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# Income mobility in times of economic growth: The case of Viet Nam

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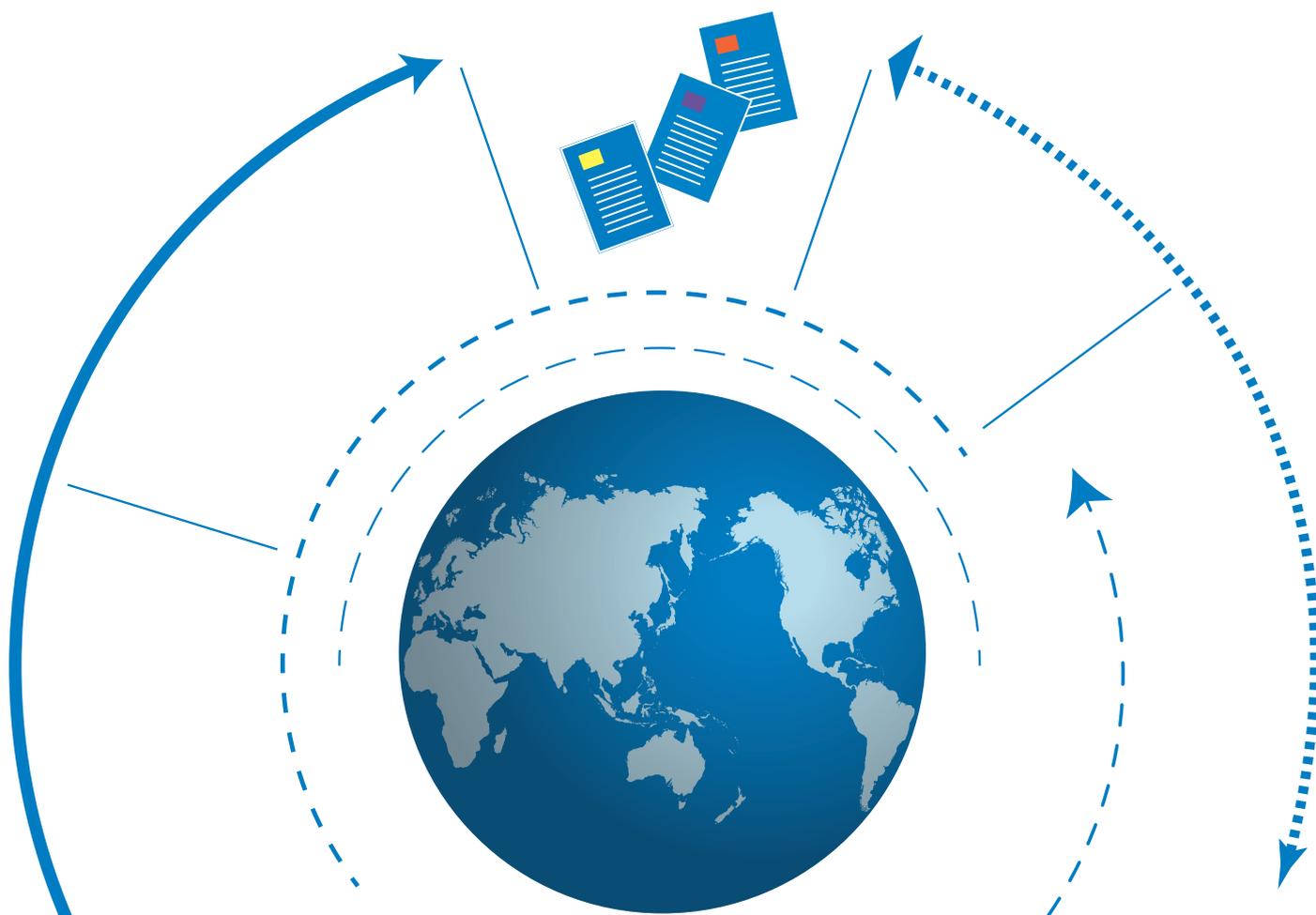
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TABLE OF CONTENTS

ACKNOWLEDGEMENTS

PREFACE

Social mobility, together with social capital and social inclusion, form part of the OECD Development Centre's framework on social cohesion. A cohesive society strives for social integration that builds social capital to create a common sense of belonging and prospects of upward social mobility.

In essence, income mobility, an important component of social mobility, measures the extent to which flexibility and opportunities exist in a society. As life conditions of people improve, escaping absolute poverty no longer suffices. People want to see that the changes benefit them and offer possibilities to improve their well-being. The analysis of income mobility is part of this desire to understand what drives well-being and how growth and changes to the economy are reflected in households' income.

Income mobility is a policy objective in its own right and is instrumental in supporting the achievement of the Sustainable Development Goals (SDGs). Understanding what determines income mobility and how it can be supported provides valuable evidences for work on SDG 1 (ending poverty), SDG 8 (inclusive and sustainable economic growth) and SDG 10 (reducing inequality).

Over the past two decades, Viet Nam witnessed a period of strong economic growth and transformation. The fast growth in Viet Nam lifted many people out of poverty and the growth rate exceeded the OECD average. Rapid economic growth has had a variety of impacts on human well-being and inequality. I invite you to read this paper and discover who climbs the income ladder and why. In a nutshell, income mobility in Viet Nam is high, but the drivers of income mobility still follow a rather traditional pattern: the agricultural sector still plays an important role for income generation and income mobility.

The OECD Social Cohesion Policy Review of Viet Nam elaborates on this study. The review contributes to the ongoing policy dialogue on social development and supports the formulation of well-informed public policies and programmes.

Mario Pezzini
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December 2015

RESUMÉ

Cette étude analyse la mobilité des revenus au Viet Nam entre 2004 et 2008. Le concept de mobilité des revenus est important pour les économies développées et en développement, en particuliers pour celles, tel le Viet Nam, ayant fait l'expérience d'une croissance économique persistante ainsi que de profondes transformations structurelles. La mobilité des revenus contribue aux connaissances en termes de pauvreté et d'inégalités en permettant la quantification du bénéfice tiré par les ménages de la performance économique de leur pays. L'analyse montre une augmentation de la mobilité des revenus due à la croissance au Viet Nam. L'analyse des facteurs déterminants conclue sur un besoin d'ajustement des politiques afin d'assister les ménages moins mobiles avec de nombreux dépendants, ainsi que le besoin d'assister les ménages dépendants de l'agriculture – un facteur important de revenu et de mobilité – avec les outils et connaissances nécessaires. En outre, les transferts publics n'ont que peu d'impact sur la mobilité des revenus, et requièrent une amélioration de leur efficacité pour assister les ménages dans l'atténuation de chocs et afin de réduire les inégalités.

Classification JEL: E24, I31, J60, J62.

Mots-clés: mobilité des revenues, Viet Nam, croissance des revenus, répartition des revenus

ABSTRACT

This paper analyses income mobility in Viet Nam from 2004 to 2008. The concept of income mobility is important for developed and developing economies, especially for those, such as Viet Nam, witnessing a stable persistent economic growth and profound structural transformations. Income mobility adds to the already established literature on poverty and inequality by quantifying how much households benefit from the economic performance of a country. The analysis shows that Viet Nam's growth facilitated households' income mobility. The analysis of the drivers of households' mobility invites policy makers to tailor interventions, e.g. assisting less mobile households with many dependents, or endowing households engaging in agriculture –an important source of income and driver of mobility – with appropriated skills and tools. Furthermore, it is shown that public transfers have only little impact on income mobility, indicating that their effectiveness has to be improved if the state wants to assist households in mitigating shocks and reducing inequality.

JEL Classification: E24, I31, J60, J62.
Keywords: Income mobility, Viet Nam, income growth, income distribution.

I. INTRODUCTION

Over the past two decades Viet Nam witnessed a period of strong economic growth and transformation. Since the outset of the economic reforms in 1986 Viet Nam opened its economy to the world and created a flourishing industrialised economic basis through export-led growth (Athukorala and Tien, 2012). Since then, poverty rates reduced sharply (from 63.6% in 1993 to 16.9% in 2008, based on the USD 1.25 a day PPP poverty line) while inequality remained mostly stable (World Bank, 2014). However, the disadvantageous situation of certain groups (e.g. ethnic minorities or people living in remote areas) persists and the recent growth spell has not been pro-poor, as poor people have not benefited more than the rich (OECD, 2014). So it seems that Viet Nam's economic development has only partially promoted society's well-being, thus making it crucial to understand the underlying trends in terms of the drivers of poverty, inequality and mobility.

The recent trends in matters of poverty (monetary and multi-dimensional) and inequality in Viet Nam have been well examined (Fritzen, 2002; Glewwe and Nguyen, 2002; Litchtfield and Justino, 2004). These studies use a static approach, and are due to their nature unable to reveal whether individuals experience income mobility. In other words, they cannot tell who is getting ahead and who is falling behind. This paper adds to the discussions on inequality and poverty in Viet Nam by identifying the level and reasons of advancements.

Income mobility concerns the movement of individuals or groups of people in income classes, and measures the real extent to which flexibility and opportunities exist in a society (OECD, 2014). This is of particular importance for Viet Nam, as the government aspires to combine economic development with its core principles of equality and shared well-being. Furthermore, income mobility is an important aspect of social cohesion. This paper addresses this by quantifying individuals' and households' possibilities to change their situation in a given period.

Most studies on social mobility focus on developed economies (Aristei and Perugini, 2012; Van Kerm, 2006; Ayala and Sastre, 2008) or on upper middle-income countries (Fields et al., 2003; Woolard and Klasen, 2005; Contreras et al., 2005; Finn et al., 2014). Much less is known about mobility in less developed countries, and the few studies apply different methodologies. Ding and Wang (2008) find that the main component of income mobility in China during the 1990s is the re-shuffling of the income distribution; yet, the influence of economic growth is greater than in other countries. Income mobility in Viet Nam was already analysed by Glewwe and Nguyen (2002), who adopt a time dependence approach and find that income mobility was

high during the 1990s. Their study, however, does not tackle the determinants of income mobility.

Income mobility is of particular relevance for Viet Nam for several reasons. While the fast and steady economic growth has pulled many people out of poverty, concerns have been raised about the near poor's high risk of falling back to poverty. Low social mobility can threaten economic growth, exposing Viet Nam to the risk of falling into a middle-income trap. Understanding how the income of the Vietnamese changed is an important stepping-stone to shape policies. Poverty and inequality reduction programmes can be improved by stressing factors which contribute positively to the generation of income and address elements that hold households back. This knowledge is also important for industrial and labour policies as it gives insights on how the labour market impacts households' income generation.

This paper analyses income mobility and its drivers between 2004 and 2008. The mid-2000s is an interesting period in Viet Nam for a number of reasons. Most profound reforms were undertaken in the 1980s and mid-1990s, the only major reform in the 2000s was the WTO accession in 2007. The mid-2000s were thus not characterised by big reforms, but the implementation (and deepening) of these. It is also the period in which the economies in Southeast Asia got back on track after the Asian financial crisis. The Asian financial crisis had affected Viet Nam indirectly due to a decrease in the inflow of foreign direct investment and a slump in demand of its main export markets (Xuan and Xing, 2008). Furthermore, it marks the outset of the latest global financial crisis, which again affected Viet Nam indirectly.

The main question this paper attempts to answer is who climbs the income ladder and why. Comparing the analysis' results with findings of other scholars shows that Viet Nam's economic growth greatly affected income mobility, which is very high. A multivariate analysis sheds light on the groups loosing and benefiting from the economic growth. Results show that impediments to work affect income mobility and that the agricultural sector still plays an important role for income generation and income mobility. Viet Nam's structural changes are not yet an important driving force of income mobility.

The paper is divided into three major sections. The first section sets the stage by presenting the economic context. Section two reports the definition of income mobility, the composition of the income and the data used in the analysis. Finally, the last two sections, before concluding, compare Viet Nam's income mobility level with existing studies and tackle the drivers of income mobility.

II. MACROECONOMIC CONTEXT

The 2000s was a decade of strong, yet volatile, economic growth. Viet Nam experienced in the 2000s strong GDP and employment growth (6.7% and 2.2% respectively). However, economic expansion and job creation slowed down at the height of the global financial crisis (2008/2009) (Figure 1). The end of this paper's period of analysis (2008) falls into this economic slowdown. GDP growth was still high, yet below average and consequently offering less economic possibilities for households.

Figure 1. **GDP and employment growth, 2002-08**
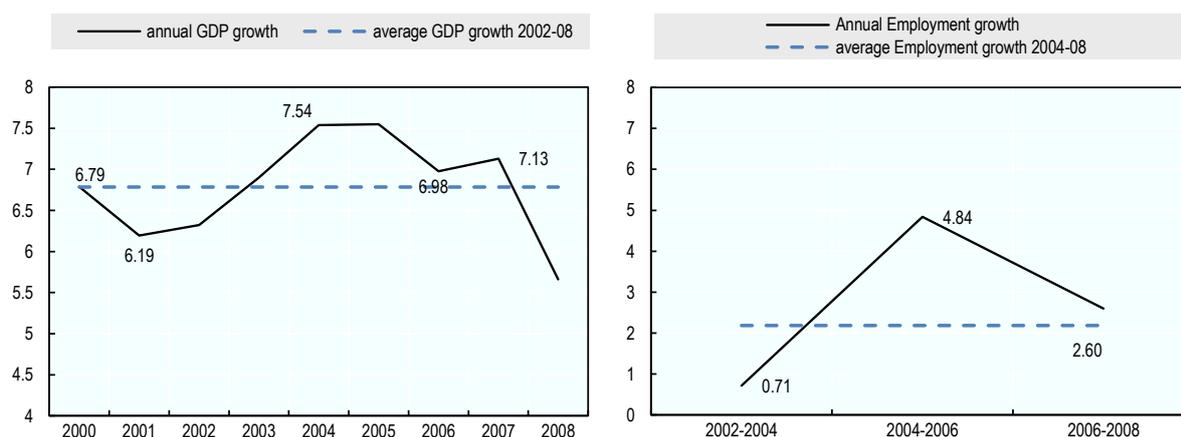
Source: GDP from the World Development Indicators, Employment growth based on VHLSS.

Viet Nam's changing economic basis is reflected in the sectoral employment growth. Before the global financial crisis, manufacturing and service employment was growing very strongly, and exceeded agricultural employment growth by far (Figure 2). At the outset of the global financial crisis manufacturing employment growth contracted greatly, whereas agricultural employment grew strongly. In 2008 employment growth fell overall (Figure 1), it is thus fair to assume that many industrial workers changed into the agricultural sector during the crisis.

Figure 2. **Average annual employment growth by economic sector, 2002-08**
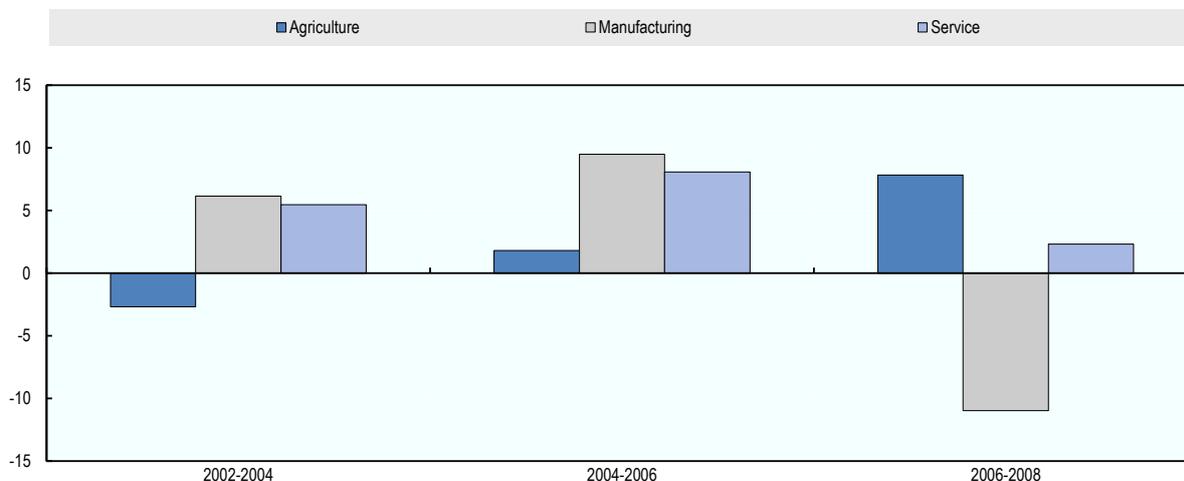
Source: Authors' calculations based on VHLSS.

Household income increased and its composition remained mostly identical. From 2004 to 2008 the median income increased from VND 17 295 610 to VND 23 192 320 in real terms. Overall, the income composition did not change much from 2004 to 2008 (Figure 3). The share of agricultural income slightly increased from 39.1% to 42.8%, while the share of wage income decreased from 26.2% to 24.6%. The share of private transfers also decreased by 1.5 percentage points from an initial level of 10.3% while the share of public transfers increased by 1 percentage point (from 4.0% to 5.1%).

Figure 3. **Mean share of income components over total income in 2004 and 2008**
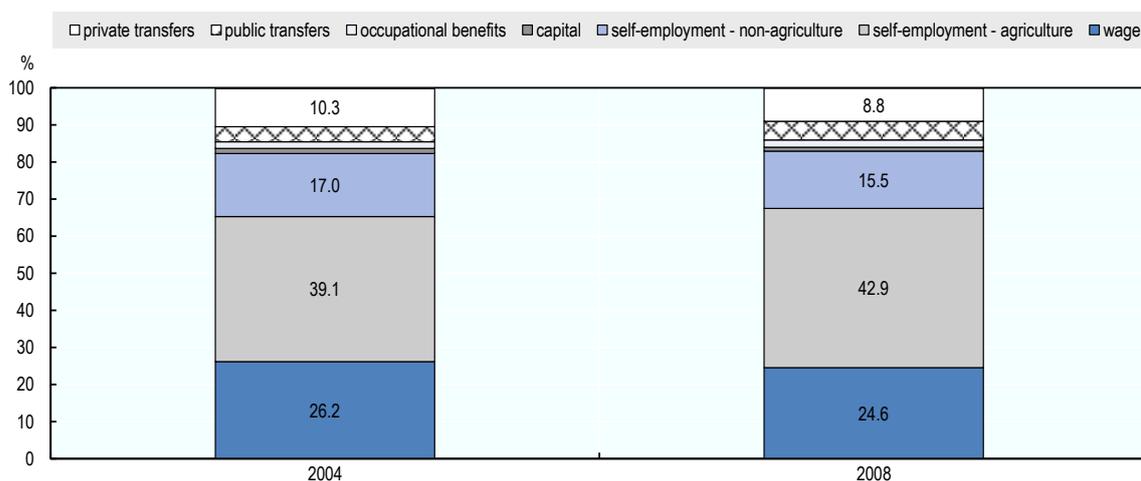
Source: Authors' calculations based on VHLSS 2004 and 2008.

III. CONCEPTS, DATA AND INCOME DEFINITION

This paper utilises the mostly diffused income mobility indicators. It is commonly divided into absolute and relative mobility. Relative income mobility examines the openness of the income distribution, while absolute income mobility is concerned with changes in absolute well-being (Woolard and Klasen, 2005).

The *Fields and Ok* (1999) index is the most commonly used index to measure absolute income mobility. Absolute mobility indicators measure the size of income change, without looking at the direction (increase or decrease). The absolute income change is measured without considering possible changes in the income distribution. The *Fields and Ok* index can be additively decomposed into total social utility due to growth (K) and total social utility due to transfers (T).[1] The decomposition of the *Fields and Ok* index mirrors the differentiation between structural mobility ($K(y^0,y^1)$) and exchange mobility $(T(y^0,y^1))$ (Van Kerm, 2006). In a context of positive economic growth, $K(y^0,y^1)$ can be interpreted as the *per capita social utility growth*.[2] The *per capita social utility transfers ($T(y^0,y^1)$)* can thus be defined as twice the social utility loss of an individual whose income decreased. In a period of growth an individual's loss is not lost to society, but gained by somebody else, in other words it is the transfer of social utility.

The dual component permits the following decomposition of the Fields and Ok index:

$$M(y^0,y^1) = K(y^0,y^1) + T(y^0,y^1) = \frac{1}{n}\sum_{i=1}^{n}(\ln y_i^1 - \ln y_i^0) + \frac{2}{n}\sum_{i\in L}^{L}(\ln y_i^0 - \ln y_i^1)$$

where y stands for the equivalised real household income.

The *Movement Index*, an index for relative mobility, measures positional mobility. Relative mobility examines how households place themselves in comparison to others, and thus indicates the openness of the income distribution. Relative mobility indices are often referred to as two-stage indices (Woolard and Klasen, 2005). First individuals are allocated into endogenously defined income groups (e.g. quintile, deciles, centiles or even ranks) and then mobility between these groups is examined by means of transitional matrixes. The *Movement Index* summarises the findings of the transition matrix by grouping households into stable (remaining in the original income group), upwards mobility and downwards mobility.

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1. In this case the term transfer does not refer to public or private transfers, but to the change of the distribution of income.

2. Analogues decomposition holds also in the case of a contracting economy.

The *Rank-Jump Index* is another index of relative mobility. The *Rank-Jump Index* represents the non-directional "distance" households move within the income distribution (Van Kerm, 2006). It measures the difference between a household's position in the final and initial income distribution. The indicator is thus computed as:

$$M(y^0, y^1) = \frac{1}{n} \sum_{i=1}^{n} |P_i^1 - P_i^0|$$

where P is the income percentile at time 1 and 0 respectively, and n for the number of observations in the panel.

Data

Income mobility is analysed using the Viet Nam Household Living Standard Survey (VHLSS). This analysis avails the Viet Nam Household Living Standard Survey (VHLSS) for the years 2004 and 2008. The VHLSS is conducted by the General Statistic Office of Viet Nam with co-funding from the World Bank, and it is classified as a high quality Living Standards Measurement Survey (LSMS), the mostly diffused source of reliable micro-data in developing countries. The VHLSS is a detailed questionnaire, covering basic household information, the economic activities of households, their educational, health and living condition, as well as their expenditure. The General Statistics Office of Viet Nam grants access to a sample size of 9 189 households in 2004 and 2008.

An indispensable pre-requisite for analysing income mobility is panel data of high quality (Brand-Weiner et al, 2015). The VHLSS is a rotating panel, in which half of the households were renewed every second year. Only a limited number of households were interviewed in three subsequent waves. The 2004-08 panel encompasses 1 799 households with 7 332 individuals.[3]

Table A5 in the annex provides an overview of the characteristics of the 1 799 households forming part of the 2004-08 panel. In 2004, the majority of the households belonged to ethnic groups of Kinh or Hoa (85%), and lived in rural areas (79%). In 2004 the majority of households had ties to the agricultural sector: 79.5% obtained income from agricultural activities and of these 52.9% engaged in subsistence agriculture. The number of households having non-agricultural household business is lower (41.3%) and the number of households having wage income is even lower (36.6%).

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3.   Tests showed that the VHLSS 2004-08 panel does not suffer from an attrition biases. In addition, the date of interview does not influence the increase in income. The interviews were conducted between May and November, but households were not necessarily interviewed in the same months in 2004 and 2008. Only for half of the households 48 months passed between the first interview in 2004 and the last interview in 2008. A t-test showed that the increase in income does not statistically differ depending on whether households experienced more or less than four years between the interviews.

Income definition

The analysis focuses on the household level. The income obtained by all household members is pooled together and equivalised according to the *OECD-modified equivalence scale* where the first adult has the weight 1.0, every subsequent adult 0.5, and each child under the age of 14 is given the weight 0.3.

Income is defined broadly including as many sources as possible while guaranteeing the highest possible consistency. The *total net income* is obtained summing up the *net factor income, occupational benefits, private transfers,* and *public cash transfers*. *Occupational benefits* are all monetary and in-kind allowances received from the employer. *Private transfers* are remittances and value of in-kind presents from people overseas, domestic remittance and value of in-kind presents from people who are not household members, as well as income and support from charity organisations, associations, or firms. *Public cash transfers* are pensions, one-time sickness and job loss allowance, social welfare allowance, lump sum retirement allowance, other social welfare allowance such us invalids, relatives of revolutionary martyr, or comparable, allowance for recovery from disaster, fire, and income from various types of insurance.

The *net factor income* is composed of wages and salaries, self-employment and capital income. The wages and salaries are the sum of the first, second and third job of all household members in dependent employment. Income from self-employment is captured by the net income from agriculture and non-agricultural household businesses. Agriculture income comprises all agricultural activities: breeding livestock, hunting and trapping, farming and farm services (all type of crops and by-products), aquaculture, as well as forestry. Non-agricultural household business income includes all non-livestock, non-agriculture, non-aquaculture and non-forestry income or the processing of the latter ones. Furthermore, the income from capital – being interest of savings, shares, bonds and loans, as well as income from leasing workshops, machines, assets, equipment and others that are not counted in trade and business production – forms part of the household's factor income.

In order to achieve comparability across time the total income was converted into nationally representative prices as of January 2012. Given the variance in interview dates and regional price differences, the households' total income was deflated by *a regional consumer price index (CPI)* and *a monthly CPI* – provided by the VHLSS dataset –, before being inflated by the national CPI. The respective CPI inflators for the years 2004 to 2012, and 2008 to 2012 are 2.412 and 1.664.[4]

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4 . The VHLSS datasets provide the regional CPI and monthly CPI. However, the regional CPI for 2004 provided by the VHLSS seem unreliable – due to inconsistencies over the years – as McCaig et al. (2009) showed in an earlier study. Following the findings of McCaig et al. (2009), we imputed for 2004 the regional CPI provided by the earlier study. The imputation takes the regional CPI of 1998 and 2006 as a basis and assumes linear growth over the years.

IV. INCOME MOBILITY: RESULTS

In order to assess absolute and relative income mobility in Viet Nam, it is of interest to benchmark the results of the analysis with similar indicators in European country, as provided by Aristei and Perugini (2012). The analysis of income mobility requires panel data of high quality, as a result there are unfortunately few (comparable) studies on income mobility in developing countries.

Viet Nam exhibits a high degree of absolute income mobility in comparison with European countries. Viet Nam's absolute income mobility is considerably higher than of most European countries, except Poland, Lithuania and Latvia which have comparably high mobility (Figure 4). In countries with high GDP growth the growth component (structural mobility) dominates absolute income mobility, which is high. The high share of structural mobility indicates that in these countries economic growth reached the households. In contrast, in countries with lower GDP growth absolute income mobility is driven by exchange mobility. In other words, the redistribution of already existing wealth (transfer component) drives mobility and not the increase in a nation's wealth (growth component).

Figure 4. **Fields & Ok mobility index, decomposition, 2004-06**

Fields & Ok Mobility Index and GDP per capita growth, 2004-2006
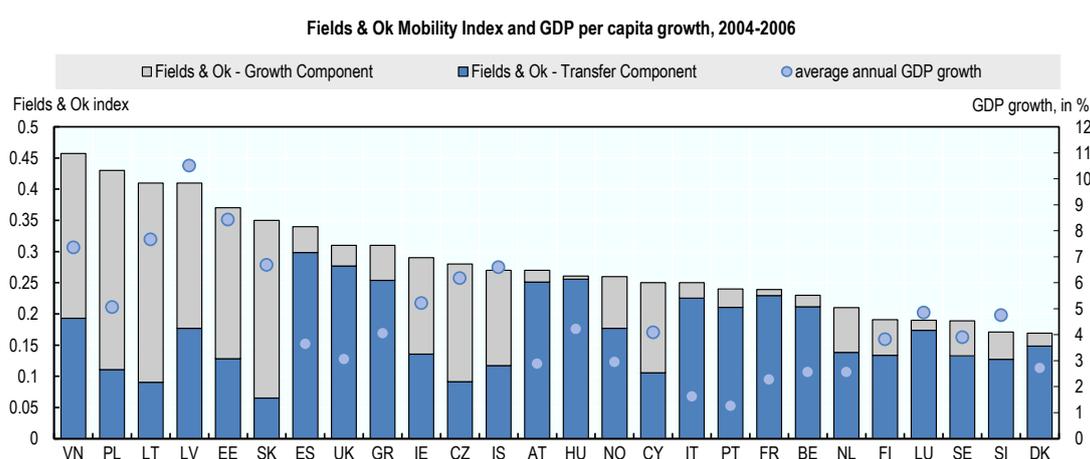
Source: Fields & Ok Index: own calculation based on VHLSS 2004 and 2006 for Viet Nam, other countries from: Aristei and Perugini, 2012. GDP: own calculation based on the World Bank's World Development Indicators.

In Viet Nam income from self-employment is more mobile than income from wages. The elements composing households' income have developed differently, and consequently experience a different level of mobility (Table 1). Wage income has lower mobility compared to

the income from self-employment, indicating that wage income is more stable. The considerably higher mobility of private transfers enforces the notion that this income source is very volatile and exposes households to external goodwill.

Table 1. **Fields & Ok Index by income components, 2004-08**

	Wage	Self-employment - agriculture	Self-employment - non-agriculture	Capital income	Private transfers	Public transfers
Total	0.65	0.81	0.75	1.07	1.68	0.68
Growth	0.21	0.52	0.19	0.83	0.08	0.30
Transfers	0.44	0.29	0.56	0.98	1.59	0.38

Source: Authors' calculation based on VHLSS 2004 and 2008.

Viet Nam's relative income mobility is high. A comparison of Viet Nam's average *Rank Jump Index* positions the country again in the upper end of the ranking (Figure 5). In the period 2004 to 2006 the Vietnamese households moved further in the income distribution than most European countries (1.6 deciles on average). Interestingly, of the three European countries with a high Fields and Ok Index, only Latvia has a high Rank Jump Index. This is consistent with the Fields and Ok decomposition that shows a lower transfer component for the other two countries.

Figure 5. **Rank Jump Index: international comparison of average decile change, 2004-06**
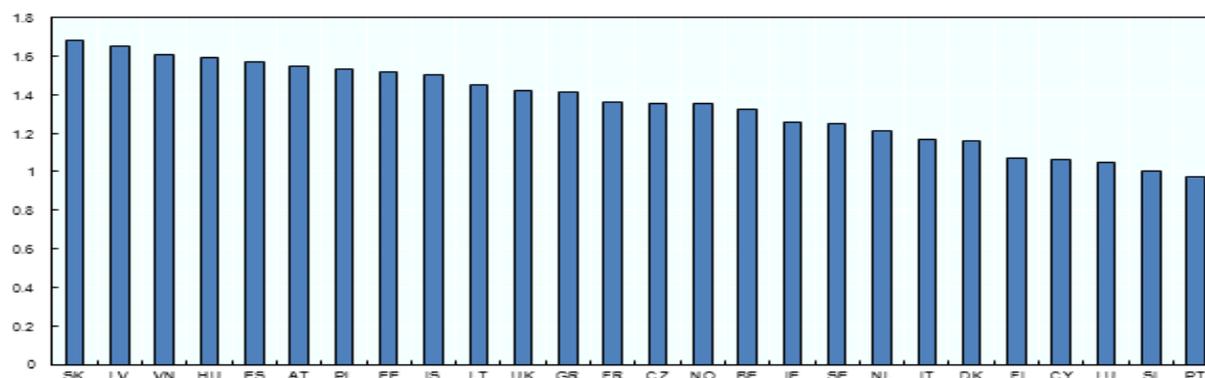
Source: Aristei and Perugini (2012) for European countries; Authors' calculation based on VHLSS 2004 and 2006 for Viet Nam.

Viet Nam's high relative income mobility depicts an open income distribution. Only 21% of the households stay within the same decile, and 39.5% move up or down at least one decile. Table 2 presents the transition matrix for the 2004-08 panel. Relative income mobility is very high between the 2nd and 6th deciles mirroring similar upwards and downwards trends mobility. The high mobility can be partially attributed to the smaller bandwidth of these deciles. The delimiters of these deciles are closer to each other, requiring a smaller income increase to change deciles. This interpretation is also supported by the fact that more households move to neighbouring deciles; e.g. 18% of the households in the 5th income decile in 2004 move to the 6th decile in 2008, while only 3% move into the 10th decile in 2008. The top and bottom deciles have the lowest mobility. Woolard and Klasen (2005) obtained comparable results for South Africa, which is unsurprising as "the income range that makes up the [decile] is much larger for the" top decile.

Table 2. **Transition matrix for the income distribution by deciles, percentage 2004-08**

		Income deciles in percentage, 2008									
		1	2	3	4	5	6	7	8	9	10
Income deciles in percentage, 2004	1	36.6	25.2	17.7	9.6	6.3	2.3	1.3	0.0	0.0	1.0
	2	20.5	15.9	17.3	13.6	13.6	7.8	6.3	2.8	1.5	0.8
	3	13.9	18.3	12.0	11.8	10.1	16.4	8.6	3.5	2.8	2.6
	4	6.7	9.0	16.5	15.8	16.4	12.8	7.8	7.5	5.6	1.9
	5	5.3	10.8	10.0	13.6	11.7	18.0	11.7	9.2	6.6	3.1
	6	5.2	5.1	10.5	11.2	17.9	10.3	14.2	12.4	9.8	3.4
	7	3.8	6.0	3.9	10.9	11.2	10.7	19.2	14.4	10.3	9.7
	8	2.7	5.1	5.8	8.8	7.8	7.6	11.8	17.4	17.3	15.7
	9	0.5	1.9	2.5	5.4	5.4	5.9	15.5	21.6	22.0	19.3
	10	0.8	2.1	3.2	0.9	3.2	4.2	5.8	11.2	24.0	44.6

Note: Figures with a white shading mean that the household stays within the same decile over time. Figures with dark grey shading are the households that moved up in the income distribution. Figures with light grey shading are households that moved down in the income distribution.

Source: Authors' calculations based on VHLSS 2004 and 2008.

V. DETERMINANTS OF MOBILITY

This paper assesses how households' characteristics affect income mobility using a micro-mobility approach. The model includes the initial income plus other relevant controls variables (conditional mobility) and follows the example of Fields et al (2003), Aristei and Perugini (2012) and Woolard and Klasen (2005). The analysis of absolute income mobility uses the directional Fields and Ok index: the logarithmic ratio of the 2008 income over the 2004 income (hereafter referred to as 'income change'). The final model specifications are as follows:

$$\Delta \ln y_i = \ln y_{i,t} - \ln y_{i,t-1} = f(\ln y_{i,t-1}, d_{i,t-1}, \Delta d_i, e_{i,t-1}, \Delta e_i, ic_{i,t-1}, td_{i,t-1})$$

where y_i is the equivalised household income. Further drivers are a vector of household or the household head's characteristic (d_i) and changes in these (Δd_i), the employment status of the head (e_i), the households' income composition (ic_i), and a vector of the household's dependency on public and private transfers (td_i).

The model is additionally replicated with the instrumented income. An Instrumental Variable approach has been adopted to overcome measurement errors due to spurious negative correlation, attenuation bias as well as endogeneity issues (e.g. the household income is subject to these issues). Following Fields et al (2003), the initial income has been predicted using as instruments the equivalised household expenditure in 2004, the living space per capita (m²) in 2004, being a minority group, and living in urban area.

Relative mobility has been analysed using the same model specification. Due to its categorical nature, a multinomial logit regression analysis has been applied to the movement index. The multinomial logit regression estimates how the different predictors contribute to moving up or down at least one income decile with respect to 2004, while staying in the same decile functions as a comparison group.

Determinants of absolute mobility

Low initial income does not impede income mobility. The effect of the initial income on the income change is negative. Thus, households with lower base year income enjoy larger income gains. Other scholars (Fields et al., 2003; Woolard and Klasen, 2005; Aristei and Perugini, 2012) found a negative impact on subsequent income change as well and see it as a confirmation that there is "neither a cumulative mechanism, nor a low income trap in place" (Aristei and Perugini, 2012). The initial income's effect is slightly lower if the income is instrumented.

The demography of households plays an important role. Each additional child reduces the potential income change. The same result is found by Aristei and Perugini (2012) in the European context. In contrast to the European case, the number of elderly household members is not significant. This might be explained by the different labour market context: 67% of the men and 69% of the women above retirement age[5] report to be economically active. Further, the presence of disabled household members has a significantly negative impact on income mobility; whereas each additional member in working age increases the likelihood of augmenting the household's income in the following four years.[6]

Despite an ongoing reduction of the urban-rural income gap (McCaig, Benjamin and Brandt, 2013), living in an urban area still affects the change in income positively. Furthermore, households cultivating land without additional help from non-family labourers experience a significant decrease in their income ratio, compared to households engaging in agriculture with help of paid employees or which do not work in agriculture.

Having a new household head can lead to a precarious situation. The household head's gender has no significant impact on income mobility. Yet, a change from a male household head to a female decreases the income by approximately 20%. Given that the head's gender has no significant impact on income mobility, a change of the head has to be seen as an external shock – such as death or divorce – affecting households' income generation possibility (Woolard and Klasen, 2005). This impact was also found by Fields et al (2003) in the case of Indonesia, South Africa and Venezuela.

The household heads' educational level plays a minor role. The significance of the educational level depends very much on the model specification. Generally, returns to education are modest for young people in Viet Nam (Baulch, Vu Hoang and Nguyen, 2012). The ambiguous impact of education on income mobility is presumably due to the industry's low-value focus which requires limited schooling. Statistics show that the majority of household heads with secondary diploma or higher work as unskilled labourers.

A re-orientation of the head's career does not necessarily lead to an improvement in the household's income. Changes in type of employment, for instance from self-employment to wage-employment are insignificant. Improvements in income do not solely depend on the type of employment, but also on other conditions. Nguyen, Nordman and Roubaud (2013) analyse the earning gaps between the formal and informal sector, and find that self-employment (irrespective whether formal or informal) can be higher remunerated than formal wage work. Furthermore, the lower GDP and employment growth in 2008 might have offered fewer viable options to change.

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5. The retirement age of men is 60 and of women 55.

6. In contrast to other studies, a change in the household size was not significant in Viet Nam. Changes in the number of children or elderly (including dummy to control for changes) were not significant either, suggesting that the change in income is affected by the initial household composition but not by its change in the transition period.

Punctual changes in the household heads' sector of activity can be beneficial for income mobility (Brand-Weiner, Francavilla and Olivari, 2015). A change between the major economic sectors (agriculture, industry and services) has no impact on income mobility. Subdividing the economic sector into own account agriculture, commercial agriculture and mining, low-value manufacturing, medium-value manufacturing, government services and private services shows that changes in activities can have strong significant impact on income mobility (Table 3, model 1a).[7] These findings coincide with Janvry and Sadoulet's (2009) finding that in the 1990s poverty decreased substantially among households that changed from subsistence agriculture to market-oriented production.[8] Also, McCaig and Pavcnik (2013) find that some of the smaller defined sectors benefit more from ongoing changes in Viet Nam.

Being economically active – irrespective of the form – is important for income mobility. Becoming economically active has a strong and robust positive impact on the income change. An increase in the number of working household members has a strong positive impact. Furthermore, an increase in the number of household members with a second job also has a significant positive impact. This importance of having a second job suggests that one job alone does not suffice to secure an increase in income.

Table 3. **Linear Regression. Drivers of absolute income mobility**

Variable	OLS				IV			
	Model 1a	Model 1b	Model 2	Model 3	Model 1a	Model 1b	Model 2	Model 3
hh and hh's head characteristics in 2004								
logarithm of equivalised real hh income	-46***	-46***	-43***	-42***	-37***	-36***	-31***	-30***
	0.03	0.03	0.03	0.03	0.05	0.05	0.06	0.06
minority	-13.86***	-13.93***	-18.00***	-17.90***	-10.09	-9.97	-13.67	-13.52
	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
members in working age	8.55***	8.52***	6.66***	6.67***	8.11***	8.07***	5.76***	5.77***
	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
number of children	-2.09	-2.18	-3.80***	-3.73***	-1.73	-1.82	-3.60***	-3.52***
	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
number of old people	0.64	0.84	0.42	0.00	0.78	0.98	0.62	0.16
	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
hh has at least one disabled member	-11.86*	-12.41**	-10.59*	-10.97*	-9.31	-9.73	-7.15	-7.55
	0.07	0.06	0.06	0.06	0.07	0.06	0.06	0.06
living in urban area	10.44***	10.71***	16.38***	15.84***	7.95**	8.13**	13.93***	13.31***
	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
own account agricultural activity	-13.84***	-10.93***	-10.16***	-10.20***	-11.70***	-8.64***	-7.61***	-7.63***
	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
hh`s head is male	4.60	4.97	2.50	1.92	4.23	4.58	1.99	1.35
	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
hh head is working	24.22***	25.41***	16.41***	15.37***	23.43***	24.54***	14.37***	13.21***
	0.06	0.06	0.06	0.06	0.05	0.05	0.06	0.06
Head`s education								
has a lower secondary diploma	5.93*	6.69*	8.12**	7.89**	4.92	5.61	7.06**	6.80*
	0.04	0.04	0.03	0.03	0.04	0.04	0.03	0.03
has an upper secondary diploma	3.28	4.22	7.45*	7.09*	0.85	1.65	4.84	4.42
	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
has a higher or tertiary diploma	4.01	4.51	4.48	4.54	5.45	6.00	6.21*	6.29*
	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04

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7 . This sector definition captures better Viet Nam's economic transition. Nevertheless, it has a shortcoming: the fewer observations for each sector make it less adequate for a regression analysis.

8 . Janvry and Sadoulet's (2009) define subsistence agriculture by trading less than 10% of the output, which mostly overlaps with our definition of own-account agriculture. Market-oriented production is defined by trading at least 25% of the production.

Table 3. *(cont)*

	OLS				IV			
Variable	Model 1a	Model 1b	Model 2	Model 3	Model 1a	Model 1b	Model 2	Model 3
Head's occupation								
Head is leaders in all fields and levels	4.51	4.96	6.86	6.48	1.11	1.58	3.02	2.57
	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Head is high-level professional in all fields	18.17**	18.53*	22.24**	21.72**	11.60	11.72	14.24	13.60
	0.09	0.10	0.10	0.10	0.09	0.10	0.10	0.10
Head is mid-level professionals in all fields	35.58***	35.16***	37.97***	37.87***	32.63***	31.21***	33.73***	33.59***
	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
change in hh and hh head's characteristics in 2004/08								
change from a male to female hh head	-23.01***	-22.96***	-21.17***	-20.88***	-22.66***	-22.58***	-20.72***	-20.39***
	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
n. of workers in the hh over the hh size	33.36***	32.66***	37.05***	36.40***	34.65***	34.01***	39.44***	38.74***
	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
n. of second job workers over the total hh's workers	16.40***	17.04***	16.20***	16.29***	16.98***	17.65***	16.87***	16.96***
	0.04	0.04	0.04	0.04	0.03	0.04	0.03	0.03
change in household size	1.55	1.43	0.92	0.97	1.18	1.05	0.47	0.51
	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
change in hh head occupation in 2004/08								
from self-employment to wage employment	-7.40	-6.21	-5.33	-5.23	-7.50	-6.38	-5.34	-5.23
	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
from employment to non-employment	-10.37*	-12.43**	-7.09	-7.28	-10.09*	--9.93	-5.72	-5.91
	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
from wage employment to self-employment	-3.97	-3.91	-1.04	-1.13	-3.22	-3.05	-0.63	-0.73
	0.05	0.05	0.06	0.06	0.05	0.05	0.05	0.05
from non-employment to employment	32.03***	31.93***	26.79***	25.14***	31.43***	31.28***	25.42***	23.60***
	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
from own account agriculture to commercial agriculture	13.06***				13.06***			
	0.05				0.05			
from own account agriculture to low manufacture	30.74***				33.52***			
	0.10				0.09			
from low manufacture to medium manufacture	27.56***				26.74***			
	0.10				0.10			
from agriculture to industry		9.42	8.89	9.25		11.14	10.44	10.85
		0.08	0.08	0.08		0.08	0.08	0.08
from agriculture to services		6.43	7.96	7.60		6.82	8.84	8.45
		0.07	0.07	0.07		0.07	0.07	0.07
from industry to agriculture		1.21	3.22	3.22		1.26	3.55	3.55
		0.07	0.07	0.07		0.07	0.07	0.07
from industry to services		0.84	4.31	4.33		1.00	4.50	4.52
		0.07	0.07	0.07		0.07	0.07	0.07
from services to agriculture		-10.04	-8.59	-8.95		-10.53	-8.63	-9.03
		0.08	0.07	0.07		0.08	0.07	0.07
from services to industry		-3.75	4.34	4.13		-3.08	6.51	6.31
		0.11	0.10	0.10		0.10	0.09	0.10
HH income composition in 2004	no	no	yes	yes	no	no	yes	yes
Share of public and private transfers on factor income in 2004	no	no	no	yes	no	no	no	yes
N	1799	1799	1799	1799	1797	1797	1797	1797
r2	0.32	0.32	0.34	0.35	0.31	0.31	0.33	0.34

Note: Robust standard errors are reported below coefficient. Coefficients are multiplied by 100. ***., **, and * denote significance level at 1%, 5% and 10%, respectively. Regressors include household head's education (results available upon request).

Source: Authors' calculation based on VHLSS 2004, 2006, 2008.

Model 2 and Model 3 in Table 4 control for additional sets of variables: the income composition[9] and transfer dependency.[10]

The households' revenue sources have a strong significant impact on the likelihood of changing income (Model 2). A higher share of agricultural income has the strongest impact on the income, which is twice as high as the impact of the share of wage or household production. This underlines earlier findings that wage is a rather stable income component. Overall, the

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9.   The income composition is measured by the share of each component over the total income.

10.   Approximated by the share of private and public transfer over factor income.

coefficients display high levels of consistency throughout the various models, suggesting that these results are robust.

Consequently wage-employment does not open many opportunities to increase household income. Moreover, not only did the agricultural sector's output and employment not suffer from the economic downturn in 2008, but it expanded, which in turn benefited households with a high initial share of agricultural income. Instead, the manufacturing sector (which comprises the majority of household production and wage earners) experienced a decrease in output growth and employment.

A strong dependency on private transfers increases the exposure to volatility in income. Public and private transfers have opposing effects (Model 3). A high share of public transfers has positive, though negligible small, impact on the income change, whereas a high share of private transfers leads to a decrease of the income change by 2.5%. Private transfers (e.g. remittances or gifts) are an uncertain revenue source as their continued payment is not guaranteed; the Fields and Ok index confirms their high mobility (Table 1).

Table 4. **Linear Regression. Income composition and transfers**

| | National | | | |
| | OLS | | IV | |
Variable	Model 2	Model 3	Model 2	Model 3
share of wage income on total income	29.32***	22.02***	36.49***	28.50***
	0.08	0.08	0.08	0.08
share of agriculture income on total income	57.73***	50.74***	64.99***	57.33***
	0.08	0.09	0.09	0.09
share of production income on total income	27.08***	20.20***	30.74***	23.18***
	0.08	0.08	0.08	0.08
share of capital income on total income	43.17**	36.39*	38.36*	30.84
	0.19	0.19	0.19	0.19
share of private transfers on factor income		-2.50***		-2.75***
		0.01		0.01
share of public transfers on factor income		0.61*		0.66*
		0.00		0.00

Note: Robust standard errors are reported below coefficient. Coefficients are multiplied by 100. ***., **, and * denote significance level at 1%, 5% and 10%, respectively. Regressors include household's education.

Source: Authors' calculations based on VHLSS 2004, 2006, 2008.

Determinants of relative mobility

Overall the results of the multinomial logit and the linear regressions are consistent (Table B.1 in the annex). Characteristics that increase the chances of moving up at least one income decile or decrease the chances of moving down are: living in urban areas, having many household members in working age, as well as increasing the share of workers among the household members, the number of members with a second job relative to all working household members, a head of household having an upper secondary diploma or an occupation as a high-level or mid-level professionals independent from the field, the head being economically active in the initial period, and the head becoming economically active after not working in 2004.

Factors that decrease the chances of moving up or increase the chances of moving down at least one decile are: a high income in 2004, the number of children in the household, the presence of disabled household member, as well as dedicating to own account agriculture.

Not all factors that affect absolute income mobility are strong enough to change the households' position in the income distribution. Belonging to an ethnic minority group decreases the income over time with respect to Kinh and Hao ethnicity (Table 3), but not sufficiently to let the household move down in the income distribution (Table B1). The same observation holds for a change from a male to a female household head. Earlier on it was argued that a change in the sector of activity has no significant impact on absolute income mobility. However, household heads leaving the agricultural sector decrease the likelihood of moving down at least one income decile; yet, this result is not very robust.

Furthermore, the multinomial logit regression indirectly confirms the low mobility of wage income. Neither the change from self-employment to wage nor the share of wage income has a robust effect on moving up or down. It is crucial not to misinterpret this result by assuming that wage-employment is disadvantageous.[11] It solely confirms that it offers fewer opportunities for upwards.

A high dependency on private transfers affects relative income mobility negatively. Households with a high share of private transfers have lower chances of moving up and higher chances of moving down in the income distribution. Previously it was indicated that the share of public transfers have a negligible small impact on increasing the income over time, yet it has a positive significant effect on moving up in the income distribution, though a very small one.

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11. In the bottom quintile only 8.8% were in wage-employment, whereas 24.6% of the top quintile was.

CONCLUSIONS AND POLICY IMPLICATIONS

This paper contributes to the knowledge on income mobility by analysing the Vietnamese case between 2004 and 2008. It compares Viet Nam's level of income mobility to already existing literature and examines the drivers of income mobility.

A comparison of income mobility with European countries (the only countries for which comprehensive and comparable indicators are available) highlights the high level of mobility in Viet Nam. The reform process Viet Nam embarked in 1986 clearly set society in motion. Within four years the median equivalised household income increased by 34%, and Viet Nam exhibits the highest absolute mobility. Both structural and exchange mobility components are important to Viet Nam's income mobility, but the structural mobility clearly dominates, which is to be expected from a country with high growth rates.

Viet Nam also shows high values for relative income mobility. Not only did Vietnamese households benefit from an absolute income increase, but they also experienced a reshuffling of the income distribution. Only 21% of the households remain stable in their position within the income distribution, while 39.5% move up or respectively down in the distribution. The average non-directional move is 1.6 deciles, which places Viet Nam among the top countries when it comes to relative income mobility.

Viet Nam's transformation process is clearly affecting households' well-being, making it important to understand what drives improvements in income and what holds households back. To obtain this knowledge this paper applies a multivariate analysis controlling for geographic characteristics. An important finding is that there is no low income trap in place: poor households can equally benefit from mobility if the right conditions are created.

Households' mobility depends strongly on their composition and ability to participate in the labour market. Households with many dependents (children or people with disabilities) have more difficulties in getting ahead. This is important to acknowledge, as these households can easily be targeted by policy makers. Different forms of interventions could tackle this problem: e.g. addressing the costs of raising children (child benefits, maintaining free health care and obligatory education, helping to reduce costs associated with attending school such as transport, school lunches, stationery) or facilitate the combination of having children and participating in the labour market (day school and day care).

The household heads' level of education has barely an effect on income mobility. Earlier studies already detected a low return of education in Viet Nam (Baulch, Vu Hoang and Nguyen,

2012). This finding is alarming for policy makers, as Viet Nam increased its education spending to a high level compared to lower middle income countries (OECD, 2014). This led among others to a lower pupils-teacher ratio and a higher school per square meter rate. Yet, it is crucial to ensure that the curriculum matches the needs of the labour market. A review of the curriculum is important to accompany Viet Nam's efforts to move towards a more industrialised quality production.

A change into wage employment in the secondary and tertiary sector does not manifest in higher well-being. Labour mobility in general does not follow a clear trend (Brand-Weiner et al., 2015). These findings undermine that Viet Nam's efforts to modernise the economic structure and labour market do not directly translate into an improvement in households' well-being. This invites scholars and policy makers to study whether the labour market and its legislation allows for participation in the generation of wealth.

Household businesses play a key role in climbing up the ladder. They still employ the majority of the Vietnamese and have an important fall-back function when facing economic uncertainties, for instance the slowdown in the industry and service in 2008. This paper's regression analysis finds that especially household businesses in commercial agriculture have a positive impact on income mobility. Policy makers can translate these results into actions, for instance by keeping the focus on remote areas, improving infrastructure and market access, continuing and improving the work of agricultural extension centres which shall provide households with the skills and tools needed to invest in their productive activities.

Lastly, the multivariate analysis confirms the importance of tackling spatial inequalities. Belonging to an ethnic minority or living in rural areas decreases households' income mobility. Studies show that ethnic minorities concentrate in less urbanised regions, which exhibit higher poverty and inequality rates (OECD, 2014). The lower income mobility experienced by these groups can contribute to a worsening of spatial disparities on the long run. Therefore it is paramount to continue the focus on deprived areas like the regional development programme Programme 135 does.

APPENDIX A

Table A1. **Transition matrix for sector employment of household heads**

Sector of activity	Sector of activity							
	Inactive/ unemployed	Own account agriculture	Commercial agriculture	Low manufacturing	Medium manufacturing	Government services	Private services	Total
Inactive/unemployed	183	27	44	17	2	1	32	306
Own account agriculture	59	187	134	18	1	0	25	424
Commercial or waged agriculture	42	87	249	17	2	4	23	424
Low manufacturing	32	21	25	107	22	3	28	238
Medium manufacturing	1	1	1	9	1	0	2	15
Government services	8	6	5	2	1	75	4	101
Private services	42	16	30	20	6	6	171	291
Total	367	345	488	190	35	89	285	1 799

Source: Authors' calculation based on VHLSS 2004 and 2008.

Table A2. **Summary statistics**

Variables	National Average				Urban				Rural			
	Mean	Std. Deviation	Min	Max	Mean	Std. Deviation	Min	Max	Mean	Std. Deviation	Min	Max
hh characteristics in 2004												
Logarithm of equivalized hh income	9.79	0.71	6.19	13.01	10.26	0.72	8.37	13.01	9.66	0.65	6.19	12.98
Being a Kinh or Hoa	0.85	0.36	0	1	0.96	0.20	0	1	0.82	0.39	0	1
Belonging to a Minority	0.15	0.36	0	1	0.04	0.20	0	1	0.18	0.39	0	1
members in working age	2.72	1.37	0	8	2.78	1.37	0	8	2.71	1.37	0	8
number of children	0.87	0.96	0	5	0.70	0.85	0	4	0.91	0.98	0	5
number of old people	0.48	0.73	0	4	0.51	0.73	0	3	0.47	0.73	0	4
at least one disabled hh member	0.03	0.16	0	1	0.02	0.15	0	1	0.03	0.17	0	1
no disabled member at all	0.97	0.16	0	1	0.98	0.15	0	1	0.97	0.17	0	1
living in urban area	0.21	0.41	0	1	1	0	1	1	0	0	0	0
living in rural area	0.79	0.41	0	1	-	-	-	-	-	-	-	-
engage in own account agriculture	0.42	0.49	0	1	0.22	0.42	0	1	0.47	0.50	0	1
commercial agriculture or no agriculture at all	0.58	0.49	0	1	0.78	0.42	0	1	0.53	0.50	0	1
hh head's characteristics in 2004												
hh's head is male	0.75	0.43	0	1	0.60	0.49	0	1	0.79	0.41	0	1
hh's head is female	0.25	0.43	0	1	0.40	0.49	0	1	0.21	0.41	0	1
Head's occupation												
all type of occupation, except high and mid-level	0.93	0.25	0	1	0.87	0.34	0	1	0.95	0.22	0	1
Leaders in all fields and levels	0.03	0.17	0	1	0.03	0.18	0	1	0.03	0.16	0	1
High-level professionals at all fields	0.02	0.12	0	1	0.06	0.24	0	1	0	0.05	0	1
Mid-level professionals in all fields	0.02	0.15	0	1	0.04	0.20	0	1	0.02	0.13	0	1
Head's Level of Education												
No Diploma or Primary School	0.26	0.44	0	1	0.23	0.42	0	1	0.26	0.44	0	1
Lower Secondary Diploma	0.31	0.46	0	1	0.26	0.44	0	1	0.32	0.47	0	1
Upper Secondary Diploma	0.12	0.33	0	1	0.20	0.40	0	1	0.10	0.30	0	1
Tertiary or Higher Diploma	0.31	0.46	0	1	0.30	0.46	0	1	0.32	0.47	0	1
	National Average				**Urban**				**Rural**			

	Mean	Std. Deviation	Min	Max	Mean	Std. Deviation	Min	Max	Mean	Std. Deviation	Min	Max
change in hh head's characteristics in 2004/08												
head changes from male to female												
	0.03	0.18	0	1	0.04	0.19	0	1	0.03	0.18	0	1
change in hh head occupation in 2004/08												
from self-employment to wage employment	0.06	0.24	0	1	0.04	0.20	0	1	0.07	0.25	0	1
from out of work in to work	0.05	0.22	0	1	0.07	0.26	0	1	0.05	0.21	0	1
from wage employment to self-employment	0.06	0.24	0	1	0.05	0.21	0	1	0.06	0.24	0	1
from employment to out of work	0.07	0.26	0	1	0.12	0.33	0	1	0.06	0.23	0	1
from agriculture to industry	0.02	0.15	0	1	0.01	0.07	0	1	0.03	0.17	0	1
from agriculture to services	0.03	0.18	0	1	0.01	0.10	0	1	0.04	0.19	0	1
from industry to agriculture	0.04	0.19	0	1	0.03	0.18	0	1	0.04	0.19	0	1
from industry to services	0.02	0.13	0	1	0.04	0.19	0	1	0.01	0.11	0	1
from services to agriculture	0.04	0.19	0	1	0.03	0.17	0	1	0.04	0.20	0	1
from services to industry	0.02	0.13	0	1	0.02	0.15	0	1	0.01	0.12	0	1
from own account to commercial agriculture	0.07	0.26	0	1	0.02	0.12	0	1	0.09	0.29	0	1
from own account agriculture to low manufacturing	0.01	0.10	0	1	0.00	0.05	0	1	0.01	0.11	0	1
from low to medium manufacturing	0.01	0.11	0	1	0.02	0.12	0	1	0.01	0.11	0	1
change in hh characteristics in 2004/08												
change in hh size	-0.25	1.37	-10	10	-0.24	1.26	-5	5	-0.25	1.39	-10	10
change in hh labour force in 2004/08												
n. of workers in the hh over the hh size	0.00	0.24	-1	0.8	0.00	0.26	-1	0.8	0.00	0.23	-1	0.75
n. of second job workers over the total hh's workers	-0.02	0.41	-1	1	-0.03	0.34	-1	1	-0.02	0.43	-1	1
hh income composition in 2004												
share of wage income on total income												
share of agriculture income on total income	0.39	0.34	0	1	0.13	0.26	0	1	0.46	0.32	0	1
share of production income on total income	0.17	0.27	0	1	0.28	0.33	0	1	0.14	0.25	0	1
share of capital income on total income	0.01	0.07	0	1	0.03	0.11	0	1	0.01	0.05	0	0.95

share of private transfers on total income	0.10	0.18	0	1	0.11	0.18	0	1	0.10	0.18	0	1
share of public transfer on total income	0.04	0.13	0	0.98	0.05	0.15	0	0.98	0.04	0.13	0	0.96
share of public and private transfers on factor income in 2004												
share of private transfers on factor income	0.31	1.55	0	34.79	0.31	1.34	0	18.18	0.31	1.60	0	34.79
share of public transfers on factor income	0.19	2.37	0	89.24	0.39	4.67	0	89.24	0.14	1.13	0	34.61

Source: Authors' calculation based in VHLSS 2004 and 2008.

APPENDIX B

Table B1. Mulitnomial Regressions. Drivers of relative income mobility

	Model Ia		Model Ib		Model II		Model III	
Variable	down	up	down	up	down	up	down	up
hh characteristics in 2004								
logarithm of equivalised real hh income	26.4***	-31.4***	26.3***	-31.4***	24.4***	-29.3***	24.5***	-29.3***
	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
minority	0.005	-0.048	0.006	-0.049	0.038	-0.067	0.038	-0.069
	0.043	0.044	0.043	0.044	0.043	0.043	0.043	0.043
members in workage	-0.042***	0.050***	-0.041***	0.049***	-0.032***	0.038***	-0.032***	0.038***
	0.010	0.009	0.010	0.009	0.010	0.009	0.010	0.009
number of children	0.012	-0.021*	0.012	-0.020*	0.021*	-0.030***	0.020*	-0.029**
	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
number of old people	0.002	0.000	0.006	-0.001	0.009	-0.003	0.010	-0.006
	0.017	0.018	0.017	0.018	0.018	0.018	0.018	0.018
hh has at least one disabled member	0.096	-0.085	0.103***	-0.092	0.093***	-0.080	0.092	-0.080
	0.059	0.068	0.058	0.067	0.056	0.066	0.056	0.066
living in urban area	-0.061*	0.049	-0.068**	0.053*	-0.107***	0.083***	-0.105***	0.077**
	0.032	0.031	0.032	0.031	0.033	0.032	0.033	0.032
own account agricultural activity	0.079***	-0.060**	0.076***	-0.054**	0.073***	-0.052**	0.073***	-0.053**
	0.024	0.024	0.023	0.022	0.023	0.023	0.023	0.023
hh head's characteristics in 2004								
hh`s head is male	-0.014	0.000	-0.022	0.007	-0.004	-0.009	-0.002	-0.012
	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
hh head is working	-0.110***	0.197***	-0.104***	0.195***	-0.060	0.148***	-0.061	0.145***
	0.042	0.047	0.042	0.047	0.044	0.047	0.043	0.046
Head`s education								
has a lower secondary diploma	-0.014	0.012	-0.018	0.018	-0.028	0.026	-0.029	0.026
	0.030	0.029	0.030	0.029	0.030	0.029	0.030	0.029
has an upper secondary diploma	-0.066*	-0.025	-0.075**	-0.015	-0.098**	0.005	-0.099**	0.005
	0.039	0.038	0.040	0.038	0.040	0.038	0.040	0.038
has a higher or tertiary diploma	-0.034	-0.016	-0.036	-0.012	-0.037	-0.011	-0.039	-0.008
	0.031	0.029	0.031	0.029	0.030	0.029	0.030	0.028
Head`s occupation								
Leaders in all fields and levels	-0.013	-0.053	-0.017	-0.063	-0.024	-0.049	-0.023	-0.052
	0.069	0.067	0.070	0.067	0.067	0.069	0.068	0.068
High-level professional in all fields	-0.129	0.014	-0.134	0.011	-0.143*	0.035	-0.137*	0.021
	0.083	0.112	0.083	0.113	0.083	0.116	0.083	0.114
Mid-level professionals in all fields	-0.156**	0.178**	-0.151**	0.166**	-0.161**	0.173**	-0.159**	0.171**
	0.065	0.072	0.066	0.072	0.066	0.073	0.066	0.073
change in hh head's characteristics in 2004/08								
change from a male to female hh head	0.061	-0.104	0.066	-0.113*	0.058	-0.103	0.056	-0.101
	0.063	0.064	0.064	0.065	0.063	0.063	0.063	0.063
change in hh head occupation in 2004/08								
from self-employment to wage employment	0.084*	-0.021	0.085	-0.028	0.077	-0.020	0.076	-0.019
	0.049	0.049	0.051	0.051	0.050	0.050	0.050	0.051
from employment to non-employment	0.005	-0.094**	0.004	-0.096**	-0.027	-0.063	-0.024	-0.070
	0.045	0.050	0.045	0.051	0.046	0.052	0.046	0.051
from wage employment to self-employment	0.064	-0.020	0.068	-0.041	0.056	-0.028	0.056	-0.030
	0.044	0.043	0.048	0.046	0.049	0.048	0.049	0.048
from non-employment to employment	-0.213***	0.249***	-0.213***	0.250***	-0.190***	0.226***	-0.186***	0.217***

	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.062
from own account agriculture to commercial agriculture	0.011	0.034						
	0.043	0.043						
from own account agriculture to low manufacture	-0.269**	0.078						
	0.132	0.109						
from low manufacture to medium manufacture	-0.213**	0.202***						
	0.106	0.077						
from agriculture to industry			-0.131*	0.038	-0.122	0.030	-0.122	0.030
			0.078	0.073	0.077	0.074	0.078	0.075
from agriculture to services			-0.104	0.062	-0.115*	0.070	-0.116*	0.069
			0.064	0.058	0.064	0.059	0.064	0.059
from industry to agriculture			-0.027	0.036	-0.046	0.046	-0.047	0.048
			0.061	0.053	0.061	0.054	0.061	0.055
from industry to services			0.041	-0.008	0.015	0.011	0.015	0.011
			0.076	0.077	0.074	0.076	0.074	0.076
from services to agriculture			0.011	0.037	-0.008	0.044	-0.007	0.042
			0.056	0.053	0.058	0.055	0.058	0.055
from services to industry			0.078	-0.065	0.026	-0.016	0.028	-0.020
			0.098	0.087	0.088	0.083	0.089	0.084
change in hh labour force in 2004/08								
n. of workers in the hh over the hh size	-0.193***	0.183***	-0.190***	0.182***	-0.218***	0.212***	-0.215***	0.206***
	0.051	0.052	0.051	0.052	0.051	0.053	0.052	0.053
n. of second job workers over the total hh's workers	-0.096***	0.090***	-0.096***	0.091***	-0.089***	0.087***	-0.089***	0.088***
	0.027	0.026	0.027	0.026	0.027	0.025	0.027	0.025
change in hh characteristics 2004/08								
change in household size	-0.011	0.009	-0.011	0.009	-0.007	0.006	-0.007	0.006
	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009
hh income composition in 2004								
share of wage income on total income					-0.160***	0.217***	-0.110	0.115
					0.062	0.072	0.073	0.092
share of agriculture income on total income					-0.345***	0.364***	-0.297***	0.266***
					0.061	0.068	0.071	0.088
share of production income on total income					-0.123**	0.210***	-0.075	0.113
					0.062	0.071	0.071	0.089
share of capital income on total income					-0.368**	0.270	-0.330*	0.189
					0.172	0.196	0.174	0.197
share of public and private transfers on factor income in 2004								
share of private transfers on factor income							0.042*	-0.076*
							0.025	0.041
share of public transfers on factor income							-0.004	0.010*
							0.004	0.004

Note: Robust standard errors are reported below coefficient. Coefficients are multiplied by 100. ***., **, and * denote significance level at 1%, 5% and 10%, respectively. The column 'down' presents the results for the possibility of moving down at least one income decile with respect to 2004. The column 'up' presents the results for the possibility of moving up at least one income decile with respect to 2004.

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