children born in rich families are more likely to have good jobs and high earnings. As a result, high inequality can result in low social mobility including both intragenerational and intergenerational mobility. The invert association between intergenerational mobility and inequality is described by the Great Gatsby curve (Corak 2013b). Countries with high-income inequality tend to have higher intergenerational elasticity or low-income mobility across the generations.

Viet Nam has achieved high economic growth during the recent decades. Poverty has significantly decreased over time. The proportion of people below the expenditure poverty line decreased from 58.1% in 1993 to 14.5% in 2008 and 10% in 2012. Poverty rate has declined in all population groups and in all geographic regions (World Bank 2013).¹ However, poverty rate remains very high in remote and mountainous areas where there is a high proportion of ethnic minorities. In some remote areas, more than 80% of people still live below the poverty line (Nguyen 2011; Lanjouw et al. 2013). There is a large gap in the living standards of ethnic minorities and the Kinh people. The absolute income gap between the top income quintile and the bottom income quintile also tends to increase over time.

There is an influential view that equality in opportunity can improve income equality. Poor as well as rich children should have the same opportunities for education and better employment (Black and Devereux 2010). Understanding social mobility is very important to improve equality in opportunities and welfare in Viet Nam. Thus, this study provides a descriptive analysis of the situation and trend of social mobility in Viet Nam, and subsequently examines factors associated with social mobility. More specifically, this study has three objectives. The first is to present the descriptive analysis of intragenerational mobility of income and employment mobility in Viet Nam. The second is to analyze the intergenerational mobility of employment and earnings. The third is to analyze the association of different factors, especially education, with the intragenerational and intergenerational mobility. Data used for this analysis are from the Viet Nam Household Living Standard Surveys (VHLSS) in 2004, 2008, 2010, and 2014.

There is a large number of studies on intergenerational mobility (for review e.g., see Black and Devereux 2010; Solon 2013; and Torche 2015). Most studies focus on the analysis in the United States (US) and other developed countries. There are fewer empirical evidences on intergenerational mobility in developing countries, possibly

¹ For poverty measurement in Viet Nam, see for example Nguyen (2011) and Nguyen and Tran (2014).

because of less available data sets in these countries. In Viet Nam, two studies estimate the intergenerational elasticity. Using the VHLSS 1998, Hertz et al. (2008) estimate the elasticity of education between parents and children at 0.58. Emran and Shilpi (2011) find a high correlation of intergenerational occupation in Viet Nam using the VHLSS 1993. Most recently, Brand-Weiner et al. (2015) examine the intragenerational mobility of income and occupation using VHLSS in 2004 and 2008, showing rather high-income mobility in Viet Nam. However, the mobility of employment across sectors (agriculture, service, and industry) is small. Several studies look at poverty transition of households over time (e.g., Nguyen 2012; Baulch and Vu 2010; Nguyen et al. 2015). Overall, these studies find that ethnic minority and low education households tend to be more chronically poor than the Kinh majority and high education households.

Compared with previous studies on social mobility in Viet Nam, this study has several differences. First, this study examines not only intragenerational mobility but also intergenerational mobility in both occupational and earning outcomes. Previous studies look at either intragenerational mobility or intergenerational mobility. Second, we use most of the recent VHLSS (from 2004 to 2014) to examine the change in social mobility over time. Finally, using regressions, we are able to investigate the association between several socioeconomic factors and social mobility.

This paper is structured into five sections. After the Introduction, the second section introduces the VHLSS data set. The third section presents income inequality and intragenerational income mobility of households in Viet Nam. The third section analyzes the intragenerational occupational mobility of individuals over time. The fourth section presents the analysis of intergenerational mobility. Finally, the fifth section concludes.

2. DATA SETS

This study uses sets of VHLSS in 2004, 2008, 2010, and 2014. These surveys were conducted by the General Statistics Office (GSO) of Viet Nam with technical assistance from the World Bank. VHLSSs are conducted every 2 years. The latest survey was released in 2014. In this study, we use the four VHLSSs mainly to analyze the changes in 2004–2008 and in 2010–2014. The surveys contain household-level and individual-level data. Data include basic demography, employment and labor force participation, education, health, income, expenditure, housing, fixed assets and durable goods, and participation of households in poverty alleviation programs.

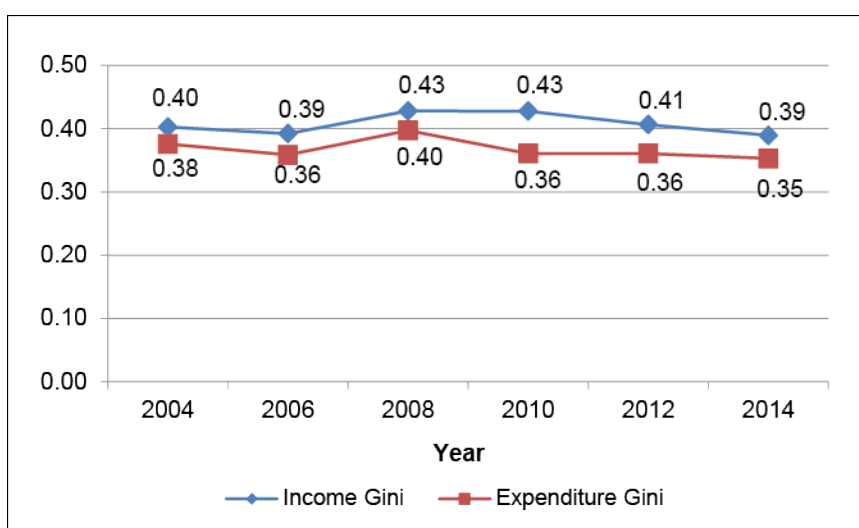
The number of households sampled in VHLSS 2004, 2008, 2010, and 2014 is 9,188, 9,189, 9,399, and 9,398, respectively. There were 40,437 individuals from the sampled households for VHLSS 2004, 38,253 for VHLSS 2008, 36,999 for VHLSS 2010, and 35,520 for 2014. The VHLSSs are representative at the urban/rural and regional levels. There were 1,817 panel households during the VHLSS 2004 and the VHLSS 2008, 1,817 households for VHLSS 2010, and 1,813 households for VHLSS 2014. However, there are no panel data between the VHLSS 2008 and the VHLSS 2010. The VHLSSs for 2010 and 2012 used the new sample frame (from the 2009 Population and Housing Census). As a result, there is no link between the VHLSS 2010 and the earlier VHLSSs.

3. HOUSEHOLD INCOME MOBILITY

3.1 Income Inequality

Inequality in Viet Nam, which is measured by the Gini index, has been quite stable over time. Inequality increased lightly in 2008 and 2010 and decreased in 2012 and 2014. Figure 1 presents the income and expenditure Gini indexes during 2004–2014. Income inequality is higher than expenditure inequality, but the difference is small. In 2014, the income and expenditure Gini indexes were 0.39 and 0.35, respectively. It should be noted that household surveys can underestimate income inequality since they do not capture the richest people of the country.

Figure 1: Income and Expenditure Inequality over Time



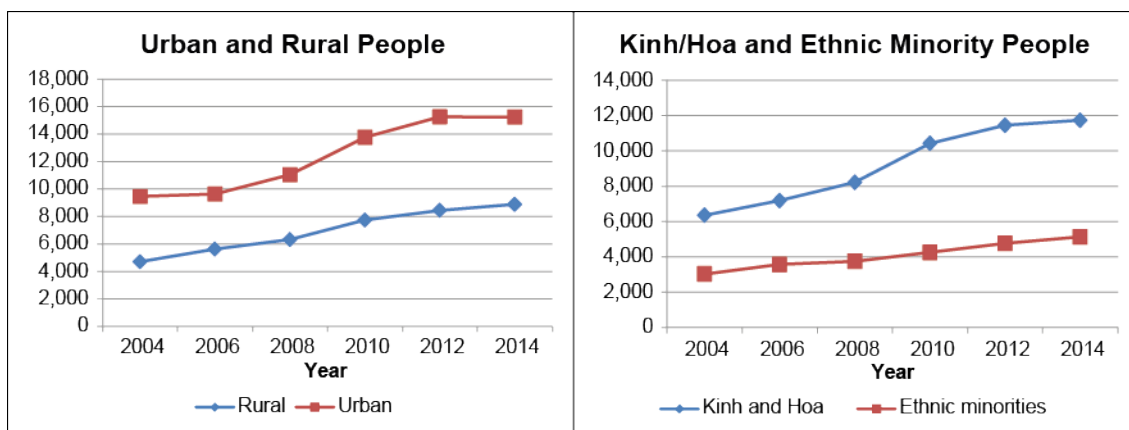
Source: Estimates from the Viet Nam Household Living Standard Surveys.

Although the Gini coefficient did not increase over time, the gap in income between groups increased over time. The absolute per capita income gap between urban and rural households increased from D4,754 (\$213) in 2004 to D6,344 (\$288) in 2014 (Figure 2). The gap between the Kinh/Hoa and ethnic minorities is larger. Not only the absolute income gap but also the relative income gap increased over time. The ratio of per capita income of the Kinh/Hoa to that of ethnic minorities increased from 2.1 in 2004 to 2.3 in 2014.²

The left panel of Figure 3 presents the per capita income of all households and the 40% lowest income households. The Sustainable Development Goals on inequality is to “by 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.” During the past 10 years from 2004 to 2014, the average annual growth rate of real per capita income of the bottom 40% of the population is 5.4% per year, while the corresponding rate of the national average is 5.5% per year. To achieve this target, households in lower income quintiles should have a higher growth rate of income.

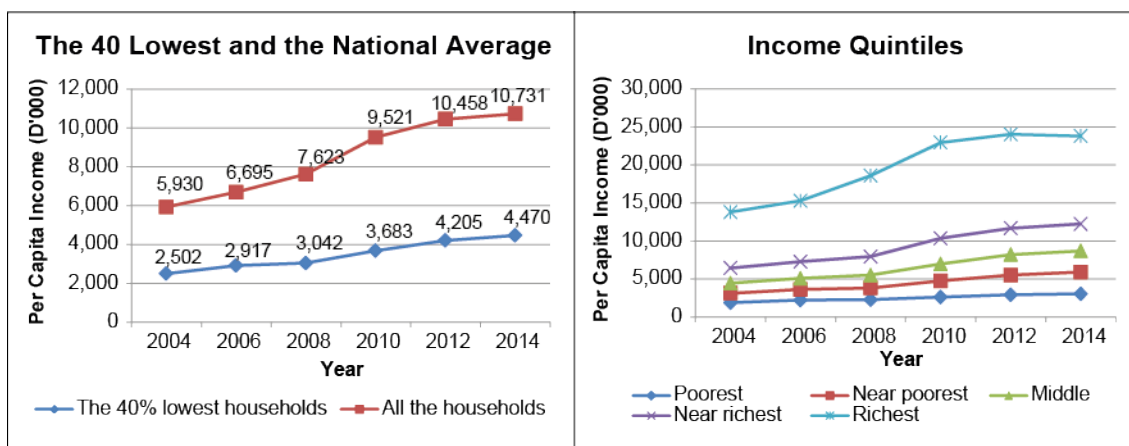
² There are 54 ethnic groups in Viet Nam, in which the Kinh majority accounts for 85% of the population. The Kinh tends to live in delta areas and has higher living standards than other ethnic minorities. The Hoa (Chinese) is a rich group and also lives in delta areas. Thus, the Hoa is often grouped with the Kinh in studies on household welfare in Viet Nam.

Figure 2: Per Capita Income by Urban/Rural and Ethnicity



Note: Per capita income is measured in January 2004 prices.
 Source: Estimates from the Viet Nam Household Living Standard Surveys.

Figure 3: Per Capita Income by Income Quintiles



Note: Per capita income is measured in January 2004 prices.
 Source: Estimates from the Viet Nam Household Living Standard Surveys.

The right panel of Figure 3 shows an important point of income inequality in Viet Nam. There are no large gaps in per capita income among those in the bottom quintile to the nearest richest quintile. However, there is a large jump in per capita income from the near richest to the richest quintile. It implies that there are very rich households in the richest quintile, and it would be very difficult to move to the richest quintile from a lower quintile.

3.2 Income Mobility

To examine income mobility, we use panel household data from VHLSS 2004 and VHLSS 2008, and from VHLSS 2010 and VHLSS 2014. Households are grouped into income quintiles. Figure 4 presents the percentage of households who improved their income level from the bottom income quintile (the 20% lowest income) to a higher income quintile over time by characteristics of household heads. It shows that 45% of households in the bottom quintile in 2004 moved to a higher income quintile in 2008. This figure is 37% during 2010–2014. It implies that the mobility of the lowest quintile households tended to decrease over time.

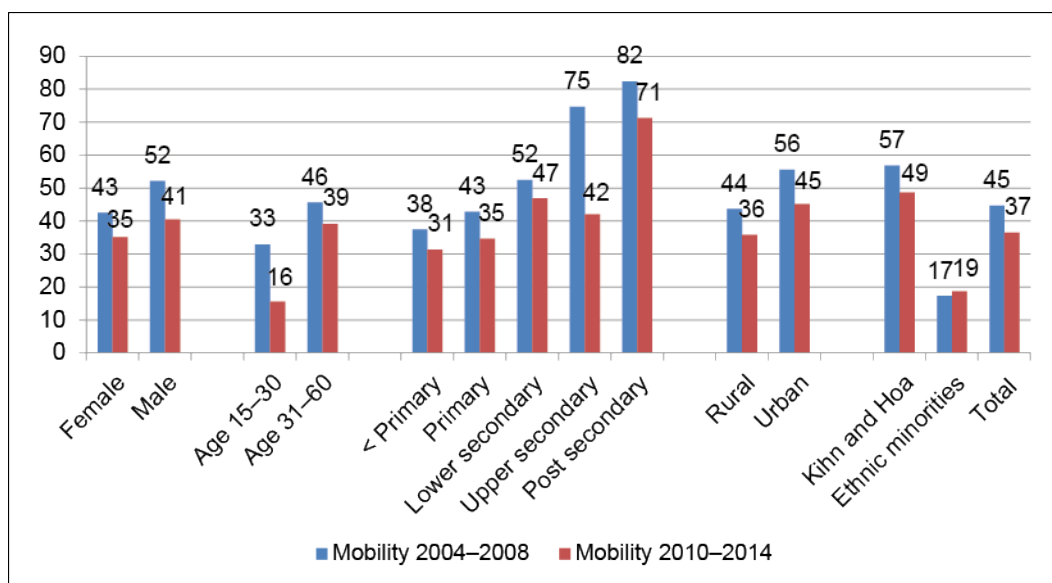
Urban households are more likely to move up than rural households. The gap in income mobility is large between the Kinh/Hoa and ethnic minorities. During 2010–2014, around 19% of ethnic minorities in the bottom quintile moved to a higher income quintile, while this figure for the Kinh and Hoa was 49%.

Income mobility of households is also correlated with characteristics of household heads. In the VHLSSs, household heads are defined as those who have the most powerful in households. Around 22% of households have female heads. However, around two-thirds of female heads are either single or divorced. It means that female-headed households tend to have a lower household size and more difficulties than male-headed households. Households with male heads and those with female heads have different mobility rates. However, the difference is not very large. During 2010–2014, 35% of female-headed households and 41% of male-headed households escaped from the bottom income quintile.

Income mobility is correlated with the age of the household head. Households with young heads are substantially less likely to be mobile than those with older heads. During 2010–2014 39% of households with heads aged 31–60 moved from the bottom quintile to a higher quintile, while only 16% of households with heads aged below 31 moved from the bottom quintile to a higher quintile. Interviews also show that young people have lower experiences and find it more difficult to have upward mobility.

Education plays an important role in obtaining better employment and earnings. The returns to education have consistently been found to be high in both developed and developing countries (Psacharopoulos and Partinos 2004; Schultz 1997, 2002). Figure 4 shows the important role of education in Viet Nam, especially post-secondary education (college and above) in income mobility. In 2010–2014, 71% of households with post-secondary heads moved from the bottom to a higher income quintile. For households with low-education heads, these corresponding figures are only 31% and 35%.

Figure 4: Percentage of Households Moving up from the Lowest Income Quintile to a Higher Income Quintile



Source: Estimates from the Viet Nam Household Living Standard Surveys.

Table 1 presents a more detailed analysis of income mobility during 2010–2014. In Table A.1 in the Appendix, we present the analysis of mobility during 2004–2008 for comparison. Overall, the mobility trend does not change significantly over time. To avoid repetition, we use the results of income mobility in 2010–2014 for interpretation.

In addition to income mobility from the 20% lowest income quintile to a higher income quintile, Table 1 presents the mobility from the 40% lowest income quintiles to a higher income quintile. The trend of mobility from the 40% lowest income quintiles is similar to the trend of mobility from the 20% lowest income quintile. Households with female, young, and low education heads are less likely to move up than households with male, older, and high education heads. Rural and ethnic minority households are also less likely to move up. It should be noted that the proportion of mobility in the higher income quintiles is lower. This means that it is more difficult to move up when households have high income or belong to a high-income quintile.

We also look at the downward mobility from a higher income quintile to lower income quintiles. Households with young heads are more likely to fall down. Education plays an important role to reduce the downward mobility of households. Kinh/Hoa and urban households are less likely to have downward mobility than ethnic minority and rural households.

In the last two columns of these tables, we estimate the absolute and relative income mobility indexes (Fields and Ok 1996, 1999). The absolute change index is equal to the average of the absolute difference between the 2010 income and the 2014 income. The relative change index is equal to the average of the absolute change divided by the per capita income in the base year (i.e., 2010 in Table 1).³ Table 1 shows that female-headed households have lower mobility than male-headed households. Households with young heads are less likely to be mobile than those with older heads. Households with high education heads have a higher absolute mobility than those with low education. However, since the base income of households with high education heads is higher, their relative mobility is lower.

Table 2 presents ordinary least squares (OLS) regression of the probability of upward and downward income mobility during 2010–2014. The regression analysis for 2004–2008 is presented in Table A.2 in the Appendix. Unlike the descriptive analysis in Table 1, an estimated coefficient of an explanatory variable in regression reflects the partial correlation between this variable and the dependent variable once other explanatory variables in the regression are controlled for. It shows that sex and age of household heads are not strongly correlated with income mobility after other explanatory variables are controlled for.

Compared with the Kinh and Hoa, ethnic minorities are more likely to move down but less likely to move up in income mobility. Households with higher-education heads are more likely to move up and less likely to move down. They are also more mobile than households with lower-education heads. However, for households in the bottom quintile and the top quintile, the education of household heads is not significant in regression of income mobility. This might be because of the small sample size of the bottom and top quintiles used in the regressions.

³ More specifically, the average absolute income change is computed as follows: $I = \frac{1}{n} \sum_{j=1}^n |Y_j^f - Y_j^i|$, and the relative absolute income change is computed as follows: $I = \sum_{j=1}^n |Y_j^f - Y_j^i| / \sum_{j=1}^n Y_j^i$, where $Y_j^{i,f}$ is the income level of individual or household j in the initial (i) or final (f) period. n is the number of individuals or households in the data set.

Table 1: Income Mobility of Households during 2010–2014

| | % Moving Up from the 20% Bottom in 2010 to a Higher Quintile in 2014 | % Moving up from the 40% Bottom in 2010 to a Higher Quintile in 2014 | % Moving Down from the 40% Top in 2010 to a Lower Quintile in 2014 |
|------------------------------------|---|---|---|
| <i>Sex of household head</i> | | | |
| Male | 40.5 | 17.8 | 11.9 |
| Female | 35.1 | 11.0 | 11.9 |
| <i>Age of household head</i> | | | |
| Age 15–30 | 15.6 | 2.4 | 16.6 |
| Age 31–60 | 39.2 | 13.2 | 11.6 |
| <i>Education of household head</i> | | | |
| < Primary | 31.4 | 8.1 | 19.4 |
| Primary | 34.7 | 8.5 | 12.6 |
| Lower-secondary | 46.9 | 11.9 | 12.1 |
| Upper-secondary | 42.1 | 19.7 | 4.7 |
| Post-secondary | 71.3 | 22.7 | 3.8 |
| <i>Rural/Urban</i> | | | |
| Rural | 35.8 | 10.9 | 15.0 |
| Urban | 45.2 | 17.0 | 3.3 |
| <i>Ethnicity of household head</i> | | | |
| Kinh and Hoa | 48.7 | 13.4 | 9.3 |
| Ethnic minorities | 18.7 | 5.0 | 35.7 |
| Total | 36.5 | 12.6 | 11.9 |
| | % Moving Down from the 20% Top in 2010 to a Lower Quintile in 2014 | Absolute Change in per Capita Income 2010–2014 (Fields and Ok Index) | Relative Change in per Capita Income 2010–2014 |
| <i>Sex of household head</i> | | | |
| Male | 43.0 | 5,652.4 | 61.9 |
| Female | 36.6 | 4,257.6 | 47.8 |
| <i>Age of household head</i> | | | |
| Age 15–30 | 53.0 | 3,440.5 | 45.5 |
| Age 31–60 | 37.5 | 4,683.6 | 51.7 |
| <i>Education of household head</i> | | | |
| < Primary | 48.2 | 3,355.8 | 55.6 |
| Primary | 58.4 | 4,489.3 | 60.4 |
| Lower-secondary | 38.2 | 4,314.8 | 50.2 |
| Upper-secondary | 31.8 | 5,544.7 | 54.1 |
| Post-secondary | 30.9 | 6,348.2 | 43.3 |
| <i>Rural/Urban</i> | | | |
| Rural | 44.7 | 4,198.6 | 54.5 |
| Urban | 32.0 | 5,656.3 | 46.0 |
| <i>Ethnicity of household head</i> | | | |
| Kinh and Hoa | 37.9 | 4,964.0 | 51.2 |
| Ethnic minorities | 47.8 | 2,479.9 | 52.7 |
| Total | 38.4 | 4,597.0 | 51.3 |

Source: Estimates from the Viet Nam Household Living Standard Surveys 2004 and 2008.

Table 2: Regression of Income Mobility of Households during 2010–2014

| Explanatory Variables | Moving Up from the 20% Bottom in 2010 to a Higher Quintile in 2014 | Moving Up from the 40% Bottom in 2010 to a Higher Quintile in 2014 | Moving Down from the 40% Top in 2010 to a Lower Quintile in 2014 |
|--|---|---|---|
| Gender of household head (male = 1, female = 0) | 0.0744 (0.0712) | -0.0818** (0.0323) | 0.0102 (0.0242) |
| Age of household head | 0.0027 (0.0024) | 0.0005 (0.0011) | -0.0003 (0.0011) |
| Ethnicity of head (Kinh, Hoa = 0; ethnic minorities = 1) | -0.1904*** (0.0701) | -0.0452 (0.0312) | 0.2439*** (0.0488) |
| Household head with educational degree | <i>Reference</i> | | |
| Household head with primary education | 0.0011 (0.0638) | 0.0125 (0.0287) | -0.0321 (0.0316) |
| Household head with lower-secondary degree | 0.1078 (0.0735) | 0.0609* (0.0352) | -0.0175 (0.0325) |
| Household head with upper-secondary degree | 0.1060 (0.1436) | 0.1182** (0.0596) | -0.0770** (0.0371) |
| Household head with college, university | 0.2276 (0.1546) | 0.1639*** (0.0420) | -0.1086*** (0.0314) |
| Household size | -0.0193 (0.0170) | 0.0201** (0.0097) | -0.0191** (0.0076) |
| Proportion of children below 15 | -0.1223 (0.1389) | -0.1418** (0.0676) | 0.0367 (0.0554) |
| Proportion of members above 60 | -0.3701*** (0.1381) | -0.0862 (0.0539) | 0.1863*** (0.0627) |
| Log of annual crop land | -0.0044 (0.0117) | -0.0043 (0.0040) | -0.0002 (0.0032) |
| Log of perennial crop land | 0.0124 (0.0085) | -0.0033 (0.0037) | -0.0015 (0.0040) |
| Urban (urban = 1, rural = 0) | 0.0265 (0.1174) | -0.0269 (0.0360) | -0.0665*** (0.0238) |
| Red River Delta | <i>Reference</i> | | |
| Northeast | -0.2212** (0.1051) | 0.0209 (0.0364) | 0.0213 (0.0347) |
| Northwest | -0.1416 (0.1257) | -0.0612 (0.0384) | 0.0629 (0.0762) |
| North Central Coast | -0.1529 (0.1117) | -0.0013 (0.0359) | 0.1188*** (0.0381) |
| South Central Coast | -0.2003* (0.1148) | -0.0098 (0.0352) | 0.0748* (0.0430) |
| Central Highlands | -0.3150*** (0.1154) | 0.0560 (0.0563) | 0.0791* (0.0462) |
| Southeast | -0.1365 (0.1414) | 0.1366*** (0.0478) | -0.0157 (0.0244) |
| Mekong River Delta | 0.0163 (0.1114) | 0.0310 (0.0366) | 0.0328 (0.0278) |
| Constant | 0.5351*** (0.1784) | 0.0683 (0.0814) | 0.1709** (0.0756) |
| Observations | 403 | 1,084 | 1,084 |
| R-squared | 0.177 | 0.078 | 0.136 |

continued on next page

Table 2 *continued*

| Explanatory Variables | Moving Down from the 20% Top in 2010 to a Lower Quintile in 2014 | Absolute Change in per Capita Income 2010–2014 (Fields and Ok Index) | Relative Change in per Capita Income 2010–2014 |
|--|--|--|--|
| Gender of household head (male = 1, female = 0) | –0.0923 (0.0690) | –1,190.39 (727.91) | –0.1685** (0.0719) |
| Age of household head | –0.0039 (0.0034) | –4.90 (14.56) | –0.0013 (0.0022) |
| Ethnicity of head (Kinh, Hoa = 0; ethnic minorities = 1) | –0.0783 (0.1512) | –1,440.9*** (427.65) | –0.0895 (0.0913) |
| Household head with educational degree | | | |
| Household head with primary education | 0.0916 (0.1267) | 950.32 (770.97) | 0.0295 (0.0756) |
| Household head with lower-secondary degree | –0.1144 (0.1081) | 705.57 (447.25) | –0.0358 (0.0646) |
| Household head with upper-secondary degree | –0.1894 (0.1225) | 1,497.65** (629.51) | –0.0780 (0.0715) |
| Household head with college, university | –0.1684 (0.1023) | 2,558.29*** (572.05) | –0.1484** (0.0721) |
| Household size | 0.0170 (0.0209) | –162.43 (118.18) | 0.0205 (0.0140) |
| Proportion of children below 15 | 0.0892 (0.1932) | –2,749.3*** (898.67) | –0.1860 (0.1365) |
| Proportion of members above 60 | 0.2111 (0.1498) | –2,783.0*** (887.03) | –0.1559* (0.0943) |
| Log of annual crop land | 0.0313*** (0.0107) | –59.18 (80.53) | –0.0025 (0.0072) |
| Log of perennial crop land | –0.0129 (0.0107) | –28.50 (78.35) | 0.0004 (0.0087) |
| Urban (urban = 1, rural = 0) | 0.0101 (0.0712) | –353.33 (984.89) | –0.0589 (0.0723) |
| Red River Delta | | | |
| Northeast | 0.1452 (0.0946) | 425.61 (567.30) | 0.1483 (0.1032) |
| Northwest | 0.1588 (0.2708) | –479.45 (557.96) | 0.1337 (0.1380) |
| North Central Coast | 0.2134* (0.1225) | –492.96 (488.69) | 0.0729 (0.0748) |
| South Central Coast | 0.1144 (0.1129) | –343.29 (543.75) | –0.0795 (0.0592) |
| Central Highlands | –0.0199 (0.0970) | 886.50 (727.88) | 0.0036 (0.0903) |
| Southeast | 0.0340 (0.0817) | 2,717.99** (1,151.56) | 0.0998 (0.0811) |
| Mekong River Delta | –0.0482 (0.0811) | 559.60 (602.11) | 0.0117 (0.0652) |
| Constant | 0.5565** (0.2259) | 6,403.48*** (1,515.47) | 0.8131*** (0.1667) |
| Observations | 326 | 1,813 | 1,813 |
| R-squared | 0.120 | 0.045 | 0.018 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: Estimates from the Viet Nam Household Living Standard Surveys 2004 and 2008.

Interestingly, household composition is also correlated with income mobility. Households with more children and more elderly tend to have lower income mobility. They are less likely to move up to a higher quintile, but more likely to move down to a lower income quintile. Clearly, more dependents create more burdens for households to increase their income. Agricultural land is not important for income mobility. Having more land might restrict households to agricultural production, and they are less likely to move.

There are no large differences in income mobility between urban and rural households. Regarding the regional variables, households in the Southeast—the richest region in Viet Nam have the highest income mobility than households in other regions. Compared with households in the Red River Delta (the reference group), households in the Northeast, South Central Coast, and Central Highlands are less likely to move up from the lowest quintile. Households in the Southeast are more likely to move up from the 40% bottom. Regarding downward mobility, households in the North Central Coast and Central Highlands are more likely to move down from the high-income quintiles.

4. INTRAGENERATIONAL EMPLOYMENT MOBILITY

4.1 Employment Structure

In this section, we examine the intragenerational mobility of individuals in terms of employment. Table 3 shows the share of individuals aged 15–60 by occupation during 2004–2014. The definition of employment is similar to Brand-Weiner et al. (2015). The categories are unskilled manual, skilled manual (e.g., craft and related trades workers, machine operators), and nonmanual (e.g., service and sales workers, technicians, managers). The nonmanual occupation is considered highly skilled. The share of unskilled workers decreased remarkably over time. The proportion of individuals aged 15–60 with unskilled employment was 72.3% in 2004 and 45.9% in 2014.

We also analyze employment status mobility, which defines workers by wage employment and self-employment. It shows that the share of self-employed workers decreased from 66.5% in 2004 to 57.8% in 2014. The share of wage workers increased over time, indicating the expansion of the formal sector.

Employment is classified by sectors including agriculture, industry, and services. Laborers in the agriculture sector tend to have lower skills and income than laborers in the other two sectors. During 2004–2014, the number of agricultural laborers decreased, and they moved to the service and industry sectors. However, in the recent years from 2010 to 2014, the share of agricultural workers did not decrease. It might be because of the economic slowdown in recent years in Viet Nam.

Table 3: Employment of Individuals Aged 15–60 over Time

| Year | Occupation | | | Employment | | Sector | | |
|------|------------------|----------------|-----------|---------------|-------------|-------------|----------|---------|
| | Unskilled Manual | Skilled Manual | Nonmanual | Self-employed | Wage Earner | Agriculture | Industry | Service |
| 2004 | 72.3 | 15.2 | 12.5 | 66.5 | 33.5 | 52.7 | 19.8 | 27.6 |
| 2008 | 64.6 | 20.1 | 15.3 | 63.5 | 36.5 | 49.4 | 22.1 | 28.6 |
| 2010 | 48.1 | 26.8 | 25.1 | 60.5 | 39.5 | 42.9 | 25.5 | 31.6 |
| 2014 | 45.9 | 28.7 | 25.3 | 57.8 | 42.2 | 44.5 | 24.3 | 31.2 |

Source: Estimates from the Viet Nam Household Living Standard Surveys 2004, 2008, 2010, and 2014.

Table 4 presents the employment structure of workers by different characteristics in 2014. Men are more likely to have skilled, wage, and nonfarm jobs than women. There is no difference in occupation by skills between young and older people. Young people are more likely to have wage jobs in the industrial section than older people. There is a strong correlation between education and employment. People with high education, especially post-secondary school have a substantially higher proportion of skilled and nonmanual occupation, wage, and nonfarm jobs than those with low education.

There is also a large gap in skilled occupation between urban and rural people, and between the Kinh/Hoa and ethnic minority people. The share of self-employed and farm workers is also higher in rural and ethnic minority people.

Table 4: Employment of Individuals Aged 15–60 in 2014

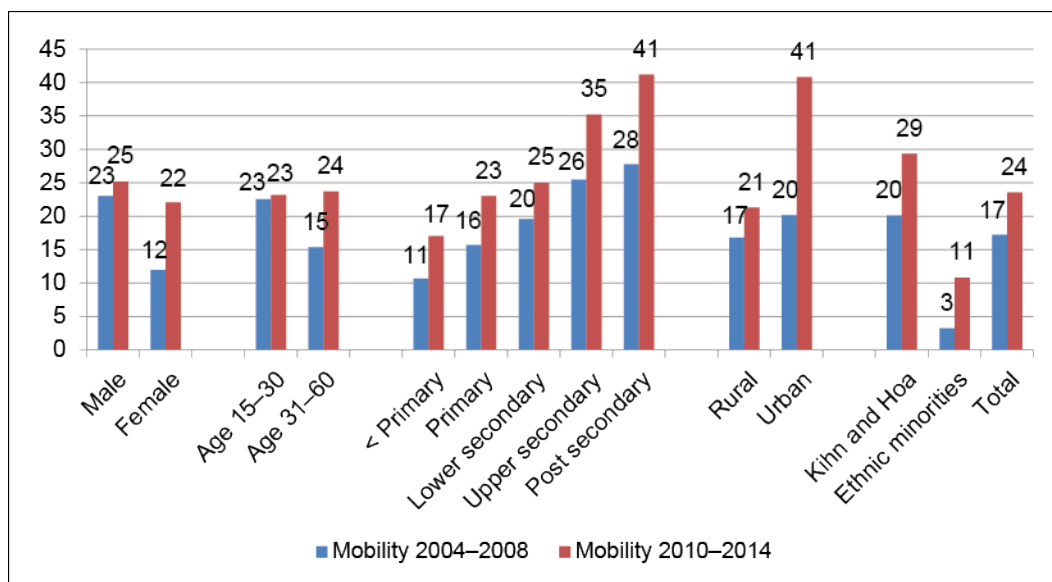
| Group | Occupation | | | Employment | | Sector | | |
|--------------------|------------------|----------------|-----------|---------------|-------------|-------------|----------|---------|
| | Unskilled Manual | Skilled Manual | Nonmanual | Self-employed | Wage Earner | Agriculture | Industry | Service |
| <i>Sex</i> | | | | | | | | |
| Male | 43.3 | 35.8 | 20.9 | 51.6 | 48.4 | 42.4 | 28.8 | 28.8 |
| Female | 48.6 | 21.4 | 29.9 | 64.1 | 35.9 | 46.5 | 19.7 | 33.7 |
| <i>Age</i> | | | | | | | | |
| Age 15–30 | 46.9 | 28.8 | 24.3 | 46.9 | 53.1 | 41.5 | 29.6 | 29.0 |
| Age 31–60 | 45.5 | 28.7 | 25.8 | 62.6 | 37.4 | 45.8 | 22.0 | 32.2 |
| <i>Education</i> | | | | | | | | |
| Less primary | 69.4 | 21.8 | 8.8 | 70.7 | 29.3 | 69.5 | 14.4 | 16.2 |
| Primary | 56.4 | 30.1 | 13.4 | 66.7 | 33.3 | 55.3 | 24.5 | 20.2 |
| Lower-secondary | 53.4 | 31.5 | 15.1 | 68.4 | 31.6 | 50.1 | 27.7 | 22.2 |
| Upper-secondary | 37.3 | 32.2 | 30.5 | 56.8 | 43.2 | 33.1 | 29.5 | 37.4 |
| Post-secondary | 10.2 | 26.2 | 63.5 | 22.7 | 77.3 | 11.3 | 23.7 | 65.0 |
| <i>Rural/urban</i> | | | | | | | | |
| Rural | 54.8 | 29.2 | 16.1 | 63.8 | 36.2 | 55.3 | 23.4 | 21.3 |
| Urban | 22.9 | 27.6 | 49.4 | 42.1 | 57.9 | 16.3 | 26.7 | 57.0 |
| <i>Ethnicity</i> | | | | | | | | |
| Kinh and Hoa | 38.7 | 32.3 | 28.9 | 53.3 | 46.7 | 36.8 | 27.6 | 35.6 |
| Ethnic minorities | 82.1 | 10.8 | 7.2 | 80.3 | 19.7 | 82.6 | 8.0 | 9.3 |
| Total | 45.9 | 28.7 | 25.3 | 57.8 | 42.2 | 44.5 | 24.3 | 31.2 |

Source: Estimates from the Viet Nam Household Living Standard Survey 2014.

4.2 Mobility of Employment

Figure 5 presents the occupation mobility from unskilled to skilled and manual occupation over time using panel data from the VHLSSs. Among the unskilled workers in 2004, 17% became skilled or nonmanual workers in 2008. The upward mobility of occupation increased during 2010–2014. Of unskilled workers in 2010, 24% had a skilled manual or nonmanual job in 2014. The occupation mobility increased for all groups of workers including ethnic minorities and the Kinh/Hoa, urban and rural people, male and female, young and older, and people with different education levels. However, there is a large gap in occupation mobility between urban and rural people, between the Kinh/Hoa and ethnic minority people, and between people with different education levels. Having a high education plays an important role to change from unskilled to skilled jobs.

Figure 5: Percentage of People Moving from Unskilled to Skilled Occupation



Source: Estimates from the Viet Nam Household Living Standard Surveys.

In Table 5, we analyze employment mobility during 2010–2014 in more detail. The analysis of employment mobility during 2004–2008 is presented in Table A.3 in the Appendix. It shows that 23.6% of unskilled workers in 2010 found skilled or nonmanual jobs in 2014. However, there was also downward mobility: 19.7% of skilled and nonmanual workers in 2010 had unskilled jobs in 2014. The movement between self-employed workers and wage workers and movement between farm and nonfarm sectors were quite low.

Table 5: Employment Mobility of Individuals during 2010–2014

| | Moving Up from Unskilled to Skilled and Nonmanual | Moving Down from Skilled and Nonmanual to Unskilled | Moving from Self-employed to Wage Jobs |
|--------------------|---|---|--|
| <i>Sex</i> | | | |
| Male | 25.20 | 17.01 | 21.06 |
| Female | 22.11 | 22.97 | 12.71 |
| <i>Age</i> | | | |
| Age 15–30 | 23.18 | 15.08 | 30.64 |
| Age 31–60 | 23.72 | 21.15 | 12.97 |
| <i>Education</i> | | | |
| Less primary | 17.08 | 34.24 | 14.28 |
| Primary | 23.04 | 29.90 | 17.11 |
| Lower secondary | 25.03 | 24.28 | 17.84 |
| Upper secondary | 35.22 | 16.33 | 14.99 |
| Post secondary | 41.18 | 5.45 | 12.82 |
| <i>Rural/urban</i> | | | |
| Rural | 21.34 | 25.95 | 17.63 |
| Urban | 40.82 | 9.74 | 10.51 |
| <i>Ethnicity</i> | | | |
| Kinh and Hoa | 29.38 | 18.75 | 15.20 |
| Ethnic minorities | 10.84 | 37.12 | 19.92 |
| Total | 23.58 | 19.69 | 16.23 |

continued on next page

Table 5 *continued*

| | Moving from Wage Jobs to Self-employed | Moving from Agricultural to Nonagricultural | Moving from Nonagricultural to Agricultural |
|--------------------|---|--|--|
| <i>Sex</i> | | | |
| Male | 19.30 | 14.65 | 15.73 |
| Female | 22.32 | 14.35 | 17.53 |
| <i>Age</i> | | | |
| Age 15–30 | 13.54 | 16.85 | 13.28 |
| Age 31–60 | 23.86 | 13.82 | 17.80 |
| <i>Education</i> | | | |
| Less primary | 24.43 | 9.03 | 32.52 |
| Primary | 28.89 | 12.38 | 20.71 |
| Lower secondary | 24.41 | 19.83 | 22.97 |
| Upper secondary | 18.58 | 22.44 | 8.51 |
| Post secondary | 9.75 | 16.26 | 4.61 |
| <i>Rural/urban</i> | | | |
| Rural | 23.94 | 13.89 | 24.55 |
| Urban | 12.94 | 21.72 | 4.76 |
| <i>Ethnicity</i> | | | |
| Kinh and Hoa | 18.77 | 17.25 | 13.21 |
| Ethnic minorities | 31.10 | 8.09 | 57.29 |
| Total | 20.43 | 14.49 | 16.55 |

Source: Estimates from the Viet Nam Household Living Standard Surveys 2010 and 2014.

There are only small differences in employment mobility between men and women. Regarding age, young people had higher movement from self-employed to employed employment, and lower movement from employed to self-employed employment than older people. Having a high education helps people find a skilled or nonmanual job and reduce the downward change from a skilled to an unskilled job. Rural people and ethnic minority people are less likely to move up but more likely to move down in employment than urban and Kinh/Hoa people.

4.3 Regression of Employment Mobility

Table 6 presents the regressions of mobility of occupation during 2010–2014. The dependent variables include the change in occupation, employment status, and working sectors. The analysis for 2004–2008 is presented in Table A.4 in the Appendix. It shows that men are less likely to move down from skilled and nonmanual occupation to unskilled occupation than women. They are more likely to move from self-employed to employed (wage) work than women.

Age is not correlated with the occupation movement. However, there is a negative relationship between age and the probability of moving from self-employed to wage jobs. As age increases, the probability to move from self-employed to wage jobs decreases at a decreasing rate.

Education plays an important role in labor mobility from unskilled to skilled employment. Compared with people with no education, having a post-secondary degree increases the probability of moving up from unskilled to skilled or nonmanual occupation by 0.19. It also reduces the probability of moving down from skilled and manual occupation to unskilled occupation by 0.23.

Table 6: Regression of Employment Mobility of Individuals during 2010–2014

| Explanatory Variables | Dependent Variables | | |
|--|---|---|--|
| | Moving Up from Unskilled to Skilled and Nonmanual | Moving Down from Skilled and Nonmanual to Unskilled | Moving from Self-employed to Wage Jobs |
| Male = 1, female = 0 | 0.0214 (0.0227) | -0.0625*** (0.0192) | 0.0842*** (0.0198) |
| Age | -0.0021 (0.0066) | -0.0086 (0.0086) | -0.0183*** (0.0064) |
| Age squared | 0.0000 (0.0001) | 0.0001 (0.0001) | 0.0001* (0.0001) |
| Ethnic minorities (yes = 1; Kinh, Hoa = 0) | -0.0624 (0.0457) | 0.1356** (0.0602) | 0.0386 (0.0412) |
| Having no educational degree | <i>Reference</i> | | |
| Having primary education | 0.0207 (0.0272) | -0.0072 (0.0534) | 0.0002 (0.0275) |
| Having lower-secondary degree | 0.0553* (0.0324) | -0.0896* (0.0536) | 0.0066 (0.0296) |
| Having upper-secondary degree | 0.1331** (0.0558) | -0.1322** (0.0605) | -0.0558 (0.0366) |
| Having college, university | 0.1919*** (0.0672) | -0.2303*** (0.0512) | -0.0340 (0.0368) |
| Household size | -0.0076 (0.0084) | 0.0003 (0.0105) | -0.0196*** (0.0069) |
| Proportion of children below 15 | 0.0622 (0.0661) | 0.0441 (0.0687) | -0.0685 (0.0562) |
| Proportion of members above 60 | -0.0170 (0.1017) | 0.0027 (0.0978) | -0.1122 (0.0770) |
| Log of annual crop land | -0.0056 (0.0057) | 0.0170*** (0.0046) | 0.0017 (0.0038) |
| Log of perennial crop land | 0.0014 (0.0042) | 0.0147** (0.0062) | -0.0037 (0.0034) |
| Urban (urban = 1, rural = 0) | 0.1252* (0.0661) | -0.0023 (0.0318) | -0.0564* (0.0339) |
| Red River Delta | <i>Reference</i> | | |
| Northeast | -0.0801 (0.0489) | -0.0370 (0.0365) | -0.0746* (0.0415) |
| Northwest | -0.0840 (0.0560) | -0.1252*** (0.0464) | -0.1495** (0.0592) |
| North Central Coast | 0.0934* (0.0512) | -0.0223 (0.0512) | -0.0186 (0.0423) |
| South Central Coast | 0.1258* (0.0654) | -0.0746** (0.0376) | 0.0256 (0.0451) |
| Central Highlands | -0.0654 (0.0623) | 0.0264 (0.0637) | -0.0123 (0.0521) |
| Southeast | 0.1997*** (0.0722) | -0.0638 (0.0388) | 0.0079 (0.0450) |
| Mekong River Delta | 0.0488 (0.0562) | -0.0505 (0.0424) | -0.0353 (0.0369) |
| Constant | 0.2806** (0.1401) | 0.4035** (0.1628) | 0.7811*** (0.1448) |
| Observations | 1,618 | 1,434 | 1,721 |
| R-squared | 0.105 | 0.134 | 0.086 |

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Table 6 *continued*

| Explanatory Variables | Dependent Variables | | |
|--|--|---|---|
| | Moving from Wage Jobs to Self-employed | Moving from Agricultural to Nonagricultural | Moving from Nonagricultural to Agricultural |
| Male = 1, female = 0 | -0.0554** (0.0239) | 0.0111 (0.0190) | -0.0247 (0.0165) |
| Age | -0.0124 (0.0094) | 0.0050 (0.0057) | -0.0159** (0.0076) |
| Age squared | 0.0003** (0.0001) | -0.0001* (0.0001) | 0.0003** (0.0001) |
| Ethnic minorities (yes = 1; Kinh, Hoa = 0) | 0.0223 (0.0415) | -0.0249 (0.0324) | 0.2369*** (0.0582) |
| Having no educational degree | | | |
| Having primary education | 0.0640 (0.0429) | 0.0009 (0.0218) | -0.0655* (0.0379) |
| Having lower-secondary degree | 0.0012 (0.0419) | 0.0427 (0.0270) | -0.0646 (0.0410) |
| Having upper-secondary degree | -0.0217 (0.0531) | 0.0523 (0.0429) | -0.1508*** (0.0433) |
| Having college, university | -0.1145*** (0.0410) | 0.0212 (0.0508) | -0.1960*** (0.0410) |
| Household size | 0.0063 (0.0087) | -0.0030 (0.0062) | -0.0161** (0.0076) |
| Proportion of children below 15 | -0.0070 (0.0663) | -0.0790 (0.0527) | 0.0582 (0.0575) |
| Proportion of members above 60 | 0.1649 (0.1034) | 0.0005 (0.0954) | 0.1431 (0.0882) |
| Log of annual crop land | 0.0092** (0.0045) | -0.0115*** (0.0036) | 0.0196*** (0.0039) |
| Log of perennial crop land | 0.0129*** (0.0049) | 0.0008 (0.0030) | 0.0165** (0.0064) |
| Urban (urban = 1, rural = 0) | -0.0033 (0.0335) | 0.0047 (0.0550) | -0.0232 (0.0245) |
| Red River Delta | | | |
| Northeast | 0.0612 (0.0471) | -0.1994*** (0.0469) | 0.0112 (0.0343) |
| Northwest | 0.0316 (0.0562) | -0.2548*** (0.0476) | 0.2584*** (0.0755) |
| North Central Coast | 0.0455 (0.0424) | -0.1237** (0.0478) | -0.0286 (0.0377) |
| South Central Coast | -0.0545 (0.0371) | -0.1248** (0.0547) | -0.0625** (0.0265) |
| Central Highlands | 0.1496** (0.0593) | -0.2627*** (0.0504) | 0.0687 (0.0454) |
| Southeast | -0.0109 (0.0397) | -0.1802*** (0.0551) | -0.0322 (0.0281) |
| Mekong River Delta | -0.0567 (0.0431) | -0.1844*** (0.0435) | -0.0334 (0.0365) |
| Constant | 0.2440 (0.1809) | 0.4182*** (0.1315) | 0.4624*** (0.1446) |
| Observations | 1,331 | 1,512 | 1,540 |
| R-squared | 0.123 | 0.083 | 0.246 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: Estimates from the Viet Nam Household Living Standard Surveys 2010–2014.

Education is less correlated with the employment and sector movement. The regression results show that education is not correlated with the movement from self-employed to employed work as well as the movement from agricultural to nonagricultural work. However, higher education reduces the movement from employed to self-employed work and from nonagricultural to agricultural work.

Overall, household composition such as household size and age structure is not correlated with employment mobility of household members. However, having more agricultural land increases the movement from employed to self-employed work and the movement from nonagricultural to agricultural work. Urban and regional variables also matter to mobility of employment, especially the mobility between agriculture and nonagriculture sectors. Urban people tend to move up from unskilled to skilled and nonmanual occupation than rural people. Compared with workers in the Red River Delta (the reference group), workers in the North Central Coast, South Central Coast, and Southeast are more likely to move up from unskilled to skilled and nonmanual. Workers in the northern mountains including the Northeast and Northwest are less likely to move from self-employed to wage jobs as well as move from agricultural to nonagricultural employment. Workers in the Central Highlands are more likely to transit from wage jobs to self-employment, but less likely to move from agricultural to nonagricultural employment.

5. INTERGENERATIONAL MOBILITY

5.1 Intergenerational Employment Mobility

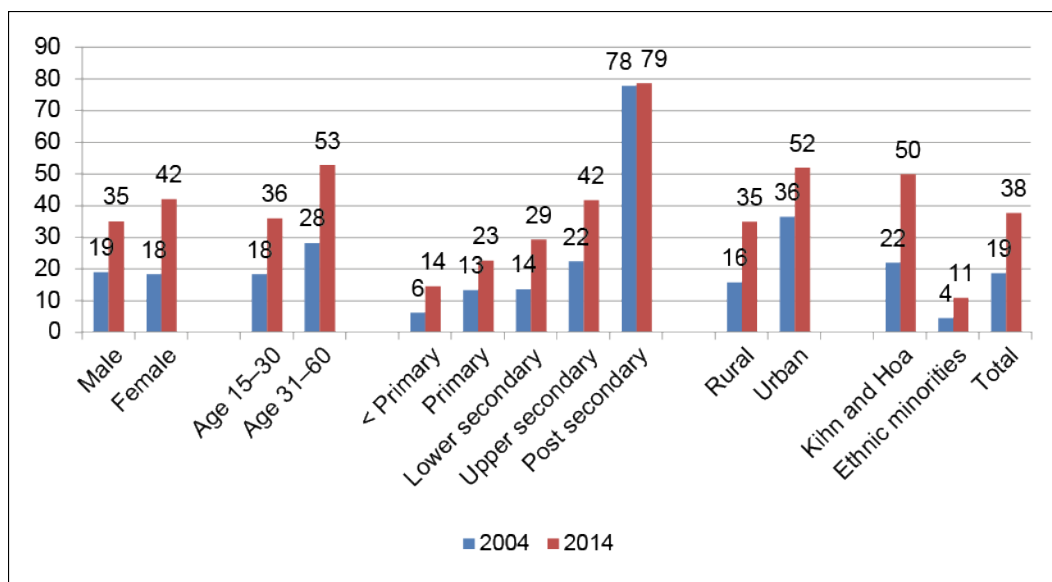
In this section, we analyze the intergenerational mobility of employment—that is, a correlation between parents' employment and children's employment. We use the sample of children and parents who are still working, and children aged from 15 to 60. We define parent as the one with higher wages—that is, if the mother has higher wages than the father, the mother is defined as the parent and vice versa.

Figure 6 shows that, in 2004, among children who had a parent with unskilled occupation, 19% were able to find skilled or nonmanual jobs. In other words, 81% of children had unskilled occupations like their parents. Occupation mobility greatly improved in 2014: 38% of children with unskilled parents found skilled or nonmanual occupation. One reason for this upward mobility is the increase in skilled and nonmanual employment during 2004–2014.

The improvement in occupation mobility is higher for females and older people than males and young people. Education plays an important role for improvement in intergenerational mobility of occupational skills. With post-secondary degree holders, 80% of people whose parents are unskilled have skilled or nonmanual occupation. Urban and Kinh/Hoa people are more likely to have skilled and nonmanual occupation than rural and ethnic minorities.

Table 7 presents the intergenerational mobility of employment in 2014 by different types of employment and different characteristics of individuals. This table presents not only upward but also downward intergenerational mobility of employment. The analysis of intergenerational employment mobility in 2004 is presented in Table A.5 in the Appendix.

Figure 6: Intergenerational Mobility from Unskilled Parents to Skilled Children



Source: Estimates from the Viet Nam Household Living Standard Surveys 2004 and 2014.

It shows that of children whose parents have skilled or nonmanual occupation, 27.7% had unskilled occupation. This is regarded as the downward intergenerational mobility. This downward rate is very high for ethnic minorities—67% of ethnic minority children had unskilled occupations even though their parents had skilled or nonmanual occupations. The Kinh/Hoa and urban people, especially those with high education, have a remarkably lower downward rate of intergenerational skills.

Table 7: Intergenerational Mobility of Employment in 2014

| Characteristics of Children | Skill Upward: Skilled Children and Unskilled Parents | Skill Downward: Unskilled Children and Skilled Parents | Employment Upward: Wage Children and Self-employed Parents |
|-----------------------------|--|--|--|
| <i>Sex</i> | | | |
| Male | 35.02 | 30.14 | 44.12 |
| Female | 42.02 | 23.97 | 46.13 |
| <i>Age</i> | | | |
| Age 15–30 | 35.92 | 28.84 | 43.66 |
| Age 31–60 | 52.81 | 17.69 | 55.11 |
| <i>Education</i> | | | |
| Less primary | 14.43 | 41.38 | 30.38 |
| Primary | 22.51 | 44.71 | 37.08 |
| Lower secondary | 29.22 | 43.71 | 30.74 |
| Upper secondary | 41.71 | 29.06 | 43.64 |
| Post secondary | 78.58 | 8.42 | 73.57 |
| <i>Rural/urban</i> | | | |
| Rural | 34.94 | 36.17 | 41.03 |
| Urban | 51.99 | 12.22 | 59.63 |
| <i>Ethnicity</i> | | | |
| Kinh and Hoa | 49.91 | 23.47 | 54.52 |
| Ethnic minorities | 10.86 | 67.47 | 17.77 |
| Total | 37.62 | 27.68 | 44.89 |

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Table 7 *continued*

| Characteristics of Children | Employment Downward: Self-employed Children and Wage Parents | Sector Upward: Nonagricultural Children and Agricultural Parents | Sector Downward: Agricultural Children and Nonagricultural Parents |
|-----------------------------|--|--|--|
| <i>Sex</i> | | | |
| Male | 20.27 | 40.05 | 13.84 |
| Female | 24.84 | 45.44 | 13.76 |
| <i>Age</i> | | | |
| Age 15–30 | 22.60 | 40.39 | 14.32 |
| Age 31–60 | 16.13 | 57.81 | 9.82 |
| <i>Education</i> | | | |
| Less primary | 21.18 | 19.76 | 17.88 |
| Primary | 17.04 | 29.25 | 14.80 |
| Lower secondary | 39.71 | 31.56 | 25.86 |
| Upper secondary | 25.20 | 50.51 | 16.78 |
| Post secondary | 10.16 | 76.91 | 4.82 |
| <i>Rural/urban</i> | | | |
| Rural | 26.20 | 40.52 | 21.52 |
| Urban | 14.17 | 53.24 | 3.87 |
| <i>Ethnicity</i> | | | |
| Kinh and Hoa | 19.54 | 54.87 | 11.95 |
| Ethnic minorities | 45.43 | 14.82 | 45.33 |
| Total | 22.02 | 42.02 | 13.80 |

Source: Estimates from the Viet Nam Household Living Standard Surveys 2014.

Over time, there has been an expansion in the formal sector as well as the nonfarm sector. The proportion of wage workers and nonagricultural workers tend to increase over time. As a result, 44.9% of children with self-employed parents found wage jobs. On the other hand, around 22% of children with wage parents had self-employed work. The intergenerational movement from agriculture to nonagriculture sectors is higher than the intergenerational movement from nonagriculture to agriculture sectors.

5.2 Intergenerational Correlations of Earnings

An important issue in intergenerational mobility is the estimate of intergenerational correlations of earnings or the intergenerational elasticity. In this study, we use OLS regression to estimate intergenerational elasticity. More specifically, we regress log of annual wages of children on log of annual wages of parents as follows:

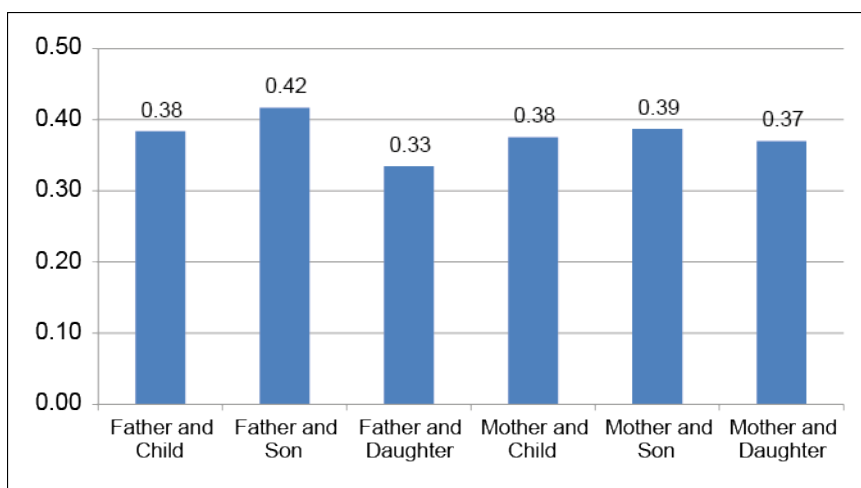
$$\text{Log}(wage_{children}) = \alpha + \beta \text{Log}(wage_{parent}) + Age_{children} + Age_{children}^2 + \varepsilon.$$

The coefficient of log of annual wages of parents is the estimate of the intergenerational elasticity. The above model is widely used to estimate the intergenerational elasticity of earning in empirical studies (Black and Devereux 2010). Since we do not have data on permanent income in the VHLSSs, we have to use income in the year of surveys. To correct for this life-cycle problem, in which income varies across age, we control age of children in regression. We estimate the intergenerational elasticity using pooled samples of VHLSSs 2004, 2008, 2010, and 2014. Tables A6 to A8 in the Appendix present the regression results. Figures 7 to 9 present the estimates of the intergenerational elasticity or the intergenerational coefficient for different groups of people.

Figure 7 presents the intergenerational elasticity between fathers and sons/daughters and the intergenerational elasticity between mothers and sons/daughters. It shows that the intergenerational elasticity is quite similar between different pairs of parents and children. However, the intergenerational elasticity is higher between parents and sons than between parents and daughters. It means that girls tend to have higher income mobility than boys.

In Figure 8, we estimate the intergenerational elasticity of children’s wages with respect to the parent with higher wages. The intergenerational elasticity is 0.36, which implies that if the parents’ wage increases by 1%, their children’s wage increases by 0.36%. The higher value of the intergenerational elasticity means low intergenerational mobility. This value is similar to several countries, such as Germany and Japan, but lower than France, the United Kingdom, and the US, and higher than Canada, Australia, and the Nordic countries (according to the estimates in Corak 2013a). Viet Nam also has a lower intergenerational elasticity than several countries such as the People’s Republic of China (0.62 according to Gong et al. 2012), Brazil (0.58 according to Ferreira and Veloso 2006), and Malaysia (0.54 according to Grawe 2004).

Figure 7: Intergenerational Elasticity between Father, Mother and Son, and Daughter

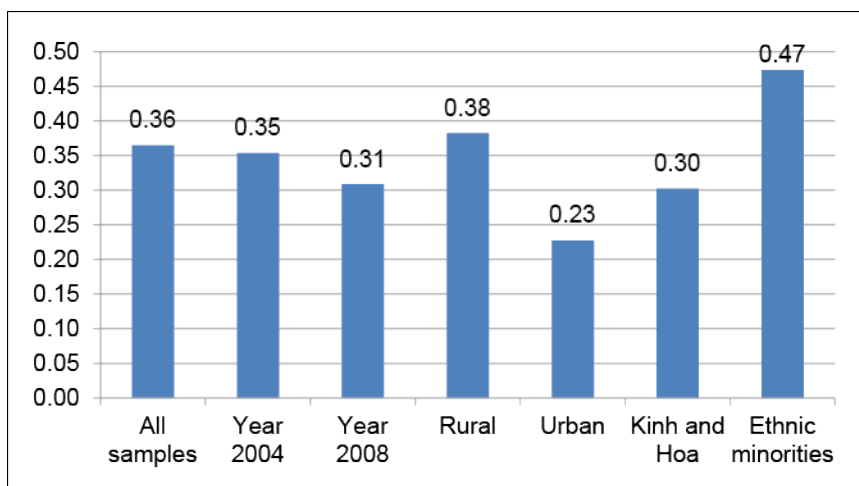


Source: Estimates from the Viet Nam Household Living Standard Surveys 2004, 2008, 2010, and 2014.

Figure 8 shows that the intergenerational mobility was slightly higher in 2014 than in 2004. The intergenerational mobility is higher for urban and Kinh/Hoa people than for rural and ethnic minority people.

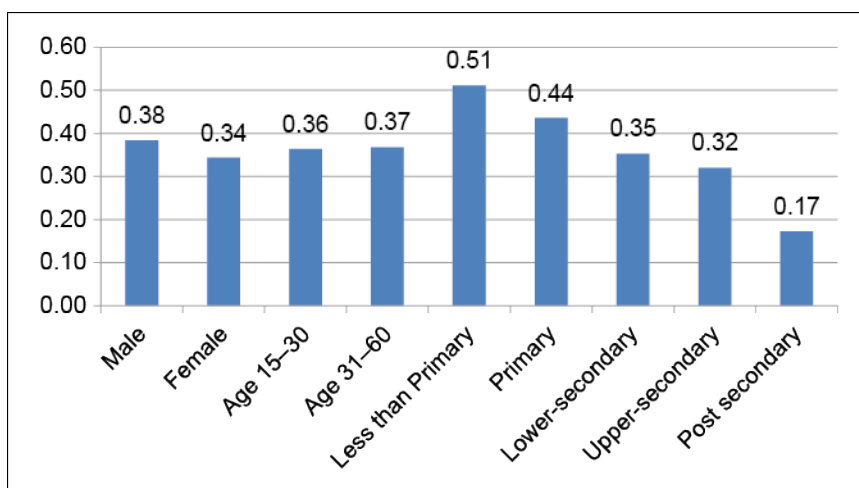
Figure 9 shows a higher intergenerational mobility for women than men. The intergenerational elasticity is very similar between young and older people. Figure 9 shows the important role of education in improving the intergenerational mobility. The intergenerational elasticity for children without education degrees and those with post-secondary degrees is 0.51 and 0.17, respectively.

Figure 8: Intergenerational Elasticity by Rural/Urban and Ethnicity



Source: Estimates from the Viet Nam Household Living Standard Surveys 2004, 2008, 2010, and 2014.

Figure 9: Intergenerational Elasticity by Sex, Age, and Education



Source: Estimates from the Viet Nam Household Living Standard Surveys 2004, 2008, 2010, and 2014.

5.3 Regression of Intergenerational Mobility of Employment

Finally, Table 8 presents the OLS regression of intergenerational employment mobility using pooled samples of VHLSSs 2004, 2008, 2010, and 2014. It shows that men are less likely to have upward intergenerational mobility and more likely to have downward intergenerational mobility than women. There is an inverted-U shape between upward intergenerational mobility and age. As age increases, the probability of having a better job than their parents increases. However, after achieving a peak, the probability of having a better job than their parents decreases with age.

Table 8: Regression of Intergenerational Employment Mobility

| Explanatory Variables | Dependent Variables | | |
|---|--|--|--|
| | Skill Upward: Skilled Children and Unskilled Parents | Skill Downward: Unskilled Children and Skilled Parents | Employment Upward: Wage Children and Self-employed Parents |
| Male = 1, female = 0 | -0.0263*** (0.0080) | 0.0241** (0.0114) | 0.0210** (0.0087) |
| Age | 0.0400*** (0.0056) | -0.0837*** (0.0119) | 0.0585*** (0.0071) |
| Age squared | -0.0006*** (0.0001) | 0.0015*** (0.0002) | -0.0011*** (0.0001) |
| Ethnic minorities (yes = 1; Kinh, Hoa = 0) | -0.1128*** (0.0121) | 0.1838*** (0.0317) | -0.1522*** (0.0165) |
| Having no educational degree | <i>Reference</i> | | |
| Having primary education | 0.0670*** (0.0118) | -0.1158*** (0.0361) | 0.0329* (0.0172) |
| Having lower-secondary degree | 0.0899*** (0.0130) | -0.1324*** (0.0360) | 0.0202 (0.0182) |
| Having upper-secondary degree | 0.1446*** (0.0169) | -0.1800*** (0.0371) | 0.0546*** (0.0210) |
| Having college, university | 0.5079*** (0.0181) | -0.3592*** (0.0356) | 0.3227*** (0.0221) |
| Gender of parent (father = 1, mother = 0) | -0.0201* (0.0118) | 0.0277 (0.0199) | -0.0512*** (0.0140) |
| Age of parent | -0.0019 (0.0092) | 0.0003 (0.0202) | -0.0119 (0.0112) |
| Age of parent squared | 0.0000 (0.0001) | -0.0000 (0.0002) | 0.0001 (0.0001) |
| Parent with educational degree | <i>Reference</i> | | |
| Parent with primary education | 0.0303*** (0.0115) | 0.0367 (0.0247) | -0.0024 (0.0138) |
| Parent with lower-secondary degree | 0.0430*** (0.0136) | 0.0051 (0.0250) | -0.0105 (0.0155) |
| Parent with upper-secondary degree | 0.0228 (0.0241) | -0.0128 (0.0290) | -0.0221 (0.0274) |
| Parent with college, university | 0.0494** (0.0227) | 0.0161 (0.0262) | -0.0759*** (0.0229) |
| Household size | -0.0008 (0.0031) | -0.0025 (0.0053) | 0.0002 (0.0037) |
| Proportion of children below 15 | -0.0267 (0.0342) | 0.0623 (0.0592) | -0.1207*** (0.0425) |
| Proportion of members above 60 | 0.0528 (0.0627) | 0.0089 (0.0845) | -0.0381 (0.0662) |
| Log of annual crop land | -0.0030** (0.0015) | 0.0152*** (0.0027) | -0.0097*** (0.0020) |
| Log of perennial crop land | -0.0051*** (0.0013) | 0.0049* (0.0027) | -0.0113*** (0.0016) |
| Urban (urban = 1, rural = 0) | 0.0336* (0.0190) | -0.0120 (0.0218) | -0.0116 (0.0212) |
| Red River Delta | <i>Reference</i> | | |
| Northeast | -0.1652*** (0.0192) | 0.0751*** (0.0258) | -0.1746*** (0.0197) |

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Table 8 *continued*

| Explanatory Variables | Dependent Variables | | |
|-----------------------|--|--|--|
| | Skill Upward: Skilled Children and Unskilled Parents | Skill Downward: Unskilled Children and Skilled Parents | Employment Upward: Wage Children and Self-employed Parents |
| Northwest | -0.1824*** (0.0199) | 0.1864*** (0.0444) | -0.2094*** (0.0225) |
| North Central Coast | -0.1989*** (0.0195) | 0.2184*** (0.0270) | -0.1941*** (0.0202) |
| South Central Coast | -0.0607*** (0.0231) | -0.0223 (0.0213) | -0.0313 (0.0235) |
| Central Highlands | -0.1895*** (0.0239) | 0.2782*** (0.0339) | -0.1838*** (0.0238) |
| Southeast | -0.0348 (0.0228) | -0.0457** (0.0226) | -0.0248 (0.0257) |
| Mekong River Delta | -0.1427*** (0.0192) | 0.0500** (0.0225) | -0.1298*** (0.0195) |
| Dummy year 2004 | <i>Reference</i> | | |
| Dummy year 2008 | 0.0434*** (0.0106) | -0.0662*** (0.0216) | 0.0220 (0.0134) |
| Dummy year 2010 | 0.1154*** (0.0129) | -0.1228*** (0.0205) | 0.0396*** (0.0141) |
| Dummy year 2014 | 0.1321*** (0.0137) | -0.1279*** (0.0205) | 0.0547*** (0.0152) |
| Constant | -0.2872 (0.2175) | 1.5431*** (0.4735) | 0.0301 (0.2674) |
| Observations | 12,268 | 6,082 | 13,387 |
| R-squared | 0.308 | 0.267 | 0.224 |

| Explanatory Variables | Dependent Variables | | |
|---|--|--|--|
| | Employment Downward: Self-employed Children and Wage Parents | Sector Upward: Nonagricultural Children and Agricultural Parents | Sector Downward: Agricultural Children and Nonagricultural Parents |
| Male = 1, female = 0 | -0.0522*** (0.0127) | -0.0394*** (0.0092) | 0.0006 (0.0091) |
| Age | -0.0986*** (0.0143) | 0.0590*** (0.0072) | -0.0830*** (0.0094) |
| Age squared | 0.0019*** (0.0003) | -0.0009*** (0.0002) | 0.0015*** (0.0002) |
| Ethnic minorities (yes = 1; Kinh, Hoa = 0) | 0.0507* (0.0285) | -0.1702*** (0.0159) | 0.1543*** (0.0340) |
| Having no educational degree | | | |
| Having primary education | 0.0273 (0.0224) | 0.0929*** (0.0143) | -0.0680*** (0.0240) |
| Having lower-secondary degree | 0.1064*** (0.0257) | 0.1156*** (0.0157) | -0.0526** (0.0247) |
| Having upper-secondary degree | 0.0663** (0.0297) | 0.1530*** (0.0195) | -0.0684*** (0.0259) |
| Having college, university | -0.1322*** (0.0282) | 0.4229*** (0.0199) | -0.1519*** (0.0252) |
| Gender of parent (father = 1, mother = 0) | 0.0245 (0.0192) | -0.0235* (0.0142) | 0.0113 (0.0124) |
| Age of parent | -0.0144 (0.0171) | -0.0111 (0.0109) | -0.0090 (0.0137) |
| Age of parent squared | 0.0002 (0.0002) | 0.0001 (0.0001) | 0.0001 (0.0001) |

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Table 8 *continued*

| Explanatory Variables | Dependent Variables | | |
|------------------------------------|--|--|--|
| | Employment Downward: Self-employed Children and Wage Parents | Sector Upward: Nonagricultural Children and Agricultural Parents | Sector Downward: Agricultural Children and Nonagricultural Parents |
| Parent with educational degree | | | |
| Parent with primary education | 0.0582*** (0.0214) | 0.0153 (0.0140) | 0.0148 (0.0175) |
| Parent with lower-secondary degree | 0.0817*** (0.0245) | 0.0137 (0.0161) | 0.0456** (0.0188) |
| Parent with upper-secondary degree | 0.1315*** (0.0318) | 0.0139 (0.0280) | 0.0460** (0.0223) |
| Parent with college, university | 0.1214*** (0.0263) | 0.0344 (0.0264) | 0.0743*** (0.0206) |
| Household size | 0.0109** (0.0053) | 0.0014 (0.0036) | 0.0038 (0.0040) |
| Proportion of children below 15 | -0.0355 (0.0573) | -0.1015** (0.0418) | 0.0481 (0.0437) |
| Proportion of members above 60 | -0.0523 (0.0994) | -0.0564 (0.0702) | -0.0345 (0.0666) |
| Log of annual crop land | 0.0197*** (0.0026) | -0.0084*** (0.0019) | 0.0194*** (0.0022) |
| Log of perennial crop land | 0.0222*** (0.0032) | -0.0083*** (0.0016) | 0.0174*** (0.0029) |
| Urban (urban = 1, rural = 0) | 0.0480** (0.0191) | 0.0629** (0.0250) | -0.0327** (0.0133) |
| Red River Delta | | | |
| Northeast | 0.1775*** (0.0298) | -0.2347*** (0.0210) | 0.1119*** (0.0224) |
| Northwest | 0.3084*** (0.0515) | -0.2574*** (0.0239) | 0.0208 (0.0533) |
| North Central Coast | 0.2158*** (0.0291) | -0.2605*** (0.0224) | 0.2164*** (0.0238) |
| South Central Coast | 0.0191 (0.0246) | -0.1121*** (0.0266) | 0.0567*** (0.0186) |
| Central Highlands | 0.0862** (0.0394) | -0.3025*** (0.0271) | 0.1394*** (0.0317) |
| Southeast | -0.0388* (0.0222) | -0.1004*** (0.0276) | 0.0074 (0.0144) |
| Mekong River Delta | -0.0079 (0.0237) | -0.1790*** (0.0214) | 0.0481*** (0.0172) |
| Dummy year 2004 | | | |
| Dummy year 2008 | -0.0270 (0.0190) | 0.0293** (0.0129) | -0.0042 (0.0143) |
| Dummy year 2010 | -0.0221 (0.0195) | 0.0320** (0.0147) | -0.0328** (0.0149) |
| Dummy year 2014 | -0.0646*** (0.0197) | 0.0395** (0.0156) | -0.0374*** (0.0138) |
| Constant | 1.5362*** (0.3937) | -0.0216 (0.2599) | 1.4027*** (0.3261) |
| Observations | 4,963 | 11,629 | 6,721 |
| R-squared | 0.229 | 0.276 | 0.235 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: Estimates from the Viet Nam Household Living Standard Surveys 2004, 2008, 2010, and 2014.

Ethnic minorities have a lower probability of upward intergenerational mobility and higher probability of downward intergenerational mobility than the Kinh and Hoa. Education plays an important role in intergenerational employment. Better education increases the upward intergenerational mobility and reduces the downward intergenerational mobility, especially having post-secondary degrees improves the intergenerational employment substantially than having other lower educational degrees.

Urban and regional variables also contribute to intergenerational mobility. Compared with rural people, urban people are more likely to have skilled occupations when having unskilled parents. They are also more likely to transition from agricultural to nonagricultural employment. Compared with people in Red River Delta (the reference group), people in other regions such as in the Northwest, Northeast, Central Coast, Central Highlands, and Mekong River Delta have a higher probability of downward intergenerational mobility and a lower probability.

6. CONCLUSIONS

In this study, we examine intragenerational and intergenerational mobility of employment and income in Viet Nam in 2004–2008 and in 2010–2014. We find rather high mobility across income quintiles: 45% of households in the bottom quintile in 2004 moved to a higher income quintile in 2008. However, the income mobility decreased over time; and 37% of households in the bottom quintile in 2010 were able to move to a higher income quintile in 2014.

Compared with the Kinh and Hoa, ethnic minorities are more likely to move down but less likely to move up across income quintiles. Households with higher education heads are more likely to move up and less likely to move down. They are also more mobile than households with lower education heads. Households with more children and more elderly people tend to have lower income mobility. They are less likely to move up to a higher quintile, but more likely to move down to a lower income quintile. Agricultural land is not important for income mobility. Having more lands might restrict households to agricultural production, and they are less likely to move.

There was high mobility by occupational skills but less mobility by employment status and sectors. Among the unskilled workers in 2004, 17% of them became skilled manual or nonmanual workers in 2008. The upward mobility of occupation increased during 2010–2014. Of the unskilled workers in 2010, 24% had a skilled manual or nonmanual job in 2014. Men are less likely to move down from skilled and nonmanual occupation to unskilled occupation than women. They are more likely to move from self-employed to wage work than women. Education plays an important role in labor mobility from unskilled to skilled employment. Compared with people with no education, having a post-secondary degree increases the probability of moving up from unskilled to skilled or nonmanual occupation by 0.19. It also reduces the probability of moving down from skilled and manual occupation to unskilled occupation by 0.23. Having more agricultural land increases the movement from employed to self-employed works and the movement from nonagricultural to agricultural works.

The intergenerational elasticity of earnings for parents and children is estimated at around 0.36. The intergenerational elasticity is very similar for 2004 and 2014. The intergenerational mobility is higher for urban and the Kinh/Hoa than for rural and ethnic minority people. The analysis shows the important role of education in improving intergenerational mobility. The intergenerational elasticity for children without education degrees and those with post-secondary degrees is 0.51 and 0.17, respectively.

Intergenerational mobility of occupation has improved in Viet Nam. In 2004, among children who had a parent with unskilled occupation, 19% of them were able to find skilled or nonmanual jobs. In other words, 81% of children had unskilled occupations like their parents. Occupation mobility greatly improved in 2014: 38% of children with unskilled parents found skilled or nonmanual occupation. One reason for this upward mobility is the increase in skilled and nonmanual employment during 2004–2014. Education plays an important role in improving intergenerational mobility of occupational skills. With a post-secondary degree, 80% of people whose parents are unskilled have skilled or nonmanual occupation. The urban and Kinh/Hoa people are more likely to have skilled and nonmanual occupation than rural and ethnic minorities.

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APPENDIX

Table A.1. Income Mobility of Households during 2004–2008

| | % Moving Up from the 20% Bottom in 2004 to a Higher Quintile in 2008 | % Moving up from the 40% Bottom in 2004 to a Higher Quintile in 2008 | % Moving Down from the 40% Top in 2004 to a Lower Quintile in 2008 |
|------------------------------------|--|---|--|
| <i>Sex of household head</i> | | | |
| Male | 52.2 | 14.4 | 15.3 |
| Female | 42.6 | 14.0 | 13.9 |
| <i>Age of household head</i> | | | |
| Age 15–30 | 33.0 | 8.2 | 20.0 |
| Age 31–60 | 45.7 | 14.4 | 13.9 |
| <i>Education of household head</i> | | | |
| < Primary | 37.5 | 9.1 | 20.1 |
| Primary | 42.9 | 13.3 | 13.7 |
| Lower-secondary | 52.5 | 14.6 | 15.5 |
| Upper-secondary | 74.7 | 19.6 | 7.1 |
| Postsecondary | 82.4 | 22.5 | 3.2 |
| <i>Rural/urban</i> | | | |
| Rural | 43.8 | 13.2 | 16.2 |
| Urban | 55.6 | 17.6 | 6.9 |
| <i>Ethnicity of household head</i> | | | |
| Kinh and Hoa | 56.8 | 14.4 | 13.3 |
| Ethnic minorities | 17.3 | 10.2 | 25.7 |
| Total | 44.7 | 14.1 | 14.3 |
| | % Moving Down from the 20% Top in 2004 to a Lower Quintile in 2008 | Absolute Change in per Capita Income 2004–2008 (Fields and Ok Index) | Relative Change in per Capita Income 2004–2008 |
| <i>Sex of household head</i> | | | |
| Male | 41.0 | 3,763.0 | 55.5 |
| Female | 46.3 | 3,693.6 | 63.3 |
| <i>Age of household head</i> | | | |
| Age 15–30 | 60.0 | 3,310.4 | 63.4 |
| Age 31–60 | 44.0 | 3,735.2 | 60.9 |
| <i>Education of household head</i> | | | |
| < Primary | 57.6 | 2,819.9 | 58.2 |
| Primary | 54.7 | 3,357.7 | 63.7 |
| Lower-secondary | 52.5 | 4,004.0 | 69.4 |
| Upper-secondary | 29.2 | 4,140.1 | 52.5 |
| Postsecondary | 32.5 | 5,342.0 | 55.8 |
| <i>Rural/urban</i> | | | |
| Rural | 53.6 | 3,346.4 | 64.3 |
| Urban | 32.5 | 4,966.0 | 54.7 |
| <i>Ethnicity of household head</i> | | | |
| Kinh and Hoa | 44.3 | 3,944.0 | 60.9 |
| Ethnic minorities | 63.5 | 1,898.0 | 64.0 |
| Total | 44.6 | 3,711.6 | 61.1 |

Source: Estimates from the Viet Nam Household Living Standard Surveys 2004 and 2008.

Table A.2: Regression of Income Mobility of Households during 2004–2008

| Explanatory Variables | Moving Up from the 20% Bottom in 2010 to a Higher Quintile in 2014 | Moving Up from the 40% Bottom in 2010 to a Higher Quintile in 2014 | Moving Down from the 40% Top in 2010 to a Lower Quintile in 2014 |
|--|--|--|--|
| Gender of household head (male = 1, female = 0) | −0.0449 (0.0678) | −0.0378 (0.0311) | 0.0211 (0.0276) |
| Age of household head | −0.0024 (0.0027) | −0.0005 (0.0013) | 0.0022* (0.0013) |
| Ethnicity of head (Kinh, Hoa = 0; ethnic minorities = 1) | −0.3669*** (0.0672) | −0.0088 (0.0462) | 0.1358*** (0.0515) |
| Household head with educational degree | <i>Reference</i> | | |
| Household head with primary education | 0.0370 (0.0665) | 0.0454 (0.0317) | −0.0424 (0.0335) |
| Household head with lower-secondary degree | 0.1104 (0.0775) | 0.0744** (0.0332) | −0.0532 (0.0344) |
| Household head with upper-secondary degree | 0.3073** (0.1425) | 0.1382** (0.0538) | −0.1319*** (0.0408) |
| Household head with college, university | 0.3583*** (0.1104) | 0.1466*** (0.0467) | −0.1675*** (0.0353) |
| Household size | 0.0300* (0.0155) | 0.0101 (0.0088) | −0.0187** (0.0079) |
| Proportion of children below 15 | −0.6010*** (0.1418) | −0.2120*** (0.0649) | 0.1321** (0.0600) |
| Proportion of members above 60 | −0.2995* (0.1632) | −0.1001* (0.0556) | 0.0610 (0.0672) |
| Log of annual crop land | 0.0003 (0.0102) | 0.0005 (0.0041) | −0.0060 (0.0038) |
| Log of perennial crop land | −0.0040 (0.0101) | 0.0103** (0.0045) | −0.0047 (0.0037) |
| Urban (urban = 1, rural = 0) | 0.0333 (0.1191) | 0.0280 (0.0403) | −0.0904*** (0.0333) |
| Red River Delta | <i>Reference</i> | | |
| Northeast | −0.0598 (0.0964) | −0.0413 (0.0447) | −0.0648* (0.0389) |
| Northwest | −0.0526 (0.1085) | −0.1849*** (0.0417) | 0.1826* (0.1007) |
| North Central Coast | −0.1233 (0.0813) | −0.0762** (0.0331) | 0.0784 (0.0500) |
| South Central Coast | 0.0979 (0.0947) | −0.0300 (0.0388) | −0.1004*** (0.0364) |
| Central Highlands | −0.0787 (0.1230) | 0.0542 (0.0733) | −0.0099 (0.0578) |
| Southeast | 0.0352 (0.1148) | 0.0792 (0.0499) | −0.0911** (0.0422) |
| Mekong River Delta | 0.1021 (0.1042) | 0.0186 (0.0387) | −0.0970*** (0.0326) |
| Constant | 0.7651*** (0.1917) | 0.1381* (0.0838) | 0.1926** (0.0801) |
| Observations | 397 | 1,092 | 1,092 |
| R-squared | 0.238 | 0.062 | 0.090 |

continued on next page

Table A.2 continued

| Explanatory Variables | Moving Down from the 20% Top in 2010 to a Lower Quintile in 2014 | Absolute Change in per Capita Income 2010–2014 (Fields and Ok Index) | Relative Change in per Capita Income 2010–2014 |
|--|--|--|--|
| Gender of household head (male = 1, female = 0) | 0.0727 (0.0647) | 7.88 (378.68) | 0.0139 (0.0570) |
| Age of household head | 0.0009 (0.0034) | –18.98 (15.38) | –0.0025 (0.0023) |
| Ethnicity of head (Kinh, Hoa = 0; ethnic minorities = 1) | 0.2378 (0.1593) | –960.57* (500.02) | –0.1546* (0.0843) |
| Household head with educational degree | | | |
| Household head with primary education | –0.0093 (0.1019) | 591.31 (419.33) | –0.0781 (0.0652) |
| Household head with lower-secondary degree | –0.0926 (0.1037) | 1,340.62* (745.91) | –0.0447 (0.1008) |
| Household head with upper-secondary degree | –0.3114*** (0.1140) | 1,399.68* (766.52) | –0.1377 (0.0946) |
| Household head with college, university | –0.2855*** (0.0993) | 2,299.0*** (657.70) | –0.1156 (0.0940) |
| Household size | –0.0515** (0.0236) | –198.00 (134.35) | 0.0285 (0.0221) |
| Proportion of children below 15 | 0.3392* (0.1823) | –2,782.8*** (990.49) | –0.3227** (0.1384) |
| Proportion of members above 60 | 0.2406 (0.1464) | –2,044.7*** (679.32) | –0.3078*** (0.0977) |
| Log of annual crop land | 0.0107 (0.0089) | 56.13 (115.07) | 0.0054 (0.0133) |
| Log of perennial crop land | –0.0080 (0.0112) | 113.50* (66.44) | 0.0088 (0.0103) |
| Urban (urban = 1, rural = 0) | –0.0636 (0.0747) | 1,454.04** (703.23) | –0.0423 (0.0863) |
| Red River Delta | | | |
| Northeast | –0.0415 (0.0887) | –293.16 (545.66) | 0.0018 (0.0820) |
| Northwest | –0.4281*** (0.1070) | –1,075.02* (558.51) | –0.0587 (0.1209) |
| North Central Coast | 0.0240 (0.1504) | –1,335.1*** (441.48) | –0.0382 (0.0755) |
| South Central Coast | –0.0548 (0.1074) | –602.60 (534.14) | –0.0460 (0.0776) |
| Central Highlands | –0.1219 (0.1874) | 53.86 (772.70) | 0.0625 (0.1084) |
| Southeast | –0.0461 (0.0844) | 1,172.40 (842.05) | –0.0661 (0.1049) |
| Mekong River Delta | –0.1104 (0.0840) | 2,126.85 (1,305.45) | 0.1912 (0.1428) |
| Constant | 0.6591*** (0.2207) | 4,689.8*** (1,083.05) | 0.8377*** (0.1632) |
| Observations | 328 | 1,817 | 1,816 |
| R-squared | 0.142 | 0.060 | 0.024 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: Estimates from the Viet Nam Household Living Standard Surveys 2004 and 2008.

Table A.3: Employment Mobility of Individuals during 2004–2008

| | Moving Up from Unskilled to Skilled and Nonmanual | Moving down from Skilled and Nonmanual to Unskilled | Moving from Self-employed to Wage Jobs |
|--------------------|--|--|--|
| <i>Sex</i> | | | |
| Male | 23.04 | 24.61 | 23.22 |
| Female | 11.99 | 26.43 | 13.60 |
| <i>Age</i> | | | |
| Age 15–30 | 22.56 | 24.99 | 34.25 |
| Age 31–60 | 15.38 | 25.43 | 12.77 |
| <i>Education</i> | | | |
| Less primary | 10.70 | 55.72 | 16.11 |
| Primary | 15.72 | 32.05 | 18.49 |
| Lower secondary | 19.60 | 31.71 | 17.19 |
| Upper secondary | 25.50 | 21.99 | 22.73 |
| Post secondary | 27.78 | 12.10 | 13.99 |
| <i>Rural/urban</i> | | | |
| Rural | 16.82 | 29.00 | 17.88 |
| Urban | 20.16 | 18.61 | 16.66 |
| <i>Ethnicity</i> | | | |
| Kinh and Hoa | 20.13 | 25.14 | 17.60 |
| Ethnic minorities | 3.28 | 28.92 | 18.18 |
| Total | 17.24 | 25.31 | 17.69 |
| | Moving from Wage Jobs to Employed | Moving from Agricultural to Nonagricultural | Moving from Nonagricultural to Agricultural |
| <i>Sex</i> | | | |
| Male | 24.06 | 19.52 | 14.31 |
| Female | 24.59 | 15.46 | 14.43 |
| <i>Age</i> | | | |
| Age 15–30 | 19.70 | 23.76 | 11.47 |
| Age 31–60 | 26.33 | 15.33 | 15.49 |
| <i>Education</i> | | | |
| Less primary | 32.37 | 9.87 | 19.79 |
| Primary | 25.69 | 16.45 | 17.15 |
| Lower secondary | 30.91 | 20.47 | 17.58 |
| Upper secondary | 18.64 | 27.18 | 11.10 |
| Post secondary | 12.12 | 30.21 | 7.22 |
| <i>Rural/urban</i> | | | |
| Rural | 27.25 | 17.27 | 19.96 |
| Urban | 15.08 | 19.80 | 4.13 |
| <i>Ethnicity</i> | | | |
| Kinh and Hoa | 21.98 | 20.78 | 13.65 |
| Ethnic minorities | 44.90 | 5.41 | 34.77 |
| Total | 24.24 | 17.42 | 14.36 |

Source: Estimates from the Viet Nam Household Living Standard Surveys 2004 and 2008.

Table A.4: Regression of Employment Mobility of Individuals during 2004–2008

| Explanatory Variables | Dependent Variables | | |
|---|---|---|--|
| | Moving Up from Unskilled to Skilled and Nonmanual | Moving Down from Skilled and Nonmanual to Unskilled | Moving from Self-employed to Wage Jobs |
| Male = 1, female = 0 | 0.0890*** (0.0165) | −0.0351 (0.0328) | 0.0878*** (0.0171) |
| Age | −0.0085* (0.0049) | −0.0242* (0.0128) | −0.0289*** (0.0057) |
| Age squared | 0.0001 (0.0001) | 0.0004** (0.0002) | 0.0003*** (0.0001) |
| Ethnic minorities (yes = 1; Kinh, Hoa = 0) | −0.1264*** (0.0246) | −0.0194 (0.0907) | −0.0080 (0.0421) |
| Having no educational degree | <i>Reference</i> | | |
| Having primary education | 0.0241 (0.0225) | −0.2184*** (0.0738) | −0.0201 (0.0263) |
| Having lower-secondary degree | 0.0895*** (0.0255) | −0.2403*** (0.0811) | −0.0454 (0.0280) |
| Having upper-secondary degree | 0.1303*** (0.0382) | −0.3370*** (0.0885) | −0.0167 (0.0421) |
| Having college, university | 0.1844*** (0.0528) | −0.4214*** (0.0758) | −0.0400 (0.0436) |
| Household size | 0.0063 (0.0058) | −0.0040 (0.0138) | −0.0162** (0.0066) |
| Proportion of children below 15 | 0.0403 (0.0562) | 0.0557 (0.0992) | 0.0228 (0.0566) |
| Proportion of members above 60 | 0.1006 (0.0873) | −0.1303 (0.1158) | −0.0034 (0.0906) |
| Log of annual crop land | −0.0089** (0.0044) | 0.0092 (0.0063) | −0.0006 (0.0034) |
| Log of perennial crop land | 0.0014 (0.0044) | 0.0033 (0.0089) | −0.0042 (0.0036) |
| Urban (urban = 1, rural = 0) | −0.0710 (0.0438) | −0.0207 (0.0515) | −0.0122 (0.0358) |
| Red River Delta | <i>Reference</i> | | |
| Northeast | −0.0326 (0.0336) | 0.1206* (0.0687) | −0.0699* (0.0381) |
| Northwest | −0.0062 (0.0361) | −0.0686 (0.1289) | −0.0830 (0.0709) |
| North Central Coast | −0.0519 (0.0324) | 0.0834 (0.0722) | −0.0109 (0.0394) |
| South Central Coast | 0.0517 (0.0451) | −0.0087 (0.0509) | −0.0241 (0.0395) |
| Central Highlands | −0.0074 (0.0497) | 0.0191 (0.1018) | 0.0151 (0.0507) |
| Southeast | 0.1083* (0.0598) | 0.0132 (0.0591) | 0.0202 (0.0428) |
| Mekong River Delta | 0.0390 (0.0380) | −0.0374 (0.0598) | −0.0670** (0.0310) |
| Constant | 0.3240*** (0.1017) | 0.9156*** (0.2483) | 0.9777*** (0.1189) |
| Observations | 2,264 | 809 | 1,898 |
| R-squared | 0.100 | 0.109 | 0.106 |

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Table A.4 continued

| Explanatory Variables | Dependent Variables | | |
|---|-----------------------------------|---|---|
| | Moving from Wage Jobs to Employed | Moving from Agricultural to Nonagricultural | Moving from Nonagricultural to Agricultural |
| Male = 1, female = 0 | -0.0391 (0.0255) | 0.0319* (0.0184) | -0.0148 (0.0173) |
| Age | -0.0102 (0.0090) | -0.0112** (0.0051) | -0.0065 (0.0077) |
| Age squared | 0.0002* (0.0001) | 0.0001 (0.0001) | 0.0001 (0.0001) |
| Ethnic minorities (yes = 1; Kinh, Hoa = 0) | 0.1705*** (0.0550) | -0.1428*** (0.0263) | 0.1540* (0.0793) |
| Having no educational degree | | | |
| Having primary education | -0.0342 (0.0463) | 0.0249 (0.0258) | -0.0067 (0.0384) |
| Having lower-secondary degree | -0.0126 (0.0494) | 0.0465 (0.0285) | -0.0093 (0.0405) |
| Having upper-secondary degree | -0.1246** (0.0568) | 0.1031** (0.0445) | -0.0679 (0.0416) |
| Having college, university | -0.2088*** (0.0475) | 0.1945*** (0.0620) | -0.1021*** (0.0380) |
| Household size | 0.0062 (0.0096) | 0.0212*** (0.0073) | -0.0014 (0.0074) |
| Proportion of children below 15 | -0.1420* (0.0771) | -0.0039 (0.0566) | -0.0110 (0.0611) |
| Proportion of members above 60 | 0.0343 (0.1124) | -0.0508 (0.1012) | 0.0097 (0.0774) |
| Log of annual crop land | 0.0036 (0.0048) | -0.0085** (0.0042) | 0.0106** (0.0048) |
| Log of perennial crop land | 0.0266*** (0.0059) | -0.0101*** (0.0032) | 0.0097 (0.0063) |
| Urban (urban = 1, rural = 0) | -0.0195 (0.0411) | -0.0887 (0.0576) | -0.0886*** (0.0321) |
| Red River Delta | | | |
| Northeast | 0.0898** (0.0443) | -0.1170*** (0.0370) | 0.1441*** (0.0525) |
| Northwest | 0.0518 (0.0990) | -0.1553*** (0.0414) | -0.0668 (0.0904) |
| North Central Coast | 0.1304** (0.0551) | -0.1820*** (0.0394) | 0.1309*** (0.0485) |
| South Central Coast | -0.0141 (0.0461) | -0.1072** (0.0515) | 0.0075 (0.0315) |
| Central Highlands | 0.0651 (0.0616) | -0.1467*** (0.0464) | 0.1325** (0.0635) |
| Southeast | 0.0328 (0.0485) | -0.0965 (0.0592) | -0.0085 (0.0275) |
| Mekong River Delta | -0.0120 (0.0442) | -0.1447*** (0.0388) | 0.0664* (0.0376) |
| Constant | 0.3120* (0.1622) | 0.5364*** (0.1076) | 0.1678 (0.1363) |
| Observations | 1,175 | 1,778 | 1,295 |
| R-squared | 0.129 | 0.104 | 0.120 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: Estimates from the Viet Nam Household Living Standard Surveys 2004–2008.

Table A.5: Intergenerational Mobility of Employment in 2004

| Characteristics of Children | Skill Upward: Skilled Children and Unskilled Parents | Skill Downward: Unskilled Children and Skilled Parents | Employment Upward: Wage Children and Self-employed Parents |
|------------------------------------|---|---|---|
| <i>Sex</i> | | | |
| Male | 18.88 | 43.16 | 37.18 |
| Female | 18.39 | 45.12 | 28.85 |
| <i>Age</i> | | | |
| Age 15–30 | 18.34 | 44.60 | 33.59 |
| Age 31–60 | 28.14 | 31.23 | 37.06 |
| <i>Education</i> | | | |
| Less primary | 6.17 | 68.21 | 24.96 |
| Primary | 13.27 | 57.67 | 29.61 |
| Lower secondary | 13.59 | 63.28 | 26.11 |
| Upper secondary | 22.35 | 42.56 | 39.58 |
| Post secondary | 77.88 | 7.98 | 77.73 |
| <i>Rural/Urban</i> | | | |
| Rural | 15.66 | 53.66 | 30.43 |
| Urban | 36.43 | 27.48 | 54.44 |
| <i>Ethnicity</i> | | | |
| Kinh and Hoa | 21.96 | 41.97 | 39.22 |
| Ethnic minorities | 4.39 | 72.65 | 9.35 |
| Total | 18.67 | 43.98 | 33.73 |
| Characteristics of Children | Employment Downward: Self-employed Children and Wage Parents | Sector Upward: Nonagricultural Children and Agricultural Parents | Sector Downward: Agricultural Children and Nonagricultural Parents |
| <i>Sex</i> | | | |
| Male | 24.94 | 32.96 | 20.41 |
| Female | 36.67 | 31.17 | 23.47 |
| <i>Age</i> | | | |
| Age 15–30 | 30.36 | 31.78 | 22.39 |
| Age 31–60 | 15.15 | 47.76 | 9.46 |
| <i>Education</i> | | | |
| Less primary | 17.14 | 18.71 | 28.12 |
| Primary | 29.05 | 29.21 | 22.17 |
| Lower secondary | 48.86 | 28.44 | 35.06 |
| Upper secondary | 37.88 | 37.45 | 19.94 |
| Post secondary | 11.75 | 84.91 | 2.85 |
| <i>Rural/Urban</i> | | | |
| Rural | 36.08 | 30.41 | 33.18 |
| Urban | 19.19 | 55.34 | 5.98 |
| <i>Ethnicity</i> | | | |
| Kinh and Hoa | 28.39 | 38.69 | 19.80 |
| Ethnic minorities | 45.74 | 9.49 | 61.42 |
| Total | 29.94 | 32.22 | 21.71 |

Source: Estimates from the Viet Nam Household Living Standard Survey 2004.

Table A.6. Regression of Log of Children’s Wages on Father’s and Mother’s Wages

| Explanatory Variables | Dependent Variable is Log of Wages of Children | | | | | |
|-----------------------|--|------------------------|------------------------|------------------------|------------------------|------------------------|
| | All Samples | Male | Female | All Samples | Male | Female |
| Log of father’s wage | 0.3835*** (0.0216) | 0.4168*** (0.0253) | 0.3347*** (0.0297) | | | |
| Log of mother’s wage | | | | 0.3753*** (0.0260) | 0.3870*** (0.0310) | 0.3698*** (0.0352) |
| Age | 0.2606*** (0.0256) | 0.2560*** (0.0309) | 0.2670*** (0.0442) | 0.2114*** (0.0305) | 0.1997*** (0.0348) | 0.2322*** (0.0513) |
| Age squared | −0.0039*** (0.0005) | −0.0039*** (0.0006) | −0.0039*** (0.0009) | −0.0029*** (0.0006) | −0.0027*** (0.0007) | −0.0035*** (0.0011) |
| Dummy year 2004 | | | | | | |
| Dummy year 2008 | 0.1652*** (0.0476) | 0.1707*** (0.0561) | 0.1417* (0.0742) | 0.1851*** (0.0579) | 0.2151*** (0.0714) | 0.0950 (0.0879) |
| Dummy year 2010 | 0.2448*** (0.0473) | 0.2282*** (0.0568) | 0.2766*** (0.0731) | 0.2297*** (0.0614) | 0.2195*** (0.0762) | 0.2259** (0.0876) |
| Dummy year 2014 | 0.2808*** (0.0492) | 0.2572*** (0.0580) | 0.3211*** (0.0754) | 0.3215*** (0.0659) | 0.2688*** (0.0792) | 0.3787*** (0.0947) |
| Constant | 1.4111*** (0.3250) | 1.2973*** (0.3972) | 1.5832*** (0.5171) | 2.1512*** (0.3716) | 2.2668*** (0.4490) | 1.9066*** (0.5820) |
| Observations | 3,774 | 2,407 | 1,367 | 2,577 | 1,568 | 1,009 |
| R-squared | 0.400 | 0.420 | 0.380 | 0.391 | 0.390 | 0.401 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: Estimates from the Viet Nam Household Living Standard Surveys.

Table A.7. Regression of Log of Children’s Wages on Parent’s Wages for Different Groups

| Explanatory Variables | Dependent Variable is Log of Wages of Children | | | | | | |
|-----------------------|--|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|
| | All Samples | Year 2004 | Year 2014 | Male | Female | Age 15–30 | Age 31–60 |
| Log of parental wages | 0.3648*** (0.0183) | 0.3537*** (0.0348) | 0.3087*** (0.0445) | 0.3838*** (0.0215) | 0.3435*** (0.0258) | 0.3640*** (0.0187) | 0.3674*** (0.0744) |
| Age | 0.2516*** (0.0217) | 0.2562*** (0.0416) | 0.2643*** (0.0413) | 0.2436*** (0.0253) | 0.2640*** (0.0380) | 0.2319*** (0.0336) | 0.5901* (0.3117) |
| Age squared | −0.0037*** (0.0005) | −0.0038*** (0.0009) | −0.0039*** (0.0008) | −0.0036*** (0.0005) | −0.0039*** (0.0008) | −0.0032*** (0.0007) | −0.0082* (0.0044) |
| Dummy year 2004 | <i>Reference</i> | | | | | | |
| Dummy year 2008 | 0.1263*** (0.0418) | | | 0.1507*** (0.0495) | 0.0640 (0.0654) | 0.1334*** (0.0420) | −0.1129 (0.2091) |
| Dummy year 2010 | 0.2242*** (0.0424) | | | 0.2207*** (0.0502) | 0.2261*** (0.0648) | 0.2297*** (0.0428) | 0.0812 (0.1674) |
| Dummy year 2014 | 0.2760*** (0.0436) | | | 0.2554*** (0.0508) | 0.2969*** (0.0680) | 0.2756*** (0.0443) | 0.2147 (0.1764) |
| Constant | 1.6981*** (0.2720) | 1.7471*** (0.5132) | 2.3187*** (0.6553) | 1.7080*** (0.3266) | 1.6410*** (0.4439) | 1.8999*** (0.3915) | −4.4625 (5.4997) |
| Observations | 4,959 | 1,217 | 1,235 | 3,129 | 1,830 | 4,724 | 235 |
| R-squared | 0.390 | 0.342 | 0.317 | 0.402 | 0.378 | 0.382 | 0.264 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: Estimates from the Viet Nam Household Living Standard Surveys.

Table A.8: Regression of Log of Children's Wages on Parent's Wages for Different Groups

| Explanatory Variables | Dependent Variable is Log of Wages of Children | | | | |
|-----------------------|--|------------------------|------------------------|------------------------|------------------------|
| | Less than Primary | Primary | Lower Secondary | Upper Secondary | Post Secondary |
| Log of parental wages | 0.5107*** (0.0545) | 0.4354*** (0.0381) | 0.3526*** (0.0349) | 0.3198*** (0.0428) | 0.1729*** (0.0286) |
| Age | 0.1325*** (0.0357) | 0.2164*** (0.0347) | 0.3684*** (0.0564) | 0.5528*** (0.1030) | 0.3320*** (0.0629) |
| Age squared | -0.0021*** (0.0007) | -0.0033*** (0.0007) | -0.0062*** (0.0012) | -0.0094*** (0.0021) | -0.0046*** (0.0012) |
| Dummy year 2004 | <i>Reference</i> | | | | |
| Dummy year 2008 | -0.0700 (0.0858) | 0.0908 (0.0777) | 0.1929** (0.0889) | -0.0052 (0.1022) | 0.2433*** (0.0762) |
| Dummy year 2010 | 0.1932* (0.1047) | 0.2271*** (0.0764) | 0.2666*** (0.0885) | 0.0325 (0.1076) | 0.2308*** (0.0682) |
| Dummy year 2014 | 0.1229 (0.1070) | 0.2337** (0.0925) | 0.4146*** (0.0864) | 0.0754 (0.1052) | 0.2716*** (0.0665) |
| Constant | 2.2645*** (0.5701) | 1.6888*** (0.4900) | 0.4495 (0.6957) | -1.6510 (1.2350) | 2.1560*** (0.8187) |
| Observations | 635 | 1,213 | 1,133 | 629 | 1,349 |
| R-squared | 0.363 | 0.375 | 0.341 | 0.303 | 0.234 |

| Explanatory Variables | Dependent Variable is Log of Wages of Children | | | |
|-----------------------|--|------------------------|------------------------|-----------------------|
| | Rural | Urban | Kinh and Hoa | Ethnic Minorities |
| Log of parental wages | 0.3825*** (0.0231) | 0.2277*** (0.0321) | 0.3022*** (0.0183) | 0.4738*** (0.0503) |
| Age | 0.2806*** (0.0257) | 0.2324*** (0.0440) | 0.2776*** (0.0231) | 0.0719 (0.0648) |
| Age squared | -0.0046*** (0.0005) | -0.0030*** (0.0009) | -0.0042*** (0.0005) | -0.0007 (0.0015) |
| Dummy year 2004 | <i>Reference</i> | | | |
| Dummy year 2008 | 0.1653*** (0.0493) | 0.0906 (0.0717) | 0.1803*** (0.0431) | -0.0409 (0.1035) |
| Dummy year 2010 | 0.2527*** (0.0512) | 0.2185*** (0.0682) | 0.2533*** (0.0454) | 0.2997*** (0.1007) |
| Dummy year 2014 | 0.3359*** (0.0540) | 0.2092*** (0.0706) | 0.3230*** (0.0435) | 0.3594*** (0.1264) |
| Constant | 1.2758*** (0.3327) | 3.1428*** (0.5703) | 1.9500*** (0.2916) | 2.8291*** (0.7873) |
| Observations | 3,488 | 1,471 | 4,257 | 702 |
| R-squared | 0.355 | 0.304 | 0.362 | 0.387 |

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: Estimates from the Viet Nam Household Living Standard Surveys.