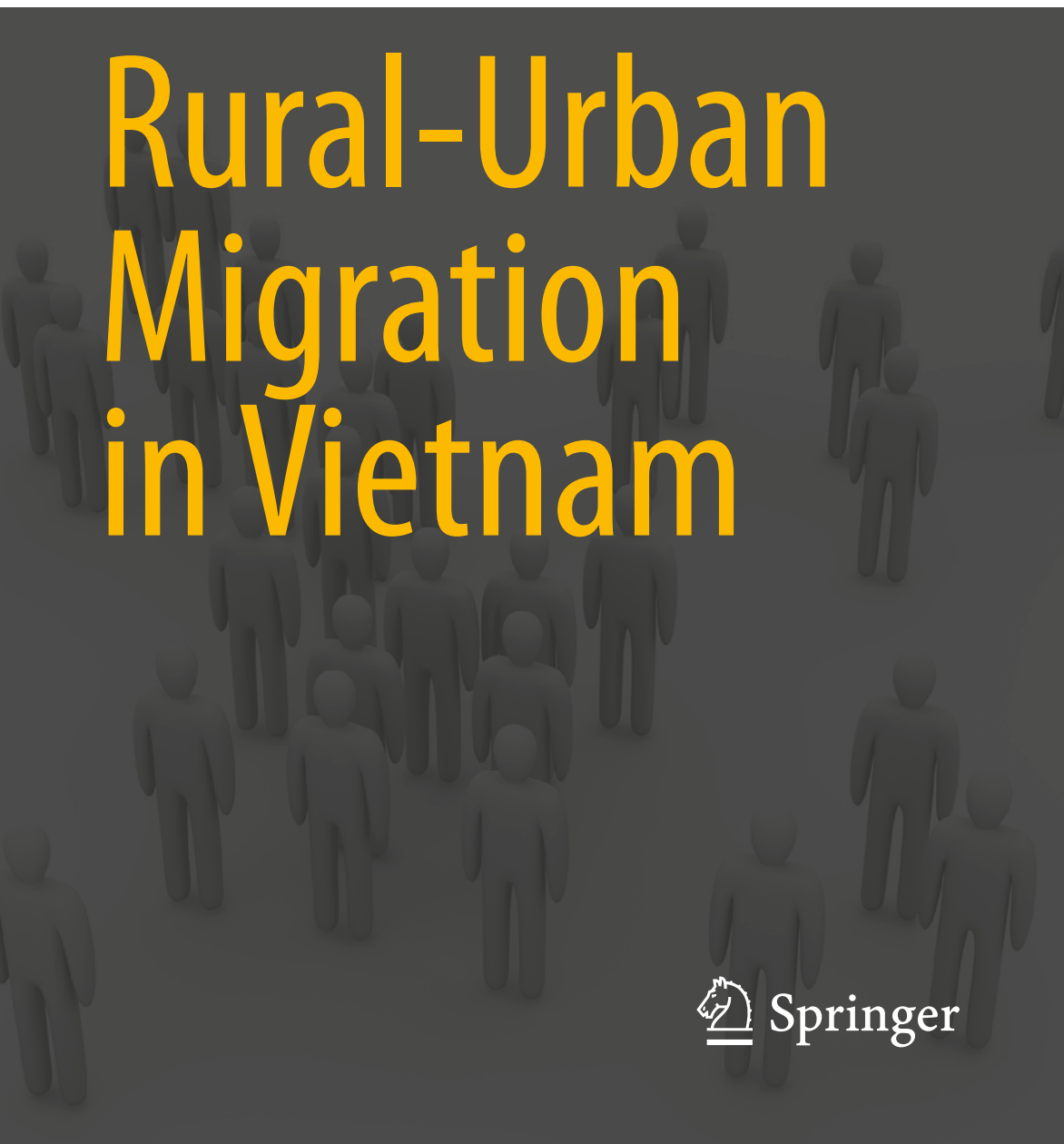
Population Economics

Amy Y. C. Liu
Xin Meng *Editors*

Rural-Urban Migration in Vietnam



Springer

Population Economics

More information about this series at http://www.springer.com/series/2190

Amy Y. C. Liu • Xin Meng
Editors

Rural-Urban Migration in Vietnam

Springer

Editors
Amy Y. C. Liu
International and Development Economics, Crawford School of Public Policy
Australian National University
Canberra, ACT, Australia

Xin Meng
College of Business & Economics
Australian National University
Canberra, ACT, Australia

ISSN 1431-6978
Population Economics
ISBN 978-3-319-94573-6 ISBN 978-3-319-94574-3 (eBook)
https://doi.org/10.1007/978-3-319-94574-3

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

Following the remarkable economic growth in the past few decades, Vietnam has experienced rapid urbanisation. In 1986, Vietnam had fewer than 13 million urban residents. From 2000 to 2010, its urban population increased by about 8 million, representing an annual growth rate of over 4%. This was one of the fastest growth rates recorded in East Asia (World Bank 2015).[1] By 2014, Vietnam's urban population had already reached 30 million—more than double its low base in 1986 (see chapter "Rural–Urban Migration in Vietnam: Trend and Institutions"). Urban expansion in Vietnam is particularly notable in Hanoi and Ho Chi Minh City. In 2000, the urban population was about 8 million in Hanoi and 6 million in Ho Chi Minh City. Both cities have experienced a faster rate of growth (about 4% annually) than urban areas in many other countries in the region, except China (World Bank 2015). Given this rapid expansion, by 2020, these cities are expected to double their size from the level in 2000. Not surprisingly, they are the urban centres that attract many rural–urban migrants (see chapter "Rural–Urban Migration in Vietnam: Trend and Institutions").

Typically, urbanisation and rural–urban migration go hand in hand. On one hand, people are drawn to cities by new economic opportunities unleashed by the rapid development of manufacturing and service sectors. On the other hand, factors such as poverty and lack of opportunities also drive people to leave their home village and migrate to cities. Rural–urban migration is the population movement experienced by most countries in their development process, and Vietnam is no exception.

According to the Vietnam Population and Housing Census 2009, 9.2% of the population aged over five migrating internally in 2009 were rural–urban migrants—an increase of 2% from 1999 (See General Statistics Office (GSO) (2011). *Migration and*

[1]World Bank (2015). *East Asia's Changing Urban Landscape: Measuring a Decade of Spatial Growth*. The Urban Development Series. Washington, DC: The World Bank.

Urbanisation in Vietnam: Patterns, Trends and Differentials—Vietnam Population and Housing Census 2009. Hanoi: Ministry of Planning and Investment, General Statistics Office).[2] Rural–urban migration will continue to grow as the Vietnamese economy develops. This inevitable development process will bring many opportunities and challenges for local and national governments. Ensuring the internal migration process and, hence, the urbanisation process proceed in an economically efficient, sustainable and inclusive manner will require critical rethinking. To this end, understanding the impacts of rural–urban migration in the destination cities, in sending communities and on migrants themselves—their welfare and assimilation—is crucial. Choosing the right policy is extremely important to avoid adverse social and economic outcomes (for instance, creation of city slums, urban poverty and lack of physical and social infrastructure) that could undermine Vietnam's economic growth in the long run.

Seizing the opportunity to be part of the recording of the acceleration of rural–urban migration in Vietnam, the Rural–Urban Migration in China and Indonesia (RUMiCI) project at Australian National University took on the important task of conducting the VRUMS in 2013.

The VRUMS2013 adopts the questionnaires of the RUMiCI project and offers a unique platform for future comparative studies of rural–urban migration in China, Vietnam and Indonesia. The VRUMS2013 is also linked to the large-scale nationally representative Vietnam Household Living Standards Survey 2012 (VHLSS2012), which provides unique opportunities to study migrants' families not only in rural areas but also in cities. In addition, the volume also draws on other widely used data sources to provide a more comprehensive picture of rural–urban migrants in Vietnam.

All these innovative features allow researchers to explore rural–urban migration more fully and to formulate more effective rural–urban migration policies in Vietnam, as well as to serve as lessons for other transitional/developing countries in the region such as Laos and Myanmar.

Canberra, ACT, Australia Amy Y. C. Liu

[2]The Vietnam Population and Housing Census 2009 data show that 7.2% of the population aged over five who migrated internally in 1999 were rural–urban migrants. This number rose to 9.2% in 2009 (GSO 2011).

Acknowledgements

This book is the first major publication of the 'Study of Rural–Urban Migration in Vietnam with Insights from China and Indonesia' project, which was sponsored by AusAId through its Public Sector Linkages Program. This edited volume provides a comprehensive source of information on rural–urban migration in Vietnam based on the new data from the Vietnam Rural–Urban Migration Survey (VRUMS), as well as other widely used data sources.

The VRUMS was led by Professor Xin Meng. The survey was conducted and coordinated by the Central Institute for Economic Management (CIEM) of Vietnam and RTA Limited, a professional consulting firm in Vietnam, with guidance from Professor Xin Meng and Australian National University (ANU) technical team. The success of the survey relied heavily on their efforts. Professor Meng, together with Dr. Duc Anh Dang and Dr. Nguyen Minh Hai, led the VRUMS work in Vietnam throughout the pilot and formal data collection activities carried out in 2013. Australian National University and the CIEM hosted the workshop in January 2015 in Hanoi, and most chapters in this book were presented during that workshop. Comments from both the discussants and the participants at the workshop were very useful and beneficial for the revised work.

We would like to acknowledge the financial support for our work of the Australian Research Council and the Department of Foreign Affairs and Trade. The whole process of writing, reviewing, rewriting, editing and proofreading is a time-consuming process; we are grateful to all the contributors for their time and effort devoted to this book.

Amy Y. C. Liu
with
Xin Meng
2018

About the Book

The book comprises two main parts: general rural–urban migration in Vietnam and the VRUMS methodology and research findings of the VRUMS project.

In chapter "Rural–Urban Migration in Vietnam: Trend and Institutions", Duc Anh Dang and Amy Liu introduce the institutional settings, historical background and current migration trends in Vietnam. Like many former planned economies, Vietnam officially established a household registration system (*ho khau*), in the early 1960s in the north of the country, to control the migration process. This system has undergone several reforms since it was first adopted, but it was still playing a role in restricting rural workers moving to cities at the time of the survey.

Chapter "Study of Rural–Urban Migration in Vietnam: The Survey" by Minh Hai Nguyen, Duc Anh Dang and Amy Liu provides a detailed account of the VRUMS methodology and its implementation procedure in Vietnam. Subsequent chapters examine various important issues of rural–urban migration in Vietnam.

From chapter "Internal Migration in Vietnam, 2002–2012" onwards, the book utilises VRUMS and other available household survey data to examine different aspects of rural–urban migration in Vietnam.

Chapters "Internal Migration in Vietnam, 2002–2012" and "Migration Duration and Migration Outcomes" are dedicated to understanding the complexities of rural migrants' decision-making in relation to migration and migration duration. In chapters "Internal Migration in Vietnam, 2002–2012", Ian Coxhead, Viet Cuong Nguyen and Linh Hoang Vu investigate factors influencing migration decisions using the VHLSS. Using the two rounds of the VHLSS—2010 and 2012—enables the authors to investigate the migration decisions of recent migrants for work and non-work purposes, as well as their choice of destination. As the VRUMS only completed the first round, the VHLSS is more suitable for the task. The results suggest that age is an important factor in migration decisions for work and non-work purposes. The authors also find 'push' factors—such as household assets and land endowments in the home village—encourage outmigration from rural areas. Furthermore, for the recent migrant cohort, migration from rural areas is positively selected to the level of education.

Chapter "Migration Duration and Migration Outcomes" examines the factors associated with migration duration and how these may relate to the migration outcomes of

rural–urban migrants in Vietnam. The VRUMS data include temporary, as well as permanent, migrants. Using this rich data source, Ha Trong Nguyen compares the decisions around migration duration and migration outcomes between different groups of migrants, as well as measuring migration duration.

Chapter "Occupational Wage Differential Between Urban Workers and Rural Migrants in Vietnam" provides a descriptive picture of occupational attainment and the earnings of migrant workers and urban residents. Are migrants paid less than their urban counterparts? What are the factors, including occupation, that contribute to the lower pay of migrants? These are some of the important questions the chapter seeks to explore. Amy Liu applies the decomposition method of Brown et al. to account for the difference in occupational distribution. (See Brown, R.S., Moon, M. and Zoloth, B.S. (1980). Incorporating occupational attainment in studies of male–female earnings differentials. *Journal of Human Resources* 15(1)(Winter): 3–28.)

A lack of information about the urban labour market is a challenge that migrants often face; however, little is known about the causal relationship between social networks and migrants' wages. Chapter "Social Networks and Employment Performance: Evidence from Rural–Urban Migration in Vietnam" investigates this important aspect of migration, with Duc Anh Dang examining the effects of social networks on the income and employment dynamics of rural–urban migrants in Vietnam. Estimation of a causal effect is challenging because unobserved factors affect both employment performance and social networks. He addresses this endogeneity problem by using the instrumental variable method.

The next few chapters examine the welfare impacts of rural–urban migration on migrant families in the sending villages and host cities. Often, migrants send money to support their families back home, while migrant families in the cities tend to spend little on the essentials.

In chapter "Rural–Urban Migration and Remittances in Vietnam: Evidence from Migrant Tracer Data", Diep Phan and Ian Coxhead depict the determinants of migration and remittances, considering selection into migration. They also investigate the impact of net remittances on per capita income in origin households, correcting for potential endogeneity of remittance flows.

Chapter "Differences in Consumption Patterns Between Urban and Rural Migrant Households in Vietnam" studies the consumption patterns of migrants in the cities and compares them with those of urban residents, with a particular focus on food and non-food consumption. Thi Huong Giang Nguyen uses both the VHLSS2012 and VRUMS2013 to explore whether the overall consumption level—as well as food and non-food consumption—is considerably lower in migrant households without urban *ho khau*. She also investigates the channels through which the observed consumption disparity between the two groups could be affected.

Finding appropriate accommodation in the cities is often a major challenge for many migrants. Chapter "Housing Gaps Between Rural–Urban Migrants and Local Urban Residents: The Case of Vietnam" addresses this important issue, which often affects the welfare of migrants and their families. Hai Anh La, Thi Bich Tran and Uyen Nguyen examine the gaps in homeownership and housing conditions between migrants and urban residents using the VRUMS2013 and the VHLSS2012.

Migration affects not only adults but also migrants' children. Chapter "The Children of Migrants and Their Schooling" therefore investigates the well-being of migrants' children in cities and those who are left behind in the home village, with a focus on their education. This chapter, by Ngan Vu Trang Dinh, goes beyond the VRUMS2013 and uses other existing survey data such as the Migration 2011 survey and the Urban Poverty Survey (UPS) 2009 to investigate how parents' migration decisions might affect their children's education prospects.

The concluding chapter highlights the purpose of the VRUMS project and summarises in detail the findings of the book. It also presents policy conclusions and suggestions for the future research agenda.

Contents

List of Contributors

Ian Coxhead Department of Agricultural and Applied Economics, University of Wisconsin-Madison, Madison, WI, USA

Duc Anh Dang Department for Analysis and Forecast, National Centre for Socio-Economic Information and Forecast (NCIF), Ministry of Planning and Investment, Hanoi, Vietnam

Ngan Vu Trang Dinh Fulbright University, Ho Chi Minh City, Vietnam

Hai Anh La National Centre for Social and Economic Modelling, University of Canberra, Canberra, ACT, Australia

Centre for Analysis and Forecasting, Vietnam Academy of Social Sciences, Hanoi, Vietnam

Amy Y. C. Liu International and Development Economics, Crawford School of Public Policy, Australian National University, Canberra, ACT, Australia

Ha Trong Nguyen Bankwest Curtin Economics Centre, Curtin Business School, Curtin University, Perth, WA, Australia

Manh Hai Nguyen Research Department for Social Issues, Central Institute for Economic Management (CIEM), Ministry of Planning and Investment, Hanoi, Vietnam

Thi Huong Giang Nguyen International and Development Economics, Crawford School of Public Policy, Australian National University, Canberra, ACT, Australia

Uyen Nguyen Research School of Physics and Engineering, College of Physical and Mathematical Sciences, Australian National University, Canberra, ACT, Australia

Viet Cuong Nguyen Mekong Development Research Institute, National Economics University, Hanoi, Vietnam

Diep Phan Department of Economics, Beloit College, Beloit, WI, USA

Thi Bich Tran Department of Statistics, National Economics University, Hanoi, Vietnam

Hoang Linh Vu Vietnam-Japan University, Hanoi, Vietnam

List of Figures

Rural–Urban Migration in Vietnam: Trend and Institutions

Study of Rural–Urban Migration in Vietnam: The Survey

Internal Migration in Vietnam, 2002–2012

Migration Duration and Migration Outcomes

Occupational Wage Differential Between Urban Workers and Rural Migrants in Vietnam

Social Networks and Employment Performance: Evidence from Rural–Urban Migration in Vietnam

Differences in Consumption Patterns Between Urban and Rural Migrant Households in Vietnam

Housing Gaps Between Rural–Urban Migrants and Local Urban Residents: The Case of Vietnam

List of Tables

Rural–Urban Migration in Vietnam: Trend and Institutions

Study of Rural–Urban Migration in Vietnam: The Survey

Internal Migration in Vietnam, 2002–2012

Migration Duration and Migration Outcomes

Occupational Wage Differential Between Urban Workers and Rural Migrants in Vietnam

Social Networks and Employment Performance: Evidence from Rural–Urban Migration in Vietnam

Rural–Urban Migration and Remittances in Vietnam: Evidence from Migrant Tracer Data

Differences in Consumption Patterns Between Urban and Rural Migrant Households in Vietnam

Housing Gaps Between Rural–Urban Migrants and Local Urban Residents: The Case of Vietnam

The Children of Migrants and Their Schooling

Rural–Urban Migration in Vietnam: Trend and Institutions

Amy Y. C. Liu and Duc Anh Dang

Abstract The household registration system known as *ho khau* has been an important instrument in regulating internal migration in Vietnam. The first part of this chapter documents the historical roots of the system and its changes. In addition, it analyses the impacts of *ho khau* on migrants' rights to access a wide range of social services such as social and health insurance, education for their children, housing and utilities. The second part of this chapter analyses the scale and trend of rural–urban migration in Vietnam in the past two decades. Finally, it discusses the contributions of migrants both in their place of origin as well as in their destination cities.

1 Introduction

Vietnam is one of a handful of countries in the world that has a household registration system linked to social service provision (Demombynes and Vu 2016: 5). It has adopted the household registration system known as *ho khau*, which originated in China, to tie individuals to live and work where they were born. It was also used to control the flow of migrants from rural areas to the urban centres. *Ho khau* as an institution has been around for decades. It was not until after the market reform known as *Doi Moi* ('Renovation'), when the food rationing system was abolished

This chapter restricts its analysis of migration trends and institutions to 2014, as the Vietnam Rural–Urban Migration Survey (VRUMS) was conducted between 2013 and 2014.

A. Y. C. Liu (✉)
International and Development Economics, Crawford School of Public Policy, Australian National University, Canberra, ACT, Australia
e-mail: yukchu.liu@anu.edu.au

D. A. Dang
Department for Analysis and Forecast, National (NCIF), Ministry of Planning and Investment, Hanoi, Vietnam
e-mail: dang.ducanh@mpi.gov.vn

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_1

and a rapid increase in demand for labour in cities arose, that large-scale movement of people began.

In 1986, when Vietnam embarked on market reforms, it had fewer than 13 million urban residents. The urban population has grown to about 30 million in 2014, accounting for 33.1% of the total population. Urban areas contribute over half of national gross domestic product (GDP) (Demombynes and Vu 2016). The 2015 National Internal Migration Survey shows that migrants make up 19.7% of the urban population, highlighting the important contribution of migrants to the economy. Internal migration—particularly those moving from rural areas to major cities in search of economic opportunities and a better life on the back of Vietnam's high economic growth and rapid urbanisation—is a key driving force of the rising trend in urban population. The cost of migration is significantly affected by the *ho khau* system, which generates inequity between migrants and local residents in cities. It has also impacted on the process of urbanisation, which governments seek to facilitate and influence to drive economic growth.[1]

This chapter will first provide a better understanding of the *ho khau* system in Vietnam. In addition to the historical roots of the system and its changes, this chapter analyses the impacts of *ho khau* on migrants' rights to access a wide range of social services such as social and health insurance, education for their children, housing and utilities. It will then present a general picture of rural–urban migration in Vietnam—its scale and trend in the past two decades. Finally, it discusses the contributions of migrants both in their place of origin and in the destination cities.

2 Institutional Background

(North) Vietnam began to introduce Soviet-type central planning[2] and agricultural collectivisation soon after defeating the French in 1954. The state owned and controlled the means of production and exchange. It set national plans and determined prices, wages and outputs, as well as allocating and distributing goods. In effect, it regulated all economic activities.

In the late 1950s and early 1960s, like China, Vietnam developed cooperatives according to the level of socialisation and the type of ownership—for instance,

[1]Urbanisation is cited as the engine of growth (e.g. World Bank 2009). Nonetheless, recent literature suggests the nexus between urbanisation and economic growth may not be as straightforward and automatic as portrayed. Turok and McGranahan (2013: 478), for instance, survey evidence in Asia and Africa and argue that the extent to which potential economic growth on the back of urbanisation can be realised hinges on 'how conducive the institutional setting is and how appropriate the investments in public infrastructure are'. Despite the ongoing debate on urbanisation and growth, the importance of the role of institutions and governments in reducing the costs and enabling the benefits is not rebuked.

[2]Van Arkadie and Mallon (2003) argue that a fully fledged Soviet-style command system was never fully operative in Vietnam.

'mutual aid teams' (MATs: *to doan ket or to doi cong*), in which members retained landownership, control of crops and shared agricultural tools but were encouraged to pool their labour together when demand for labour was high; lower-level production cooperatives, in which 'the means of production were pooled but income was distributed according to labour and land rent; and high-level cooperatives in which all land and means of production were collectivized although members' private plots were allowed, and income was distributed according to [a] work-points system [*cong diem*]' (Guo 2006: 20–21). Under this model, production brigade teams (*doi san xuat*) replaced households as the basic work units (Raymond 2008; Guo 2006).

The system of administrative management based on household registration (*ho khau*) was borrowed from the similar system in China. The initial goal of building this system was to restrain excessive movement of rural people to cities in the urbanisation process, which can affect the economic planning process. Also, in the early stage of independence, the government was concerned about opposition to its authority. *Ho khau* was regarded as a tool of internal security as it placed restrictions on people's movement (Demombynes and Vu 2016).

The first legal document (Circular 495) relating to the *ho Khou* system was issued in 1957, aiming to restrain rural people from flowing to the two big cities of Ha Noi and Hai Phong. The *ho khau* system was officially implemented in 1964 in Decree 104, which laid out the basic regulations for the system. The decree required every person to be registered as a member of one household in the location of his or her permanent residence, and movement could take place only with the permission of authorities.

In principle, when people moved they could transfer their *ho khau* to the new destination, but in practice, such a transfer was difficult. Potential migrants were required to go through complicated bureaucratic procedures to obtain a 'moving certificate' from the authorities in their place of origin. Such certificates could be issued in cases where potential migrants could provide evidence of the necessity of the move—for example, employment transfer or university enrolment in the destination. Otherwise, permission would not be issued. Anyone who migrated without official permission would find survival difficult in the new destination without local *ho khau* (Demombynes and Vu 2016). After unification in 1975, the Vietnamese Communist Party imposed the North Vietnamese model on the South.[3]

During the centrally planned period until 1986, access to food rations, land, housing, education, health, and employment was tightly tied to the *ho khau* system. In rural areas, farmers were tied to cooperatives through *ho khau* that linked cooperative membership with access to food and rural employment (Raymond 2008). In urban areas, people relied on state subsidies and rationing to meet their daily needs according to their *ho khau* status. Under strict government control, lack of *ho khau* meant living without the rights and services provided by the state to other citizens (Demombynes and Vu 2016). In other words, *ho khau* was used not only as a

[3]Guo (2006: 21) discusses the resistance of the south, which 'boycotted collectivisation, refused to harvest crops in time, and secretly killed livestock'.

system of identification, but also for controlling access to rights and services (Le et al. 2011). Effectively, it ties people to live and work where they were born.

Vietnam embarked on market reform (*Doi Moi*: 'renovation') in 1986. In the late 1980s, the rationing system and cooperatives were abolished, making it easier for individuals to move and work without permission to obtain the necessities for daily living via markets. This shift has unleashed an increased flow of rural–urban migration since the early 1990s. In addition, the promulgation of the Land Law of 1993 granted individuals and households the rights to transfer, exchange, mortgage, lease and inherit land, thus paving the way for the development of a land market. As a result, farmers are able to sell or buy land-use rights, making it easier for farmers to move either to the city or to other areas (Anh et al. 2015). In sum, the institutional linkage between *ho khau* and the provision of jobs and daily necessities was gradually replaced with market mechanisms, weakening state control over rural–urban population movements. Nonetheless, the *ho khau* system remains in place.

Since *Doi Moi*, the *ho khau* system has undergone several modifications. We detail the recent changes below.

In 2005, Decree 108[4] was issued to amend Decree 51, issued in 1997. The main amendment relaxed the conditions previously required for temporary migrants to obtain permanent resident status in their destination city (Weibel 2008). These conditions include: (1) residing in a legal domicile; (2) having a stable income; (3) having continuous residence in the city of at least 3 years (for cities with special status such as Ho Chi Minh City and Hanoi). For the first time, employment by the state was not required as a condition for registration (Nguyen 2014: 120). Prior to this decree, the minimum required continuous residence in the city was 5 years. In addition, in the new decree, the term 'legal domicile' is no longer restricted to a land-use certificate or house-ownership certificate. Under the new regulation, certification from the subdistrict People's Committee of the legal status of the house or a lease agreement is all that is required. Moreover, previously only the migrant's spouse and children were eligible to apply for permanent residence status; under Decree 108, applications were extended to other family members, such as nieces and nephews.

Until 2007, there were four categories of registration under the household registration system (Le et al. 2011): local original residents, known as KT1; people registered in the same province who are now living in a different district (KT2); people registered in one province but with permission to reside permanently in another (KT3); and seasonal workers and students residing temporarily in a different province from that of their registration (KT4). There are also an unknown number of unregistered migrants—people who, in principle, remain on the household lists in their home communes and wards, but who actually live either temporarily or permanently in another district or province without official permission.

Administratively, to obtain recognition as a temporary resident (KT3 and KT4), migrants were required to obtain a letter of release from the district authorities (in the

[4]Decree 108/2005/ND-CP, dated 19 August 2005, and Circular 11/2005/TT-BCA-C11, dated 7 October 2005.

case of movement between provinces) or commune authorities (when moving between districts in the same province) where they were registered. To obtain official permission to leave, they needed evidence of a job or school registration in their destination. However, this policy was not effectively implemented, as, in reality, many migrants received neither permission to leave their place of origin nor official status upon arrival at their destination.

Driven by increased demand for workers to meet the expansion of industry and the service sector in cities, Vietnam relaxed the household registration system to allow greater population mobility. The 2006 Law on Residence was enacted and took effect in 2007. Under the new law, permission from the authorities in the place of origin was no longer one of the required conditions to apply for permanent *ho khau* in the destination city. Moreover, it shortened the continuous residence requirement for permanent residency in a 'legal domicile' from 3 to 1 year (Demombynes and Vu 2016; Nguyen 2014; National Assembly 81/2006/QH11 Law on Residence, 29 November 2006, Clause 1, Article 20). Furthermore, stable employment and homeownership for the duration of a migrant's stay are no longer required. The new law also simplified the four categories of *ho khau* status to just two: permanent (KT1 and KT2) and temporary (KT3 and KT4). In practice, however, the distinction between KT3 and KT4 remains (Demombynes and Vu 2016). Hence, we will discuss later the restrictions associated with each of the four *ho khau* categories.

More recently, however, restrictions were tightened again via amendments to the 2013 Law on Residence (Decree 31/2014/ND-CP, 18 April 2014). Under these amendments, applicants for permanent residence in the inner districts of five centrally administered cities (Ha Noi, Hai Phong, Da Nang, Ho Chi Minh City, and Can Tho) must have lived there for at least 2 years without interruption (versus 1 year under the previous law). In addition, applicants for permanent residence in the inner districts in Hanoi must own a house or be renting one under a long-term contract and must have lived there continuously for at least 3 years.

Despite the market and other reforms, the *ho khau* system remains in place. While living without *ho khau* was made possible after *Doi Moi*, challenges remain for rural–urban migrants today (Demombynes and Vu 2016).

Local residents (KT1) enjoy full residential rights, including the right to purchase and sell land and housing and to obtain land/house-ownership certificates. They also have access to public facilities and social services in their current place of residence. They can access formal financial loans and employment, although their right to access public social services including education and health is limited to their district of residence.

Those with KT2 status enjoy the same rights as their KT1 counterparts; however, their right to access education and health care is restricted to the district in which they are registered under their *ho khau*.

KT3 residents are long-term temporary migrants who do not have permanent registration at their current place of residence but have temporary registration[5] for a maximum of 24 months, with the possibility of extension, and who can access public facilities and social services. In other words, they can access these public services by paying a fee or access free services in their place of origin, where their permanent residence is registered. Their children can attend a public school only if there is excess capacity, as priority is given to the children of KT1 and KT2 residents. If there is no space available to accommodate them, they must attend private schools, where they may have to pay higher fees.[6]

For the migrants who have only temporary registration (KT4) at their place of current residence, they cannot purchase land-use rights and have no access to public social services or financial loans. They also do not have rights to administrative, legal and social services without permanent registration.

Migrants with KT4 status as well as those who are not registered (together known as 'spontaneous migrants') are also deprived of other rights—for instance, 'voting [rights] in the local community, registration for a marriage licence, birth certification for their newborns, and military service' (Le et al. 2011: 6; Demombynes and Vu 2016: 39).[7]

As described above, *ho khau* remains a factor in determining the rights of an individual and their family's access to social services, health care and so on in their current place of residence. Permanent residents can access social services for free or at a subsidised cost in their registered locality, while temporary residents must pay the full cost in many instances.

Migrants in the cities without permanent residence are not explicitly excluded under the respective laws (such as the Law on Social Insurance and the Law on Health Insurance)[8]; however, the administrative procedures aimed at preventing

[5]By law, if migrants have their own house in the city or someone allows migrants to rent or stay in their house legally, they can register as KT3 (Decree 31/2014/ND-CP, 18 April 2014, on detailed guidance for some articles and implementation measures of the Law on Residence).

[6]Some attend free classes provided by charity organisations and non-governmental organisations (NGOs). Charity classes are usually half-day and provide basic education (e.g. literacy and maths) to impoverished children without access to formal schooling (Sawamoto 2014).

[7]Decree 158/2005/ND-CP and Circular 01/2008/TT-BTP stipulated that newborn children could be registered at the location where their mother is temporarily registered. Recently, the Law on Civil Status issued in 2014 (effective on 1 January 2016) also states: 'An individual may make civil status registration [for civil events such as marriage registration, birth certificate, and death etc.] at the civil status registration agency in his/her registered place of permanent or temporary residence or the place where he/she is living' (National Assembly, 60/2014/QH13, Law on Civil Status 2014, Chapter 1, Article 5, http://vbpl.vn/TW/Pages/vbpqen-toanvan.aspx?ItemID=11031&dvid=13). However, in practice, how strictly these laws are applied may vary from ward to ward. For instance, Sawamoto (2014) reports instances when some migrants encountered difficulties with the local authorities in registering the newborn.

[8]However, one of the preconditions for an individual to receive these benefits is the type/duration of the employment contract, which often works against migrants, especially those without a permanent *ho khau*. We will revisit this point when we examine these policies in greater detail later.

individuals from receiving multiple forms of support or assistance (such as certification from the local authority at the place of origin, buying health insurance from the place of origin, and so on) have effectively linked the right to access with an individual's *ho khau* status. Without a local *ho khau*, individuals will have difficulty even registering a motorbike and will be required to do so in the district of permanent residence (Demombynes and Vu 2016; De Luca 2017).[9] The interaction between *ho khau* and these administrative policies and laws effectively bars temporary migrants and their families from accessing various public services.

Often, without permanent *ho khau* status, migrants are not able to meet the documentation requirements for many government services, which means they have to verify their documents by returning to their place of origin, where their permanent *ho khau* is registered. For instance, government services that require presentation of the household registration book include birth registration, marriage and death registration, social welfare claims, verification of poor household status and eligibility for student credit loans due to hardship. The documentation requirement varies from ward to ward; nonetheless, it represents one of the barriers migrants without permanent *ho khau* face in their daily life (Demombynes and Vu 2016: 39).

However, migrants can still receive subsidised social services and health care despite their *ho khau* status as long as they are on the 'poor list'—'[t]he official local list of who is considered poor and thus eligible for a variety of social assistance measures' (Demombynes and Vu 2016: 34).[10] However, few migrants are eligible to be considered on the list even though they are not excluded legally. Inconsistent local policies, the requirement for documentation from the place of origin that one has not received assistance elsewhere and a lack of permanent *ho khau* status are some of the factors to blame for this (Demombynes and Vu 2016).

Below we discuss in greater detail migrants' rights to access social protection, health care, education for their children, credit, housing and utilities.

2.1 Social Protection

Prior to the unification of Vietnam, a social security system was set up in the northern regions in the late 1950s. This was essentially a welfare system subsidised by the central or regional governments. According to Bui et al. (2000: 339), 'the basic concept was that the state, in cooperation with state-affiliated organisations such as local work cooperatives and mass organisations, would provide for the social welfare needs of all citizens, including the elderly. For those elderly retiring from the

[9]According to the Circular on Vehicle Registration (No. 36/2010/TT-BCA, 12 October 2010, Chapter 2, Article 7, Clause 2.1), if the vehicle owner's 'place of permanent residence indicated in his/her identity card is inconsistent with that indicated in the vehicle registration declaration, he/she shall produce his/her household registration book' (http://lawfirm.vn/?a=doc&id=1611).

[10]The poor list is compiled by the residence wards and is generally for permanent residents, although, in some cases, it also includes some long-term migrants.

state sector, which came to predominate in urban areas, the pension system was the major pillar of public support. For rural elderly … the state encouraged local cooperatives to allocate a minimum allocation of rice from its own stockpile, with extra rice to be provided for those who worked. For the poorest cooperatives that were unable to do so, the government provided subsidies. Medical care … was to be provided free of charge (1959 Constitution, Article 32). The government also set up special programmes for families who had made patriotic sacrifices, as well [as] for the most vulnerable citizens, such as lone and very poor elderly (1966 Circular 202/CPO-TT).' After unification in 1975, an attempt to expand the system in the south of the country was not very successful. In addition, in the north, a lack of surplus resources to provide subsidies made the system unsustainable (Bui et al. 2000: 340).[11]

In the period preceding *Doi Moi*, Vietnam had only a non-contributory old-age pension program for civil servants and workers in state-owned organisations (SOEs), which was managed by various government agencies. After *Doi Moi*, the Vietnamese Government established Vietnamese Social Security (VSS) as the agency to administer the scheme. Coverage was also extended to domestic private enterprises and foreign firms.

The first Social Insurance Law (National Assembly, No. 71/2006/QH11, 29 June 2006) was enacted in 2007, comprising compulsory and voluntary components. The compulsory social insurance program includes a pension for sickness, maternity, occupational disease and injury, retirement (old-age pension) and disability. The voluntary program covers only retirement and death.

According to the Social Insurance Law,[12] workers with contracts of indefinite term or a term of 3 months or longer and public servants are entitled to participate in the compulsory social insurance scheme. Employers entitled to participate in the compulsory scheme include state and private organisations (including household enterprises), as well as individuals employing and paying wages to workers. In addition, Vietnamese citizens working under labour contracts or contracts of indefinite term or a term of between 12 and 36 months for employers specified earlier are entitled to participate in unemployment insurance. Employers entitled to participate in unemployment insurance are those mentioned earlier who employ 10 or more labourers.

While the Social Insurance Law applies to workers irrespective of whether they are migrants or non-migrants, it has disadvantaged migrants with contracts of less than 3 months or without any contract.[13] Only when migrants are employed under a labour contract of more than 3 months are their employers required to participate in

[11] 'An article in the 1980 Constitution states that it is children's responsibilities to care for their elderly parents. Also, elderly in the north resorted to self-help by setting up local elderly associations to source funds from member contributions' (Bui et al. 2000: 340).

[12] It does not apply for health insurance (Vietnam National Assembly 2006a, b).

[13] Arguably, the type/duration of a contract may be endogenous. Not having a permanent *ho khau* may adversely affect migrants' chances of getting a more stable and longer-term job.

the compulsory social insurance scheme, providing the employees the legal benefits of social insurance. For most of the migrants in the cities who do not have compulsory social insurance, by law, they can participate in the voluntary social insurance scheme, which has a focus on workers in the informal sector. However, they have to register and pay contributions to join the voluntary social insurance scheme if they are of working age.[14] For both schemes, after reaching the official retirement age,[15] individuals are entitled to pension benefits only after a minimum of 20 years of contributions (National Assembly, Chapter 3, Article 50, Clause 1; Chapter 4, Article 70, Clause 1). Given the low income and seasonal nature of migrants' work, many are unwilling to sign up for the voluntary scheme. Workers without membership in either scheme will not receive any benefits from social insurance (Anh 2013: 10).

2.2 *Health Care*

Prior to Vietnam's transition to a market economy, the health system was subsidised by the government and free health care was provided for the whole population (MOH 1992; Ladinsky and Levine 1985; Nguyen et al. 1995; Bui et al. 2000: 345).[16] Since the introduction of *Doi Moi*, the health sector has undergone profound changes. Central among these were the privatisation of health services and pharmaceuticals markets and the introduction of the user-pays principle (Nguyen and White 2007). Anh (2013: 83) summarises the changes in health policy as follows: 'charging partial user fees, private health practice in 1989, health insurance in 1992,[17] and reduction and exemption of user fees for the poor, minorities, and poor regions/areas in 1994 [Decree No. 95].'

The Health Insurance Law (HIL) passed in 2008 created a national Social Health Insurance (SHI) fund. The SHI is compulsory for employees with a labour contract of more than 3 months (Anh 2013: 10) or 'without [a] fixed term (a contract in which both parties do not specify the term and the expiry date of the contract)' (UNDP 2010; Anh et al. 2012). Also, the mandatory enrolment period was expanded so that mostly 'formal sector workers[18] . . . all children under 6 years of age, the elderly, the poor, and the near-poor would be compulsorily enrolled. Under the HIL, the government is responsible for fully subsidizing the health insurance premiums for children under

[14]The contribution rate is fixed at 16% of the worker's gross wage. Since 2010, an additional 2% is paid for every 2 years until the payment level reaches 22% (Nguyen et al. 2016).

[15]Workers who have paid social insurance premiums for 20 years or more are entitled to a retirement pension when they reach the official retirement age—60 men and 55 for women.

[16]While healthcare services were free, the *ho khau* system was tightly tied to the rights of accessing goods and services during the pre-reform period. Health care was no exception.

[17]Voluntary non-commercial health insurance schemes were piloted between 1988 and 1992 (Somanathan et al. 2014: 11).

[18]These include civil servants and private formal sector workers.

six, the elderly, the poor, and ethnic minorities, and for partially subsidizing premiums for the near-poor and students' (Somanathan et al. 2014: 1, 12).[19]

That is, legally, employees, regardless of their migration status, are eligible for compulsory health insurance benefits as long as they have a permanent labour contract or one lasting at least 3 months. This, however, effectively excludes migrants, most of whom do not have a contract, seasonal workers and those with a contract of less than 3 months (see chapter "Study of Rural–Urban Migration in Vietnam: The Survey"). Both employers and employees are mandated to contribute to the monthly fee for the compulsory health insurance.[20] In reality, employers—especially those in small business—often fail to pay the insurance fee for their employees (UNDP 2010; Anh et al. 2012). According to (Anh 2013: 96): 'The Decree No. 92/2011/ND-CP was issued to settle administrative violation of regulations on health insurance for employees; but the Decree might not cover seasonal migrants because the migrants mostly work without labor contract or are self-employed (Viet Nam Goverment 2011).'

In addition, while by law, children under the age of six who are not in school are not covered by the school health insurance system, they are entitled to public health insurance regardless of their *ho khau* status. However, in practice, prior to 2016, a birth certificate obtained in the family's place of origin and where its *ho khau* is registered was required before a child could be issued a health insurance card (Demombynes and Vu 2016: 31) entitling them to free check-ups and medical treatment in the current place of residence (Le et al. 2011).[21] This is despite the Vietnamese Government's policy of universal health coverage.

For those without compulsory health insurance—such as workers without a labour contract and the self-employed—by law, they can join a voluntary health insurance scheme in the place where they have either permanent or temporary *ho khau* and pay the monthly fee themselves (Vietnam National Assembly 2008). However, migrants tend to have low incomes and therefore tend not to purchase health insurance (Le and Nguyen 2011; Anh et al. 2012). Migrants, especially temporary migrants, tend to self-medicate when they fall ill (GSO 2006). Alternatively, they have to return to their home village, where their *ho khau* is registered, as they cannot access public health care in the destination city.

By law, to purchase public health insurance in the place of origin, the *ho khau* registration book is required, as it defines the members of each household. All household members who do not otherwise have insurance are required to enrol in the public health insurance scheme. In other words, one cannot purchase public

[19]The mandatory enrolment was expanded to the whole population in 2014 (not just workers in the formal sector), effective January 2015.

[20]Employers contribute two-thirds and employees one-third (via deductions from the gross salary) of the monthly fee.

[21]By January 2016, a birth certificate could be obtained as long as one had a temporary *ho khau*. However, inconsistent implementation of policies has still barred migrants with temporary registration status and their children aged under six from obtaining a healthcare card (Demombynes and Vu 2016: 30).

health insurance independently from his or her family (Demombynes and Vu 2016). For instance, in Ho Chi Minh City, the voluntary contribution by the family covers all people under the *ho khau*. In this case, the premium is calculated for each member: the first person pays 4.5% of the basic salary, the second person pays 70% of the premium of the first person, the third pays 60%, and so on.[22]

It is also possible to purchase public health insurance in the destination city; however, a local *ho khau* or temporary residence book (*So Tam Tru*) is required (Demombynes and Vu 2016). Hence, the interaction of *ho khau* with the health insurance law and its administrative procedures has contributed to the difficulties facing temporary and seasonal migrants in accessing health services in the destination city.

Ekman et al. (2008) find that migrants without local *ho khau* often account for a significant share of those without health insurance. In addition, in line with other studies (Peng et al. 2010, in China; IOM 2015), temporary migrants in Vietnam also tend to have lower usage than non-migrants of healthcare services in destination cities (Demombynes and Vu 2016).

Prior to the establishment of the SHI, the poor were covered by the Health Care Fund for the Poor (HCFP) under Decision 139/2002/QD-TTg—a social program introduced in October 2002 to provide free health care for the poor. Under this policy, free healthcare services and drugs for poor inpatients and outpatients are provided, and the healthcare costs can be reimbursed if the poor are enrolled in health insurance. In 2005, Decree 63/2005/ND-CP replaced Decision 139/2002/QD-TTg, which transferred the beneficiaries of the HCFP to the compulsory insurance scheme (Priwitzer 2012: 133–134). This effectively mandated full subsidising of premiums for the poor, making enrolment mandatory for them. With the Health Insurance Law passed in 2008, the HCFP was integrated into the national SHI. However, as discussed earlier, most migrants are not on the 'poor list' and, therefore, they often do not benefit from the scheme.[23]

The discussion so far shows that, by law, workers in the formal sector are covered by social and health insurance schemes via their employers, irrespective of their *ho khau* status. For most migrants without a permanent *ho khau* and a long-term and stable job (that is, without a contract), they cannot access public/social health care in the destination city (including for their children) unless they are on the 'poor list' (Demombynes and Vu 2016: 30).

[22]Decree 105/2014/ND-CP, dated 15 November 2014, on detailed guidance for some articles of the Law on Health Insurance.

[23]The United Nations Development Program (UNDP 2016: 91) attributes migrants' limited access to health services to the fact that 'many work in the informal sector, [and] they miss state social assistance via the resident household poverty listing process'.

2.3 Education

Prior to the market reform, it was the responsibility of the state to provide education, with the financial resources of the entire education system coming out of the state budget. Since the introduction of *Doi Moi*, the education sector has been liberalised, with public, private and semi-private schools coexisting. The user-pays principle has been introduced and education in Vietnam is no longer free. By law, primary education[24] is compulsory and public schools are tuition-free (Nguyen and Nguyen 2008: 133).[25] However, families have to bear other education-related costs such as books, uniforms, stationery, gifts to teachers, private extra classes (*hoc them*) as well as so-called contributions (construction costs and other indirect fees, such as fees for the use of school facilities and equipment, such as electricity) (UNICEF and MOLISA 2009: 20; Sawamoto 2014: 84, 86).[26] Secondary schools[27] almost always charge tuition (Jones et al. 2014). Meeting the cost of education can therefore be a challenge.

Public schools are usually of better quality than private ones; however, for migrants' children without permanent residence status in the destination city, getting admission to a public school can be challenging. KT3 children can be admitted to public schools, but only when there is excess capacity after meeting the needs of children with KT1 and KT2 status.

Sawamoto (2014: 103, 157) observes from a follow-up field visit in 2013 that some public schools have relaxed their admission policy and admit migrants' children without permanent residence status more readily relative to the period between 2008 and 2010. Sawamoto suggests that while some parents can afford and are willing to pay the extra fees, the readily available funds from non-governmental organisations (NGOs) for disadvantaged children may provide the incentive for these public schools to ease their admission policy.[28] Further, Demombynes and Vu (2016: 26) found that the local steering committee of a ward in Ho Chi Minh City tasked with promoting universal attendance submitted a list of all children of school age, including temporary migrants' children, to the district-level Department of Education. The committee also sent a letter of school admission to every child on the list (Demombynes and Vu 2016: 26). Migrant children who cannot enrol in the public system have to enrol in a private school, where tuition fees are much higher (Cu 2005: 139; Sawamoto 2014; Oxfam and ActionAid 2012; Demombynes and Vu 2016).

[24]Primary education consists of Grades 1–5.

[25]The Law on Universal Primary Education Program (*Luat Pho Cap Giao Duc Tieu Hoc*) was introduced in 1991 (and subsequent laws, such as the Education Law, in 1998 and 2005).

[26]According to the Education Law, aside from the state budget, financial sources for education consist of charges and fees as well as people's contributions (Nguyen and Nguyen 2008).

[27]Secondary education comprises lower secondary (Grades 6–9) and upper secondary (Grades 10–12).

[28]Corruption may also provide a way around the *ho khau* restrictions (Daily Mail Online 2015).

Based on 2009 Census data, the General Statistics Office (GSO 2011) concludes that the 'likelihood of attending primary and secondary schools was much lower among migrants than non-migrant children'. This is despite the government's commitment to achieving the goal of having all children complete Grade 5 by the age of 14 (Nguyen and Nguyen 2008; Bui 2011). Moreover, a recent analysis (World Bank 2014) reveals that even controlling for various characteristics (including per capita income), migrants' children aged 11–18 are 40% less likely to be in school if they do not have a local *ho khau*, mainly because migrants have to pay twice as much as non-migrants for education. Oxfam and ActionAid (2012) also report that higher fees are charged for migrants with rural *ho khau*. According to the report, the annual school fees in Hanoi and Ho Chi Minh City can be more than the salary of a construction worker, forcing many children to drop out.

In contrast with these studies, examining education costs per student by level, the 2015 Household Registration Survey does not find any evidence to support the proposition that 'the costs of public education are a much higher burden for temporary registrants (except at the preschool level)' (Demombynes and Vu 2016: 29). According to Demombynes and Vu (2016), one possible explanation is that the higher costs for those with permanent *ho khau* may reflect more payments for extra classes than those with temporary *ho khau*.

Recall that most non-permanent migrant residents are not on the 'poor list', which excludes them from benefiting from government-subsidised programs, including reductions in and exemption from tuition fees, the granting of scholarships and provision of school supplies (Sawamoto 2014). For migrant children without permanent residence status and whose parents cannot afford tuition and other school fees, the only alternative—aside from dropping out—is to attend free 'charity classes'.[29]

2.4 Employment

Prior to *Doi Moi*, SOEs dominated the economy and employees were guaranteed lifetime employment (*bien che*) (Collins 2011). All areas of the labour market—such as recruitment, selection, compensation, training and performance—were centrally planned (Collins and Zhu 2003). According to the state plan, the number of workers for each organisation was determined by their respective administrative units. Each organisation was given a salary budget and workers were paid according to a wage grid that was institutionally set rather than determined by the market (Liu 2004).

The inefficiency of the centrally planned system resulted in the collapse of many SOEs, prompting the government to embark on the *Doi Moi* program. One important feature of the transition was the gradual demise of SOEs and the emergence of private companies. The 1994 Labour Code formalises labour contracts as the basis of

[29]Some attend free classes provided by charity organisations and NGOs. See Footnote 6.

the employer–employee relationship and provides employers autonomy in hiring and firing decisions, as well as regulating the working conditions of employees.

Nonetheless, while the liberalisation has established a market-oriented labour market, those with permanent *ho khau* status are still given priority for employment opportunities, especially in the public sector. For example, Demombynes and Vu (2016: 20) report that local governments in 'Ha Noi, Ho Chi Minh City, and Da Nang have long had a two-tier recruitment policy: permanent registration is required for normal civil servant jobs but waived for special cases. Da Nang used the two-tier recruitment system until 2014. For talent recruitment, Da Nang did not require permanent resident household registration. Under its special program for attracting skilled workers, graduates from colleges and universities with very high scores could be recruited to work in the Da Nang government regardless of their resident status.' This program was ended in 2014. Hanoi has also recently made permanent *ho khau* a precondition for most jobs in the public sector. Those without a Hanoi *ho khau* have to 'graduate from domestic universities with the highest rank, graduate with excellent or good rank from universities abroad, hold a doctorate issued before 35 years of age, or hold a master's degree or diploma issued by official public universities before 30 years of age' (Demombynes and Vu 2016: 20).

Le et al. (2011) found that, in addition to having fewer job opportunities in the public sector, migrants are also at a disadvantage in terms of the prospects of getting a job in the private sector. For example, Le et al. reported that in Hanoi's industrial parks enterprises usually give employment priority to local residents as they have been instructed by the provincial government to recruit only workers who have permanent residence status.

It is well-documented in the literature that rural–urban migrants tend to work long hours and receive lower wages relative to their local counterparts (Liu 2015; Meng and Zhang 2010). Moreover, migrants who lack local *ho khau* tend to work for small private firms and without contracts. They have no employment, health or safety protection. Violations of the Labour Law by employers are common (Oxfam 2017: 22). In addition, few employers purchase insurance for migrant workers (Thanh Nien News 2010).

2.5 Credit

Migrants moving to cities often rely on credit to smooth their consumption expenditure as, unlike those who live in rural areas, they cannot rely on off-farm income or personal production. Lack of access to formal credit is often cited as one of the many challenges that temporary and non-registered migrants face in the destination city. In Vietnam, there are several sources of formal credit: (1) commercial banks and other financial companies; (2) preferential credit programs via, for example, the Bank of

Social Policy and Vietnam's Development Bank;[30] and (3) social organisations such as Women's Unions.

Loans from commercial banks and financial companies are often off-limits to migrants, as most require collateral or charge a high interest rate on non-collateral personal loans (Viet Nam News 2015). Most migrants cannot afford to purchase a house in the cities as their wages cannot keep pace with house prices. Even if they were able to, gaining the documents required to apply for mortgage loans can be quite burdensome. For example, a mortgage loan application requires documents such as a copy of the labour contract, permanent or temporary residence book and identity card, while trust loans (*vay tin chap*) require a copy of the permanent or temporary residence book and proof of income (e.g. bank statement and/or payslip for the previous 3 months, or 6 months for variable income) (Vietcombank, Vietnam 2017).[31] While there is a disclaimer on Vietcombank's website that the documents required will be considered on a case-by-case basis, this example serves to highlight that the *ho khau* system remains relevant for many rural–urban migrants in cities. Many may have difficulty providing these documents and, hence, are unable to access formal credit.

Rural–urban migrants constitute a significant share of the Vietnamese poor (Noltze 2008). However, most migrants who have temporary *ho khau* status and are not registered in the cities are ineligible to access credit via government programs that target the urban poor. Schemes such as the National Target Program (NTP) as well as credit from poverty reduction programs provided via the Bank for Social Policy (previously known as the Bank for the Poor) often require migrants in the cities to have 'KT3 family registration, a house or a stable job' to be listed as poor (Save the Children UK 2006: 96). The Women's Unions sometimes provide credit to non-permanent migrants in cities, but in practice, only those with 'close contact with an official of the credit program' (Save the Children UK 2006: 96) are successful in securing loans. It is no surprise that difficulty accessing formal credit was cited as one of the most important barriers to migrants starting their own business (see chapter "Study of Rural–Urban Migration in Vietnam: The Survey"). According to one news report, 'loans destined for low-income entrepreneurs … can only be accessed and used where one is registered as a permanent resident' (De Luca 2017). Sawamoto (2014: 77) comments that 'the implementation of such official programs as NTP, facilitation of preferential loans to the poor, and increased educational and health expenditures, while laudable in and of themselves, have, largely owing to the superannuated residence-based policy, not done enough to reach, and to remediate, the target groups, which includes migrants (Luong 2003). Although some NGOs have developed loan and saving programs for poor residents

[30]It was established in 2002 (Decree No. 78/ND-CP, 4 October). It offers preferred/subsidised loans (e.g. at a preferential rate) to any household listed as 'poor' by the People's Committee and Ministry of Labor, Invalids and Social Affairs (MOLISA) (ADB Undated).

[31]https://www.vietcombank.com.vn/Personal/Loan/default.aspx?lang=vi (last accessed: 5 September 2017).

lacking access to formal credit sources, too often such implementations are restricted to certain localities that the organizations operate in and have close ties with, and they are not anticipated to replace official programs. As a result . . . migrants without permanent residency turn to migrant networks so as to cope with financial adversity in the short term and to improve their economic standing over the long term.'

2.6 Housing and Utilities

During the period 1954–1985, the state assumed the role of providing housing for state employees in the cities under the National Housing Program. The program followed 'the principle of egalitarian distribution with heavy subsidies from the state budget . . . The state served as the sole supplier and distributor of housing for most urban residents . . . [Until the] early 1990s, only 30% of the state's employees received housing from the state. The remaining 70% had to make their own housing arrangements or live in very poor conditions (Vietnam Ministry of Construction 1996). Thus, the goal of the socialist housing model was not achieved' (Trinh et al. 2000: 64–65). After *Doi Moi*, in 1991, the government formally abandoned the subsidised housing policy (Trinh et al. 2000: 65) and implemented a series of policies to provide incentives to encourage individuals and private enterprises to build new houses and improve existing ones (for example, in 1994, the government privatised state-owned housing; Gough and Tran 2009: 176). All these policies have facilitated the development of a housing market in Vietnam. Consequently, 'between 1985 and 1997, about 70% of new accommodation in Ha Noi was constructed using financial capital from household and private sources (Phe 2002; Quang and Kammeier 2002) . . . 68% of state-owned buildings in Hanoi have been privatised by 2006' (Gough and Tran 2009: 176).

In 2014, the Law on Housing[32] stated that individuals are only eligible for social housing incentive policies if their household is living in 'low income, poverty or near poverty in the urban areas' and they have not owned any house and have not received any assistance from another housing policy. In addition: 'They are required to register permanent residence in the province where the social housing is located; if not, they are required to register temporary residence in that province for at least 1 year.' As a result, newly arrived migrants (with no family or social networks in the city) are excluded from social housing and have to rent accommodation.[33] Also, as the Law on Residence requires proof of 'legal domicile', documents such as a lease agreement are required to register in the destination city. Hence, migrants often find

[32]National Assembly Law No. 65/2014/QH13, 25 November 2014, Hanoi: Article 50.

[33]Rental housing demand is very high in large cities such as Hanoi and HCMC. Migrants working in industrial zones account for a large share of this demand. According to the 2009 Census, 64% of migrants in HCMC and Hanoi lived in rental housing. In 2010, only 8.7% of migrants in these cities owned their house (World Bank 2015: xiii, xiv, 28).

themselves relying on, and at the mercy of, landlords to be able to register. Therefore, the *ho khau* system has complicated migrants' access to adequate housing. Permanent residence is effectively required for the entitlement to purchase public housing due to administrative complications.

As KT4 migrants are not able to purchase land titles, a study in HCMC finds that they tend to be 'in precarious housing conditions such as inner-city slum dwellings along the canal or temporary dwellings on the periphery of the city center' (Tran 2015).

In addition to the housing difficulties migrants without permanent residence face, they also encounter barriers in accessing lower-cost utilities such as electricity and water (De Luca 2017). For example, households with permanent *ho khau* can sign an agreement with the electricity authority to be given an individual meter and are eligible for progressive tariff structures. Temporary migrants tend to pay higher fees for water and electricity (World Bank and Ministry of Planning and Investment of Vietnam 2016: 220; Demombynes and Vu 2016: 37, 38). First, they are typically not eligible for the progressive rate structure[34] unless they have a certificate of house ownership. In such cases, the contract with the authority must be for at least 1 year. For those who are renting, a guarantee from the landlord is required. Second, those who are renting tend to pay a flat rate to the landlord; as they do not have their own individual meter, the landlord more or less determines how much they should pay.[35] According to one newspaper article: 'Without registration, many migrants are at the whim of their landlord. Landlords become the central point through which most essential services are provided: housing, electricity, water . . . Many landlords resell electricity to tenants at rates that are sometimes three times the actual cost' (De Luca 2017).

3 Trends in Rural–Urban Migration

Discussions in Sect. 2 indicate that the current institutional restrictions on rural–urban migrants' access to social welfare and social services in the city may still play a negative role in preventing rural people moving to cities to work. In this section, we present the recent trends in rural–urban migration based on data from the Population Censuses in 1999 and 2009 and the Intercensal Population and Housing Survey 2014.

Following the Population Census Questionnaire, migrants here are defined as those whose place of residence 5 years prior to the Census is different from their current place of residence (GSO 2011). Hence, only those 5 years of age or older are considered migrants according to this definition. Note that this definition tends to

[34]Electricity tariffs operate on an increasing scale. For instance, for the first 50 kWh, the tariff (plus 10% value-added tax) is VND1632/kWh and increases to VND1686 between 50 and 100 kWh. Once usage exceeds 400 kWh, the tariff increases to VND2846/kWh on an increasing scale (Demombynes and Vu 2016: 37).

[35]The average rate is estimated to be VND2884—higher than the top rate on the progressive scale (Demombynes and Vu 2016: 38).

Table 1 Rural–urban and rural–rural migration as a share of the rural population (for people aged 5 years or above) (per cent)

% Rural population	1994–1999 (%)	2005–2009 (%)	2009–2014 (%)
Rural–urban migration	2.18	3.52	2.82
Rural–rural migration	3.02	3.71	3.02
Rural–urban migration (16–64)	4.78	5.07	3.60
Rural–rural migration (16–64)	6.13	5.14	3.82

Sources: Authors' calculations from Population Censuses 1999 and 2009 and Intercensal Population and Housing Survey 2014

underestimate the true level of migration and population mobility. For instance, temporary migrants, seasonal and circular migrants and returned migrants within the 5-year interval are not captured.

Table 1 shows the shares of rural–urban migrants between 2009 and 2014. With the rapid economic growth during the period 2004–2009, many industrial and processing zones were established in peri-urban areas throughout Vietnam, increasing the demand for labour. In response to the increased economic opportunities in cities, rural–urban migration flows increased rapidly. However, after 2009, Vietnam faced many challenges (GSO 2015), one of which was the adverse economic impact of the 2008 Global Financial Crisis (GFC) during 2009–2014, which slowed economic growth in the country.[36] This discouraged migration for work purposes. In addition, some migrants who could not find employment in urban areas returned to the countryside (GSO and UNFPA 2016). These are some of the factors driving a decrease in the number of rural–urban migrants, as reflected in Table 1.

Table 1 shows that, as a percentage of the total rural population, the share of rural–urban migrants increased by about 61% to 3.52% during 2005–2009, before it declined to 2.8% in the last period. There was also an increase in rural–rural migration between the first two periods, although this was not as large as that of the rural–urban migration share. It fell in the last period to just above 3%—the same level as in the first period, 1994–1999. While rural–urban migration's share of the rural population is still behind that of rural–rural migration, the gap between the two has significantly narrowed over time.

Restricting the age group to those aged 16–64, we examine the role of rural–urban and rural–rural migration in the labour force. The last two rows in Table 1 show that the rural–rural migration share in the labour force has declined, from more than 6% to 3.8% over time. This represents a decline of almost 38%. Conversely, the share of

[36]Prior to the GFC, the average real annual GDP growth was 7.25% between 2001 and 2007. It slowed to 5.5% between 2008 and 2009 and recovered to 6.25% between 2010 and 2011, with the government implementing expansionary policies. However, the average annual growth rate eased to 5.25% during the period 2011–2013 (Kalra 2015). Since 2011, Vietnam has experienced macroeconomic imbalances (such as high inflation, volatile stock market and capital flows, etc.). These imbalances are attributed to the strategy of state-led industrialisation and a lack of commitment to deepening institutional and structural reforms (Pincus 2015; Leung 2015; Kalra 2015) and serve to exaggerate the adverse effects of the GFC.

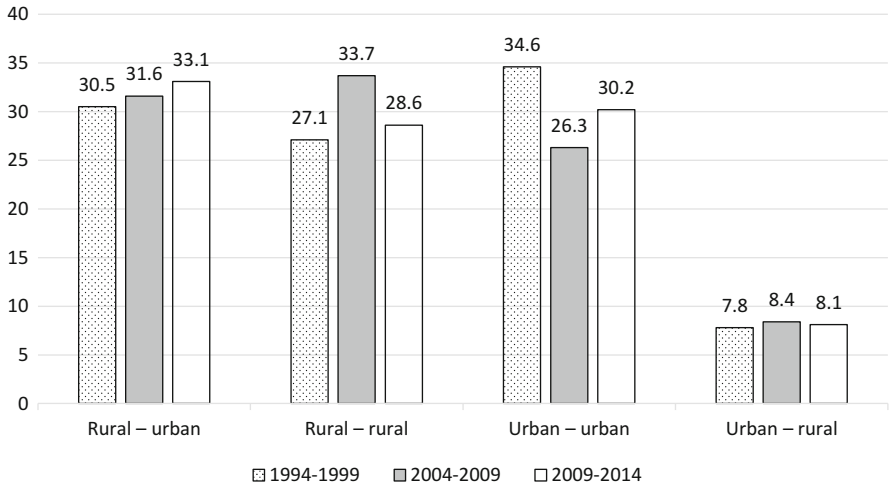


Fig. 1 Trends by streams of migration, 1999–2014. Sources: Population Censuses 1999 and 2009 and Intercensal Population and Housing Survey 2014 (GSO 2015)

rural–urban migration rose from 4.8% to over 5% from the first period to the second period, before falling to 3.6% in the third period. While this represents a decline of about 28%, its share was only marginally lower than the rural–rural migration share.

Figure 1 shows that among the migrant population (urban–urban, urban–rural, rural–urban and rural–rural), there have been remarkable changes in the proportions of different types of migrants over the past two decades. In particular, the increasing trend of rural–urban migration as a share of the migrant population in the past 20 years (1994–2014), compared with other migration streams, has become very apparent. Its share of the migrant population increased from 30.5% to 31.6% over the two census periods (1999–2009) and continued to increase consistently, to 33.2%, 5 years later (2014). The share of urban–urban migration also increased, from 26% in 2009 to 30% in 2014. The rapid progress of urbanisation and the increased economic opportunities in urban centres in Vietnam during the past decades have continued to attract rural population movements to urban areas despite the slower economic growth in the last period.

As rural–urban migration is increasingly important, the analysis here focuses on the distribution of rural–urban migrants in two main destinations: Hanoi and HCMC (and its surrounding regions, Dong Nai and Binh Duong) (Table 2). During 1994–1999, HCMC attracted the highest number of migrants compared with the other four cities/provinces, followed by Hanoi, Dong Nai, Da Nang and Binh Duong. This distribution changed significantly over the next 20 years. While HCMC remains a magnet for migrants, increasing numbers of migrants are moving to other cities. For instance, the number of migrants who moved to Hanoi during

Table 2 Rural–urban migration to major cities (for people aged 5 years or above)

	1994–1999	2005–2009	2009–2014
Rural–urban migration (aged 5 years or above)			
Hanoi	85,568	169,320	173,361
HCMC	364,901	740,475	364,219
Dong Nai	52,615	93,585	33,597
Binh Duong	17,303	98,238	330,973
Da Nang	32,662	57,240	39,757
Share of rural–urban migrants in each city/province			
Hanoi	0.15	0.15	0.18
HCMC	0.66	0.64	0.39
Dong Nai	0.10	0.08	0.04
Binh Duong	0.03	0.08	0.35
Da Nang	0.06	0.05	0.04
Total population (aged 5 years or above)			
Hanoi	2,451,997	5,563,116	6,394,887
HCMC	4,629,313	6,346,236	7,364,260
Dong Nai	1,767,977	2,137,278	2,584,676
Binh Duong	629,503	1,303,449	1,687,183
Da Nang	599,198	738,352	908,465

Sources: Authors' calculations from Population Censuses 1999 and 2009 and Intercensal Population and Housing Survey 2014

2009–2014 increased to 173,361 persons. This was despite the decline of migrants in all the other major cities.[37] The number of migrants in Binh Duong has grown to almost 20 times the level registered during 1994–1999. Da Nang is the only city where the increase in the number of migrants was fairly modest relative to other cities. Overall, rural–urban migrants have contributed significantly to the growth of the urban population, highlighting the correlation between internal migration and urbanisation in Vietnam.

In terms of the share of migrants in each city/province, HCMC accounts for about 66% in the first period, falling to 64% and then sharply lower, to about 39%, in the last period. At the same time, migrants to Binh Duong accounted for 35% of the total migrant population in all the five cities/provinces during 2009–2014. This number was about 3% and 8.5% in the first two periods respectively. As Binh Duong is highly industrialised and close to HCMC, it has attracted increasing numbers of rural–urban migrants. The sharp decline of migrants in HCMC is mirrored by substantial increases in Binh Duong. Migrants made up only about 4% of the population in Da Nang in the last period.

To explore the role of rural–urban migrants in the labour force of each city, Table 3 presents the number of migrants aged 16–64 as a percentage of the total

[37]It is hard to pinpoint the exact reason, but some researchers attribute the resilience of Hanoi relative to, for example, HCMC to that fact that Hanoi is a relatively less open megalopolis and its informal sector is only marginally integrated into the rest of the economy (Cling et al. 2010).

Table 3 Rural–urban migration to major cities (people aged 16–64 years)

	1994–1999	2005–2009	2009–2014
Rural–urban migration (16–64 pop.)			
Hanoi	75,636	161,824	162,907
HCMC	319,099	702,029	341,786
Dong Nai	40,793	86,264	30,294
Binh Duong	14,663	92,568	308,252
Da Nang	29,330	54,548	37,878
Total labour force (16–64 pop.)	*1999*	*2009*	*2014*
Hanoi	1,760,292	4,163,675	4,727,081
HCMC	3,439,793	4,239,989	5,782,924
Dong Nai	1,151,788	1,586,421	1,961,679
Binh Duong	438,082	1,085,755	1,383,624
Da Nang	409,620	547,723	682,729
% Total labour workforce			
Hanoi	4.30%	3.89%	3.45%
HCMC	9.28%	16.56%	5.91%
Dong Nai	3.54%	5.44%	1.54%
Binh Duong	3.35%	8.53%	22.28%
Da Nang	7.16%	9.96%	5.55%

Sources: Authors' calculations from Population Censuses 1999 and 2009 and Intercensal Population and Housing Survey 2014

labour force aged between 16 and 64 in each city/province. Except in Hanoi, the share of the migrant labour force rose in all cities between 1999 and 2009. For instance, the number of migrants to HCMC almost doubled, from about 9% to about 17%, during that period. In 2014, fewer migrants moved to these cities, with the share of the migrant workforce dropping to about 6% in HCMC, for example. Binh Duong, however, registered an increase in its share of migrants of about 22%—a sevenfold rise from a low base back in 1999.

4 Migrants' Contribution to the Places of Destination

Since the introduction of *Doi Moi* in 1986, Vietnam has undergone remarkable changes. The shares of the industrial and service sectors in GDP have been rising, while the share of the agricultural sector has been falling. In 1990, the agricultural sector contributed to around 40% of GDP. In 2015, it accounted for only 16% (GSO 2017). The underlying driver of these remarkable changes is industrialisation, which typically takes place in urban areas to achieve economies of scale as businesses expand. Labour is one of the key elements making the continuous expansion of economic activities possible.

Migrants provide the much-needed labour (with low wages) in cities where labour shortages are fuelled by an increase in economic activities. For instance, in the past two decades, Vietnam has established many industrial zones in large cities such as HCMC, Hanoi, and Hai Phong. It is estimated that industrial zones have absorbed about 600,000 workers in Vietnam (Cu 2005).

By 2014, there were 295 industrial parks and 15 economic zones throughout Vietnam. These industrial zones were mostly concentrated in peri-urban areas close to HCMC and Hanoi and attracted many temporary migrants. It is estimated there are now 'around 2.25 million people living and working in industrial zones, of which 75% are migrants' (World Bank 2015: 29). Many are rural–urban migrants.

In addition, migrants often work in the so-called three-D jobs (dirty, dangerous and demeaning), which most urban residents do not want to do (Zhao 2000; Meng and Zhang 2010). Meng and Zhang (2010) find that, even among unskilled workers, an increase in the migrant ratio does not have any negative impact on urban unskilled workers' employment. In addition, they find a positive impact on the wages of urban unskilled workers. These results suggest that migrants and urban residents are not substitutes.

The high rate of economic growth and large export value achieved over the past years have been due partly to the migrant workforce (VAPPD 2006). It was estimated that migrants contributed to 30% of GDP in HCMC (VAPPD 2006). Research indicates the positive contribution of migrants to the growth of services, production, income generation, and urban improvement (Dang et al. 2004; Nguyen 2006).

5 Remittances and Migrants' Contribution to the Places of Origin

For most migrants, the motivation to leave their home village and move to the city is to seek better job opportunities and higher earnings (Phan and Coxhead 2010; de Brauw and Harigaya 2007).[38] For instance, the GSO and UNFPA (2005) reported that two-thirds of rural–urban migrants have moved for employment or economic reasons.

While migrants earn less than urban residents, over 80% of migrants reported that their incomes were much higher than what they were able to earn in their hometown (Dang et al. 2004; UNFPA 2007). According to a 2004 survey conducted in HCMC, Long An and Binh Duong, 'the average monthly income of [rural–urban] migrants to urban areas is about VND1.46 million with the minimum being VND350 thousand and the maximum being VND10 million. The average income of migrants is about 3–4 times higher than the average income in rural areas' (Cu 2005: 137). The GSO

[38]Some migrate for marriage or to study. For example, students from rural areas are more likely to migrate to cities where colleges and universities are located.

(2014: 202) also reports that, in 2012, the monthly per capita income in urban Vietnam was almost VND3 million. The corresponding figure in rural areas was only VND1.6 million.

Migrants who send remittances home often rely on their social networks of friends and families (Niimi et al. 2008). The networks established in destination areas can serve as a channel for the transfer of remittances. In an emergency, postal services are often used as a channel for migrants to remit.

Remittances play a significant role in rural development and the welfare of rural households, and are often an important income source for rural households. According to the 2004 Vietnam Migration Survey, over 50% of households received remittances during the 12 months prior to the survey, and female migrants were more likely to remit than their male counterparts (GSO and UNFPA 2005).

Dang et al. (2004) show that, without remittances, rural families do not have enough income to survive. Remittances combined with other sources such as farm and non-farm income are essential for their survival. Remittances can be helpful to cope with a wide range of expenditures, 'from debt-repayment to healthcare and education fees, and from daily necessities to expenses incurred via ceremonial rituals and family emergencies' (Save the Children UK 2006; Sawamoto 2014: 64). GSO and UNFPA (2005) also report that the most frequent uses of remittances are contributions to daily expenses, repayment of debt, education, health care and housing improvement. Nguyen et al. (2011) find that remittances from working migrants have a positive effect on the per capita expenditures and income of migrant-sending households. 'Migration for work purposes resulted in an average increase in per capita income of VND897,000 between 2004 and 2006: an increase of 19%. Income per working member increased by one third. This was solely due to an increase in remittances . . . Per capita consumption increased by 8% only, suggesting a high propensity to save out of remittances' (Nguyen et al. 2011: 783). Using more recent data, Nguyen and Vu (2017) further estimate that the effect of remittances on expenditure is smaller than the effect on income. That is, remittances are not only used for consumption, they are also put aside for saving purposes and acquiring household assets.

Further, Mu and de Brauw's (2013) study of rural China shows that remittances improve the nutrition outcomes of young left-behind children in terms of improving their weight via increased access to public goods such as tap water. However, the age at which children are left behind is an important factor in determining how a child's health will be affected (Zhou et al. 2015). Also, the income effect of remittances reduces the need for child labour and increases children's education, especially for girls (Demurger 2015; Zhu 2015).[39]

In addition, remittances also provide important support to the elderly. Using the VHLSS1997–1998 survey, Pfau and Long (2010) found that 73.1% of Vietnamese

[39]Some find a negative effect on the left-behind children's education performance (Zhu 2015). Raut and Tanaka (2016) find evidence in Nepal that parental absence is the main factor affecting left-behind children's schooling performance relative to non-parental absence.

elderly lived with their children and 34.8% either received remittances directly or were married to a recipient. They also found that living with children and remittances both served as important means for elderly support. Their findings highlight the role of remittances in reducing poverty among the elderly.

In the absence of, or limited access to, banking credit, migrant remittances serve as a much-needed source of capital for migrant households in rural areas (Zhang et al. 2006). In most rural areas, the opportunities for agricultural diversification and non-farm employment are limited, so remittances provide much-needed capital in the rural economy. Studies in Latin America, such as that by Taylor and Lopez-Feldman (2010), suggest that remittances can increase productivity if they ease the liquidity constraints of migrant-sending households and allow them to invest in high-return capital-intensive activities. De Brauw (2009) and Nguyen and Grote (2015) also find evidence that households who receive remittances tend to shift from labour-intensive crops to less labour-intensive ones, although the evidence on diversification is mixed. For example, Nguyen and Grote (2015) find that these households tend to increase their land productivity and specialisation rather than diversification. In contrast, Lazarte-Alcala et al. (2014) find evidence in Bolivia to support the proposition that rural households who receive remittances tend to diversify relative to those who do not, highlighting the role of remittances in relaxing the credit constraints commonly faced by rural farmers. Moreover, Hoang et al. (2005) show that remittances ensure greater food security for rural families, as they can reduce the need for farmers to sell their rice yield as a cash crop. Similar findings are reported in Bangladesh (Regmi and Paudel 2016).

Through multiplier effects, remittances increase demand for goods and services and land tenancy, create employment and indirectly support an array of activities (Nguyen et al. 2008). According to Dang (2005: 157), 'housing improvement, for example, contributes to demand for construction workers, a sector that has greatly developed in Vietnam over the past years. Construction may now employ almost half the male population of a village and provide the main source of income for many households who are left behind.' There is ample evidence to show that migrant remittances have led to overall economic development and have contributed to rapid economic growth in Vietnam. In simple terms, since migration flows are usually from regions in which labour productivity (and hence per capita income) is low to regions where it is high, remittances typically contribute to poverty alleviation (e.g. Adams and Page 2005; Acosta et al. 2007). Therefore, attempts to restrict migration and to make it costly could reduce the benefits of migration, especially for poor households. The household registration system (*ho khau*) has institutionalised the migration process by giving unequal access to basic social services in the urban destinations.

6 Conclusions and Policy Recommendations

This chapter examines several questions: (1) What is the trend of rural–urban migration in Vietnam? (2) What is the role of the household registration system (*ho khau*) in migration institutions in Vietnam? (3) In what way does *ho khau* define migrants' rights

to access various public services? Discussions of these questions will contribute to and inform current debates about issues such as whether the household registration system should be abolished. Should rural–urban migration be further restricted? What role does rural–urban migration play in the process of Vietnam's urbanisation and modernisation? Should migration be seen as an opportunity and a positive resource for development, or a problem to be solved? Driven mostly by the desire to seek better economic opportunities, migrants leave their home village for urban centres. Not only do they contribute to the destination city in terms of supplying (cheaper) labour to reduce labour shortages in the cities and making it possible for the cities to continue the expansion of economic activities, they also often undertake jobs that urban residents do not want to do. However, the household registration system (*ho khau*), despite several reforms in recent years, remains an institution that directly and indirectly (via intertwining with administrative procedures) restricts migrants' rights to access public services. This makes it difficult for migrants to acquire information and to know what their rights are and what they are entitled to. Without a permanent *ho khau* status, many tend to receive lower wages and lack access to social protection, health care, credit and affordable housing. In addition, their children in the cities face difficulties in being admitted to affordable and quality public education.

While the nexus between urbanisation and economic growth may not be automatic, governments do have a role to play in providing a conducive institutional setting, as well as appropriate infrastructure investment, to realise the full benefits of urbanisation. The removal of institutional barriers such as the *ho khau* system will reduce the costs of migration and facilitate urbanisation in ways that will promote inclusive economic growth. Under the Law on Civil Status that took effect in 2016, the Vietnamese Government has taken steps to unify identification information (including one's *ho khau* status) under a single national population database[40] and issue an identification card with an identification number linked to the data of every citizen (Demombynes and Vu 2016). While the identification card may facilitate identification, if local *ho khau* is required to gain the rights to access public services, migrants in cities will still face a lot of challenges in the years to come.[41]

[40]Currently, different identification papers may be issued and kept by different government agencies.

[41]The Ministry of Public Security has announced that the paper-based *ho khau* book system will be abolished in 2020 at the earliest (Resolution 112/NQ-CP on the simplification of administrative procedures) (Vietnam Breaking News 2017). Instead, an online database with unique identification numbers for all citizens will be developed. While this resolution will simplify the administrative procedures—as all data such as gender, birthplace, permanent address, marital status, and fingerprints will be stored in a national database—according to the Minister of Public Security, To Lam: 'Household registration books will be replaced with national identity numbers in some public services to simplify administrative procedures. However, procedure for management of temporary and permanent residence, and temporary absence will stay unchanged' (Vietnam Breaking News 2017). Until more detailed information is revealed by the relevant agencies, it is not clear whether this new residence management method will ultimately facilitate equal access to public services for migrants—for instance, the inclusion of poor migrants on the 'poor list' and equal access for migrants with very short or no contracts to the same social protection as urban residents. These are some questions that need to be answered to assess the impact of this new policy on migrants' welfare.

References

Acosta, P., Calderon, C., Fajnzylber, P., & Lopez, H. (2007). What is the impact of international remittances on poverty and inequality in Latin America? *World Development, 36*(1), 89–114.

Adams, J. R., & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries? *World Development, 33*, 1645–1669.

Anh, L. T. K. (2013). *Health and access to health services of rural-to-urban migrant populations in Viet Nam*.

Anh, L. T. K., Lien, P. T. L., Nam, B. D. T., Lan, V. H., & Schelling, E. (2012). Situation of living conditions and health service utilization of migrants in Sai Dong industrial zone, Long Bien, HaNoi 2011. *Journal of Military Pharmaco–Medicine, 2*.

Anh, L. T. K., Lan, H. V., & Schelling, E. (2015, December). Utilization of health care services among internal migrants in Hanoi and its correlation with health insurance: A cross-sectional study. *Tap Chi Y Te Cong Cong [Journal of Public Health], 3*(2), 44–56. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5228634/

Bui, T. Q. (2011). School dropout trends in Vietnam from 1988 to 2006. In J. London (Ed.), *Education in Vietnam*. Singapore: Institute of Southeast Asian Studies.

Bui, T. C., Anh, T. S., & Goodkind, D. (2000). Older people in Vietnam amidst transformations in social welfare policy. In D. R. Phillips (Ed.), *Ageing in the Asia-pacific region: Issues, policies and future trends*. London: Routledge.

Cling, J.-P., Chi, N. H., Razafindrakoto, M., & Roubaud, F. (2010, December). *How deep was the impact of the economic crisis in Vietnam? A focus on the informal sector in Hanoi and Ho Chi Minh City*. Policy Brief, GSO/IRD-DIAL project, Hanoi.

Collins, N. (2011). Vietnam's labour relations and the global financial crisis. *Research and Practice in Human Resource Management, 19*(2), 60–70.

Collins, N., & Zhu, Y. (2003). Vietnam's labour policies reform. In S. Frost, O. George, & E. Shepherd (Eds.), *Asia Pacific labour law review: Workers' rights for the new century*. Hong Kong: Asia Monitor Resource Center Ltd.

Cu, C. L. (2005). Rural to urban migration in Vietnam. In H. H. Thanh, & S. Sakata (Eds.), *Impact of socio-economic changes on the livelihoods of people living in poverty in Vietnam*. Tokyo: Institute of Developing Economies–Japan External Trade Organization (IDE-JETRO), ASEDP No. 71. http://www.ide.go.jp/English/Publish/Download/Asedp/071.html

Daily Mail Online. (2015, December 13). Packed cities, empty villages: Vietnam's migration dilemma. *Daily Mail Online*. http://www.dailymail.co.uk/wires/afp/article-3357985/Packed-cities-villages-Vietnams-migration-dilemma.html

Dang, N. A. (2005). *Internal migration: Opportunities and challenges for the renovations and development in Vietnam*. Hanoi: Social Development Programme, Viet Nam–Asia Pacific Economic Center.

Dang, N. A., Tacoli, C., & Thanh, H. X. (2004). *Stay on the farm, weave in the village, leave the home*. Hanoi: The Gioi Publisher.

De Brauw, A. (2009). Seasonal migration and agricultural production in Vietnam. *Journal of Development Studies, 40*(1), 114–139.

De Brauw, A., & Harigaya, T. (2007). Seasonal migration and improving living standards in Vietnam. *American Journal of Agricultural Economics, 89*(2), 430–447.

De Luca, J. (2017, April 8). Vietnam's left-behind urban migrants: Tough restrictions on internal migration are trapping Vietnam's rural-to-urban migrants in a vicious cycle of poverty. *The Diplomat*. http://thediplomat.com/2017/04/vietnams-left-behind-urban-migrants/

Demombynes, G., & Vu, L. H. (2016). *Vietnam's household registration system*. Washington, DC: World Bank Group. http://documents.worldbank.org/curated/en/158711468188364218/Vietnam-s-household-registration-system

Demurger, S. (2015). Migration and families left behind. *IZA World of Labor, 144*, 1–10.

Ekman, B., Liem, N. T., Duc, H. A., & Axelson, H. (2008). Health insurance reform in Vietnam: A review of recent developments and future challenges. *Health Policy Plan, 23*(4), 252–263. https://doi.org/10.1093/heapol/czn009.

General Statistics Office (GSO). (2006). *The 2004 migration survey: Migration and health*. Hanoi: SAVINA Printing Company.

General Statistics Office (GSO). (2011). *The 2009 Vietnam population and housing census: Migration and urbanization in Vietnam—patterns, trends and differentials*. Hanoi: Statistical Publishing House.

General Statistics Office (GSO). (2014). *Results of the survey on households living standard 2012*. Hanoi: Statistical Publishing House.

General Statistics Office (GSO). (2015, September). *The 1/4/2014 Vietnam intercensal population and housing survey: Major findings*. GSO: Hanoi.

General Statistics Office (GSO). (2017). *GSO website on national accounts and state budget - gross domestic product at current prices by economic sector*. https://www.gso.gov.vn/default_en.aspx?tabid=775

General Statistics Office (GSO), & United Nations Population Fund (UNFPA). (2005). *Vietnam migration survey 2004*. Hanoi: Statistical Publishing House.

General Statistics Office (GSO), & United Nations Population Fund (UNFPA). (2016). *The 2015 national internal migration survey: Major findings*. Hanoi: Vietnam News Agency Publishing House.

Gough, K. V., & Tran, H. A. (2009). Changing housing policy in Vietnam: Emerging inequalities in a residential area of Hanoi. *Cities, 26*(4), 175–232.

Guo, S. (2006). Historical background and pre-transition models. In *The political economy of Asian transition from Communism*. Aldershot, UK: Ashgate.

Hoang, X. T., Anh, D. N., & Tacoli, C. (2005, March). *Livelihood diversification and rural–urban linkaes in Vietnam's red river delta* (Working paper series on rural–urban interactions and livelihood strategies No. 11). London: International Institute for Environment and Development.

International Organisation for Migration (IOM). (2015). *Household registration in Vietnam from multidimensional perspectives: A qualitative study*. Hanoi: Institute of Sociology.

Jones, N., Presler-Marshall, E., & Thuy, D. B. (2014). *Falling between the cracks: How poverty and migration are resulting in inadequate care for children living in Viet Nam's Mekong Delta*. London: Overseas Development Institute. https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9306.pdf

Kalra, S. (2015). Vietnam: The global economy and macroeconomic outlook. *Journal of Southeast Asian Economies, 32*(1), 11–25.

Ladinsky, J., & Levine, E. (1985). The organization of health services in Vietnam. *Journal of Public Health Policy, 6*(2), 255–268.

Lazarte-Alcala, N., Adkins, L. C., Lahiri, B., & Savvides, A. (2014). Remittances and income diversification in Bolivia's rural sector. *Applied Economics, 46*(8), 848–858.

Le, D. B., & Nguyen, L. T. (2011). *From countryside to cities: Socioeconomic impacts of migration in Vietnam*. Hanoi: Workers' Publishing House, Institute for Social Development Studies.

Le, B. D., Linh, T. G., & Thao, N. T. P. (2011). *Social protection for rural–urban migrants in Vietnam: Current situation, challenges and opportunities*. CSP Research Report 08. Hanoi: Institute for Social Development Studies.

Leung, S. (2015). The Vietnamese economy: Seven years after the global financial crisis. *Journal of Southeast Asian Economies, 32*(1), 1–10.

Liu, A. Y. C. (2004, June). Sectoral gender wage gap in Vietnam. *Oxford Development Studies, 32*(2), 225–239.

Liu, A. Y. C. (2015). *Wage differential between urban workers and rural migrants in Vietnam: Segregation or discrimination?* Paper presented to the Study of Rural–Urban Migration in Vietnam with Insight from China and Indonesia Conference, 13–14 January, Hanoi.

Luong, H. V. (2003). Wealth, power, and inequality: Global market, the state, and local sociocultural dynamics. In H. V. Luong (Ed.), *Postwar Vietnam: Dynamics of a transforming society*. Lanham, MD: Rowman & Littlefield.

Meng, X., & Zhang, D. (2010). *Labour market impact of large scale internal migration on Chinese urban native workers* (IZA Discussion Paper No. 52). Bonn: Institute for the Study of Labor.

Ministry of Health (MOH). (1992). *Strategy for health for all by the year 2000 and strategic health plan for the period 1990–1995*. Hanoi: Ministry of Health.

Mu, R., & de Brauw, A. (2013). *Migration and young child nutrition: Evidence from rural China* (IZA Discussion Paper No. 7466). Bonn: Institute for the Study of Labor.

Nguyen, T. L. (2006). Migration, development and inequality in Vietnam on the way to renovation and integration. *Sociological Review, 3*, 61–72.

Nguyen, T. H. (2014). Constitutional rights and dialogic process in socialist Vietnam: Protecting rural-to-urban migrants' rights without a constitutional court. In S. H. Williams (Ed.), *Social difference and constitutionalism in Pan-Asia*. Cambridge: Cambridge University Press.

Nguyen, D. L., & Grote, U. (2015). *Migration, agricultural production and diversification: A case study from Vietnam*. Paper presented to the 29th International Conference of Agricultural Economists, Milan, Italy.

Nguyen, Q. K., & Nguyen, Q. C. (2008). Education in Vietnam: Development history, challenges, and solutios. In B. Fredriksen & J. P. Tan (Eds.), *An African exploration of the East Asian education experience*. Washington, DC: World Bank.

Nguyen, C., & Vu, L. (2017, March 10). *The impact of migration and remittance on household welfare: Evidence from Vietnam* (MPRA 80084).

Nguyen, L. T., & White, M. J. (2007). Health status of temporary migrants in urban areas in Vietnam. *International Migration, 45*(4), 101–134.

Nguyen, T. H., Ha, L. T., Rifkin, S. B., & Wright, E. P. (1995). The pursuit of equity: A health sector case study from Vietnam. *Health Policy, 33*, 191–204.

Nguyen, T. P., Tam, T. N. T. M., Nguyet, N. T., & Oostendrop, R. (2008). *Determinants and impacts of migration in Viet Nam* (Working Papers Series No. 012008). Hanoi: Development and Policies Research Center (DEPOCEN).

Nguyen, V. C., Van den Berg, M., & Lensink, R. L. (2011). The impact of work and non-work migration on household welfare, poverty and inequality: New evidence from Vietnam. *Economics of Transition, 19*(4), 771–799.

Nguyen, D. A., Binh, T. M., & Mai, L. A. (2016, June). *Microsimulation of impacts of tax and transfer in Vietnam* (WIDER Working Paper 2016/73). United Nations University World Institute for Development Economics Research.

Niimi, Y., Pham, T. H., & Reilly, B. (2008). *Determinants of remittances: Recent evidence using data on internal migrants in Vietnam* (Policy Research Working Paper No. 4586). Washington, DC: World Bank. License: CC BY 3.0 IGO. https://openknowledge.worldbank.org/handle/10986/6529

Noltze, M. (2008). Backyard living: Integrative policies towards migrant workers; housing microfinance in greater HoChi Minh City, Vietnam. *ASEAS, Österreichische Zeitschrift für Südostasienwissenschaften, 1*(2), 19–33. http://nbn-resolving.de/urn:nbn:de:0168-ssoar-362577.

Oxfam. (2017, January). *Even it up: How to tackle inequality in Vietnam* (Oxfam Briefing Paper, 12). https://vietnam.oxfam.org/sites/vietnam.oxfam.org/files/file_attachments/Vietnam%20Inequality%20Report_ENG.pdf

Oxfam and ActionAid. (2012). *Participatory monitoring of urban poverty in Viet Nam: Five-year synthesis report (2008–2012)*. Hanoi: Oxfam and ActionAid.

Peng, Y., Chang, W., Zhou, H., Hu, H., & Liang, W. (2010, March). Factors associated with health-seeking behavior among migrant workers in Beijing, China. *BioMed Health Service Research, 10*(19), 69. https://doi.org/10.1186/1472-6963-10-69.

Pfau, W. D., & Long, G. T. (2010). *Remittances, living arrangements and the welfare of the elderly in Vietnam* (Working Paper). Scalabrini Migration Center. http://www.smc.org.ph/administrator/uploads/apmj_pdf/APMJ2010N4ART1.pdf

Phan, D., & Coxhead, I. (2010). Inter-provincial migration and inequality during Vietnam's transition. *Journal of Development Economics, 91*(1), 100–112.

Phe, H. H. (2002). Investment in residential property: Taxonomy of home improvers in Central Hanoi. *Habitat International, 26*, 471.
Pincus, J. (2015). Why doesn't Vietnam grow faster? State fragmentation and the limits of vent for surplus growth. *Journal of Southeast Asian Economies, 32*(1), 26–51.
Priwitzer, K. (2012). *Vietnamese health care system in change: A policy network analysis of a Southeast Asian welfare regime*. Singapore: Institute of Southeast Asian Studies.
Raut, N. K., & Tanaka, R. (2016, November 16). *Parental absence, remittances, and educational investment of children left behind: Evidence from Nepal*. Manuscript. https://ejournals.unm.edu/index.php/nsc/article/download/3617/3332
Raymond, C. (2008). 'No responsibility and no rice': The rise and fall of agricultural collectivization in Vietnam. *Agricultural History, 82*(1), 43–61.
Regmi, M., & Paudel, K. P. (2016). Impact of remittance on food security in Bangladesh. In A. Schmitz, P. L. Kennedy, & T. G. Schmitz (Eds.), *Food security in a food abundant world* [Frontiers of economics and globalization, volume 16]. Bingley, UK: Emerald Group Publishing.
Save the Children UK. (2006). *Report on a rapid assessment of the situation of migrant children in Vietnam: Summary report*. Hanoi: Save the Children UK.
Sawamoto, A. (2014). *Vietnam's rural-to-urban migrant families: Educational and social inequalities in a transitional society*. PhD thesis, Graduate School of Sciences, Columbia University.
Somanathan, A., Tandon, A., Dao, H. L., Hurt, K. L., & Fuenzalida-Puelma, H. L. (2014). *Moving toward universal health coverage of social health insurance: Assessment and options*. Washington DC: World Bank.
Taylor, J. E., & Lopez-Feldman, A. (2010). Does migration make rural households more productive? Evidence from Mexico. *Journal of Development Studies, 46*(1), 68–90.
Thanh Nien News. (2010, December 10, Friday 09:25). *Urban poor undetected by Vietnam, NGOs say*.
Tran, C. (2015, August 3). *Housing rural-to-urban migrants in Ho Chi Minh City*. Manuscript.
Trinh, D. L., Vinh, N. Q., Wiesman, B., & Leaf, M. (2000). The socioeconomic impacts of renovation on urban housing in Vietnam. In P. Boothroyd & P. X. Nam (Eds.), *Socioeconomic renovation in Viet Nam: The origin, evolution, and impact of Doi Moi*. Singapore: Institute of Southeast Asian Studies.
Turok, I., & McGranahan, G. (2013). Urbanization and economic growth: The arguments and evidence for Africa and Asia. *Environment and Urbanisation, 25*(2), 456–482.
United Nations Development Program (UNDP). (2010). *Internal migration: Opportunities and challenges for social-economic development in Viet Nam*. Hanoi: UNDP.
United Nations Development Program (UNDP). (2016, January). *Growth that works for all: Viet Nam human development report 2015 on inclusive growth*. Hanoi: Social Sciences Publishing House.
United Nations Population Fund (UNFPA). (2007, June). *Internal migration in Vietnam: The current situation*. Ha Noi: UNFPA.
United Nations Population Fund (UNICEF) and Vietnam & Ministry of Labour, Invalids and Social Affairs (MOLISA). (2009). *Creating a protective environment for children in Viet Nam: An assessment of child protection laws and policies, especially children in special circumstances in Viet Nam*. Hanoi, Vietnam.
Van Arkadie, B., & Mallon, R. (2003). *Viet Nam: A Transition tiger?* Canberra: Asia Pacific Press.
Viet Nam News. (2015, February 27). Banks pocket profits from personal loans. *Viet Nam News*. http://vietnamnews.vn/economy/266835/banks-pocket-profits-from-personal-loans.html#QlrdZxg9OqqKwVIJ.99
Vietcombank website. Retrieved September 5, 2017, from https://www.vietcombank.com.vn/Personal/Loan/default.aspx?lang=vi
Vietnam Breaking News. (2017, November 6). Household registration book to be scrapped. Current residence management methods to stay. *Vietnam Breaking News*.
Vietnam National Assembly. (2006a). *Law on social insurance.* Hanoi.
Vietnam National Assembly. (2006b). *Law on residence*. Hanoi.
Vietnam National Assembly. (2008). *Health insurance law no. 25/2008/QH12*. Hanoi.

Vietnam Parliamentarians' Association for Population Development (VAPPD). (2006). *Assessment on urban migration policy. Parliamentary committee for social affairs*. Hanoi: Vietnam Parliamentarians' Association for Population Development.

Weibel, M. (2008). Migration to greater Ho Chi Minh City in the course of *Doi Moi* policy: Spatial dimensions, consequences and policy changes with special reference to housing. In *Conference on migration into cities: Patterns, processes and regulation*. 25–27 October 2007. Berlin: Irmgard Coninx Foundation.

World Bank. (2009). *World development report 2009: Reshaping economic geography*. Washington DC: The World Bank.

World Bank. (2014). *Study of Vietnam's Ho Khau system: Concept note*. Hanoi: The World Bank.

World Bank. (2015). *Household registration survey 2015: Analysis report*. Hanoi: The World Bank and Mekong Development Research Center.

World Bank and Ministry of Planning and Investment of Vietnam. (2016). *Vietnam 2035: Toward prosperity, creativity, equity, and democracy*. Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/23724.

Zhang, H. X., Kelly, P. M., Locke, C., Winkels, A., & Adger, W. N. (2006). Migration in a transitional economy: Beyond the planned and spontaneous dichotomy in Vietnam. *Geoforum, 37*(6), 1066–1081.

Zhao, Y. (2000). Rural-to-urban labor migration in China: The past and the present. In L. A. West & Y. Zhao (Eds.), *Rural labor flows in China*. Berkeley, CA: Institute of East Asian Studies, University of California Press.

Zhou, C., Sylvia, S., Zhang, L., Luo, R., Yi, H., Liu, C., Shi, Y., Loyalka, P., Chu, J., Medina, A., & Rozelle, S. (2015). China's left-behind children: Impact of parental migration on health, nutrition, and educational outcomes. *Health Affairs, 34*(11), 1–9. https://reap.fsi.stanford.edu/sites/default/files/chinas_left_behind_children.pdf.

Zhu, K. (2015). *Migration, remittances and education: A review of the educational performance of left-behind children in rural China*. Bachelor thesis, Department of Sociology, Lund University.

Study of Rural–Urban Migration in Vietnam: The Survey

Manh Hai Nguyen, Duc Anh Dang, and Amy Y. C. Liu

Abstract This chapter first details the objective, survey design, and steps taken to ensure the quality of data of the Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013). It discusses the challenges and solutions in collecting rural–urban migration data in Vietnam. It then uses the data to provide a broad picture of various aspects of rural–urban migrants' lives in the major destination cities: their characteristics, employment, education, reasons for migrating, their children's education and the difficulties they encounter, as well as the different types of social protection that are recognised as important to protect migrant workers and their families.

1 Survey Design, Preparation and Implementation

1.1 Objective of the Survey

Rural–urban migration and urbanisation in Vietnam have accelerated following significant economic growth in the past decades. The rapid development of industrial zones has increased the demand for labour in the urban manufacturing and service sectors and encouraged millions of rural workers to move to cities to work and seek better economic opportunities. The large-scale rural–urban migration process has significant consequences for both rural development and urban management.

M. H. Nguyen (✉)
Research Department for Social Issues, Central Institute for Economic Management (CIEM), Ministry of Planning and Investment, Hanoi, Vietnam
e-mail: nmhai@mpi.gov.vn

D. A. Dang
Department for Analysis and Forecast, National Centre for Socio-Economic Information and Forecast (NCIF), Ministry of Planning and Investment, Hanoi, Vietnam
e-mail: dang.ducanh@mpi.gov.vn

A. Y. C. Liu
International and Development Economics, Crawford School of Public Policy, Australian National University, Canberra, ACT, Australia
e-mail: yukchu.liu@anu.edu.au

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_2

The objective of the Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013) is to gather information on rural–urban migrants in destination cities.[1] It provides insights into various aspects of rural–urban migration in Vietnam, which will help researchers and policymakers understand the effects of large-scale rural–urban migration in the process of economic development and assist governments in the region in formulating the right economic and social policies to facilitate the processes of rural–urban migration and urbanisation.

1.2 Survey Design

The most challenging issue with which we were confronted was how to randomly select migrants to form a representative sample when there was no pre-existing sampling frame. Given the 2009 Population and Housing Census uses systematic random sampling, it can provide a much needed sampling frame. However, the 2009 Census only captures a subset of migrants (e.g. permanent residents) in cities or the countryside. Migration status is based on residence in a different rural commune or urban ward compared with 5 years ago, hence, the census does not provide information that distinguishes between seasonal and temporary migration or overall patterns of repeat migration. While the 2004 migration survey was undoubtedly the best migration survey available in Vietnam when the project was formulated, it was out of date, especially in view of Vietnam's rapid economic growth, and the characteristics and outcomes associated with internal migration would have changed. In addition, the sampling frame of the 2004 migration survey is not representative and does not include any comparable rural and urban surveys.

The Vietnam Household Living Standards Survey 2012 (VHLSS2012), however, incorporates a special section on migration. This section defined household members as long-term migrants if (1) they had left the household for 10 years or more, or (2) they had left the household for less than 10 years but were still considered 'important' to the household in terms of either family responsibility or financial contributions; and as short-term migrants if that person was absent from the household for the purpose of work for at least 6 months during the past 10 years. The VHLSS2012, therefore, excludes seasonal migrants who work in the city for less than 6 months.

To deal with the lack of a sampling frame and more comprehensive data on rural–urban migrants, we opted to design our sampling strategy based on the VHLSS2012 sample. The master sample of the VHLSS2012 was based on a random sample of the 2009 Census enumeration areas.[2] The VHLSS2012 rural sample is a random sample

[1]The VRUMS2013 questionnaire follows the same structure as the Rural–Urban Migration in China and Indonesia (RUMiCI) survey and was conducted between 2012 and 2013.

[2]The VHLSS2012 is a two-stage area sample in which communes are selected in the first stage and three enumeration areas per commune are selected in the second stage. The communes are stratified

of the rural population, so identifying migrants from this sample and tracking them to their destination cities would to a large extent ensure the randomness of our migrant sample.

The VHLSS2012 includes a question asking for the household's telephone number to allow us to contact the rural households to find out whether any household members have migrated to the city, and contact them in the cities where they reside. We asked rural households whether they had a current or former member who had departed the household and was working in the city. By calling the rural households, we were able to capture all migrants to the cities, regardless of whether they were temporary or long-term migrants. In addition, by anchoring the VRUMS2013 sample to the VHLSS2012, we can link the VHLSS2012 and our migrant sample together. This unique feature enables researchers to explore important issues, such as how rural–urban migration affects rural development and poverty and how migrants fare in cities.

The VHLSS2012 includes two surveys: (1) the so-called small survey (income and expenditure survey) covers 9399 households (in urban and rural areas) and collects information on various aspects of the living standards of households and individuals,[3] including both household income and expenditure information; and (2) the so-called large survey, which covers 37,596 households in addition to those in the small survey. However, while it also collects the same information as the small survey, it does not collect information on household expenditure.

We initially contacted rural households using the small survey. However, due to the small number of migrants in Hanoi, Ho Chi Minh City (HCMC) and its surrounding areas covered in the small survey, we decided to draw the rural household list from the large survey instead.

From the total of 37,596 households, we found only 20,289 rural households with telephone numbers (including either a landline or a mobile phone), of which less than 10% had members who had migrated and worked in Hanoi, HCMC or its surrounding areas. About 30%, or 869, of these migrant households in the cities were successfully interviewed by the VRUMS team, of which 243 migrant households from rural areas were also covered by the small survey.

The main reasons for the low success rate of the survey are as follows. *First*, there are a lot of rural phone numbers missing from the VHLSS2012. *Second*, some of the rural household numbers are incorrect. *Third*, some rural households refused to provide or provided an incorrect phone number for their migrant members in the cities. *Fourth*, selected migrants refused to participate in the interviews. All of this resulted in the low success rate and may potentially lead to sampling biases due to selection problems. For example, the survey may leave out poor rural households

according to province and urban/rural areas. The sample is then allocated over the strata proportional to the square root of the number of households according to the 2009 Census.

[3]The VHLSS2012 contains detailed information on individuals, households and communes, collected from households nationwide. Individual data include demographics, education, employment, health, and migration. Household data are on durables, assets, production, income and expenditure, and participation in government programs.

who do not have a landline or mobile phone. Therefore, our survey may represent the better-off rural households rather than the overall migrant population.

To check the extent of sample selection biases (as measured by the extent of the unmatched migrants), we used the large sample of the VHLSS2012 to identify the rural households from which migrants in the cities originated to compare them with those in the VRUMS2013. The VHLSS2012 is a nationally representative survey as it adopts the 2009 Population and Housing Census as the sampling frame. Hence, while we acknowledge that the VHLSS2012 is not specifically designed for collecting migration data and has its shortcomings, it is the only nationally representative data source that provides comprehensive information on households and individuals in both urban and rural areas. The information on rural–urban migration collected by the VHLSS2012, including the information on the rural households from which migrants originated, would be representative of rural–urban migration in Vietnam in general. The detailed strategy implemented is described as follows:

First, as mentioned above, the VHLSS2012 contains information on two types of migrants: long-term and short-term.

Long-term migrants are defined as former members of rural households who, according to the survey question, '(1) left the household within the last 10 years or (2) may have left at an earlier time but they are still considered as important for your household in terms of the obligations to old parents living with your household or financial support to your household'. *Short-term migrants* are defined as people who are members of rural households and have left the household for 'at least 6 months for work since 2002'. They included both returned migrants and migrants who are still working in the cities and have not returned (unreturned migrants). This definition, therefore, excludes households who have someone who migrated to the city for less than 6 months.

Using these definitions, we identified the heads[4] of 307 long-term migrant households who worked (i.e. excluding those who were attending school or were economically inactive) in Hanoi, HCMC or its surrounding areas within their first 6 months in the city. In addition, we identified the heads of 12 short-term migrant households who had not returned to their families in their rural village. In sum, we had 319 migrants, 307 of whom were long-term migrants (who were former rural household members) and 12 who were unreturned short-term migrants (who were rural household members) and were currently working in Hanoi or HCMC.

Second, we then matched the rural households of these 319 short-term and long-term migrants in the VHLSS2012 with those of 243 migrants in the VRUMS2013 to identify the rural households that had migrants who did not appear in either the VHLSS2012 or the VRUMS2013. We found that only two short-term and 70 long-term migrants in the VHLSS2012 came from rural households that were also in the VRUMS2013. Therefore, 171 rural households with migrants from the VRUMS2013 were not covered by the VHLSS2012. In other words, the migrants from these

[4] 'Household head' refers to the major contributor to the household income or the decision-maker in the household.

Table 1 Characteristics of the rural households with missing migrants, by VHLSS2012 and VRUMS2013

Variables	Means		Difference in means	
	Unmatched VHLSS2012	Unmatched VRUMS2013	T-statistics	P-value
Characteristics of household head				
Minority	0.08	0.06	0.49	0.62
Age	54.36	52.27	1.74	0.08
Gender (Male = 1)	0.76	0.81	1.18	0.24
Marital status of HH head (Married = 1)	0.99	0.98	0.99	0.32
Years of schooling of HH head	7.08	7.27	0.53	0.60
Characteristics of household				
Proportion of HH members under 16	0.05	0.06	0.99	0.32
Proportion of HH members over 65	0.14	0.12	0.81	0.42
Rural household location	2.01	2.11	1.21	0.23
Hourly wage rate in the past 30 days of HH head (VND1000)	16.05	17.90	0.95	0.34
Number of observations	24	156		

Notes: The location dummies of these rural households are coded as 1 if they are in the north, 2 if they are in central Vietnam and 3 if they are in the south. The 'Unmatched VRUMS2013' refers to rural households who have migrants found in the VRUMS2013 but those migrants have not been reported in the VHLSS2012. The "Unmatched VHLSS2012" are the rural households who reported having migrants in the VHLSS2012 but those migrants have not been identified in the VRUMS2013. The third column provides the T-statistics of the mean difference of the key characteristics of the two samples. The numbers of observations reported here ('Unmatched VHLSS2012': 245 and 'Unmatched VRUMS2013': 156) are smaller than the numbers of migrants identified reported earlier (i.e. 247 and 171, respectively) due to missing values in the hourly wage rate

171 rural households were not identified in the VHLSS2012 but were identified in the VRUMS2013. This may be due to the fact that the VHLSS2012 underreports the number of migrants, especially those who are short-term migrants leaving their household for less than 6 months. Similarly, there are 247 migrants originating from rural households reported in the VHLSS2012 who have not been included in the VRUMS2013. The exclusion of these 247 migrants in the VRUMS2013 may be a result of the sampling selection problem as explained above.

We then assess the two groups of rural households who have migrants missing from each survey to see whether they are similar in some key observable characteristics. Such information would provide tentative evidence of the extent to which the VRUMS is affected by selection biases. Table 1 provides comparison of the main characteristics of migrants in the VHLSS2012 and the VRUMS2013. The first two columns show the simple means of the two samples. The two samples are indifferent in means in most characteristics, except age, which is marginally different. To gain a better grasp of the age distribution across the two surveys, we estimate the age

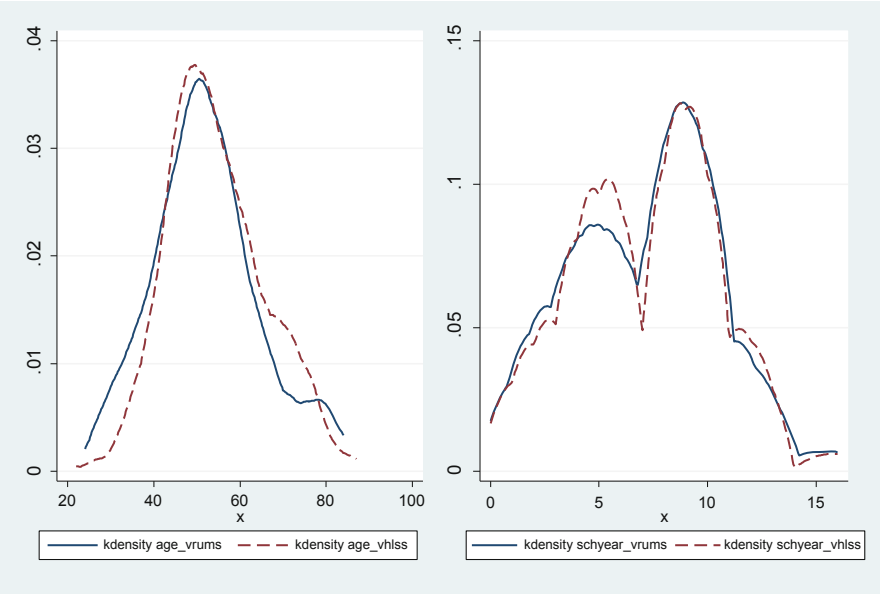


Fig. 1 Distribution of age and years of schooling of head of rural households

density using the kernel estimator and present the results in Fig. 1. As shown in the figure on the left, the distribution of age in the two groups of rural households is very similar,[5] except at the lower end and the upper end of the distribution. The figure on the right panel shows the kernel density of the years of schooling of the heads of the unmatched rural households for the two surveys. The distributions of years of schooling of these household heads of the two unmatched samples track each other closely in most parts except the region where the household heads have 3–7 years of education.

Given that the VHLSS2012 used the 2009 Population and Housing Census as a sampling frame and it is a nationally representative survey, the test of the mean difference between the VHLSS2012 and the VRUMS2013 using rural households with missing migrants provides evidence that the means of the VRUMS2013 migrant sample are reasonably sound regarding its randomness and representativeness, despite the potential sampling biases.

[5]The VHLSS2012 restricts the time of migration. It only covers migrants who had left their rural family since 2002. The VRUMS2013 restricts long-term migrants to those who left their rural family in the past 10 years. Hence, we experimented with restricting the samples to those rural households with migrants who had left their rural household since 2012 to make the two samples more comparable. By restricting the samples in this way, the number of these rural households that are unmatched in the VHLSS2012 but are reported in the VRUMS2013 ('Unmatched VRUMS2013') is 144 instead of 156, as reported in Table 1. We then repeated the mean difference test for the key characteristics, and a similar conclusion can be drawn.

In sum, the VRUMS2013 collects information on migrants who moved to Hanoi, HCMC or its surrounding areas (Dong Nai, Binh Duong) for work purposes. The survey procedure includes the following steps:

- **Step 1:** Making a list of the rural households that provided their telephone number (landline or mobile) from the VHLSS2012 large household sample, which is provided by the General Statistics Office (GSO).
- **Step 2:** Calling the rural households on the list to see whether they have migrant workers who have migrated for work purposes to Hanoi, HCMC or its surrounding urban areas (Binh Duong and Dong Nai). If any members of the household/family migrated to these cities, including both long-term (over 6 months) and short-term (6 months or less), we collect information and contact details for these migrants and get permission from their rural families to contact them in the city.
- **Step 3:** Calling these migrants or migrant households and making appointments for interviews based on a VRUMS2013 questionnaire.
- **Step 4:** Conducting interviews with these migrant households and filling in the questionnaires.

1.3 Survey Training

Two days of training in Hanoi and HCMC were conducted before commencing the interview rounds. The Central Institute for Economic Management (CIEM) research team members guided the enumerators through the related information in the manual for the survey process and the questionnaire manual.

1.4 Calling and Conducting Interviews

Phone calls made to rural households and migrant workers were conducted by the CIEM following a standard call text. The interviews of migrant households were conducted by the sub-teams and supervised by the CIEM team. The sub-teams included students, enumerators from the GSO of HCMC and RTA Ltd, a consulting firm in Vietnam.

1.5 Quality Control

Based on the results reported by the enumerators, the supervisors of the CIEM team made phone calls to or conducted face-to-face interviews with the migrants to randomly check whether the interview had been conducted and these responses were randomly cross-checked with the migrants. In total, 10% of all completed interviews have been checked—5% checked face to face and 5% checked over the phone.

1.6 Data Entry

Data entry was coordinated by the CIEM and a hired team. The data entry was completed in October 2013. The dataset was then cross-checked and cleaned in November 2013 and the data cleaning process was completed at the end of February 2014.

2 Descriptive Survey Results

The VRUMS2013 collects extensive information on migrant households including migrant workers themselves and their family members. This section surveys the data to provide a broad picture of various aspects of their lives in the destination cities, including their characteristics, employment, education, reasons for migrating and difficulties they have encountered.

2.1 Household and Individual Characteristics

Rural–urban migration is an important issue that Vietnam as well as many other countries face in the urbanisation process. The factors that drive individuals to migrate to urban centres are at the centre of debates in the literature on internal migration. Leaving their family in their home village and migrating to the city is not a decision many migrant households take lightly. To understand the reasons behind such a move, the VRUMS2013 collected information on the reason for migration. It asked individual migrants in the cities aged at least 16 years old (for simplicity, 'adult migrants' is used hereafter) to choose the most important reason for leaving their rural hometown. Table 2 summarises the information.

About 19% of all migrants at least 16 years of age chose 'Other' as the main reason for moving to the city, followed by 'Too poor in hometown, want to assist with family expenditure' (18.2%). It is well documented in the literature that internal remittances are an important income source for many rural migrant–sending households (Niimi et al. 2008; Pfau and Long 2008). Note that 'Too poor at home, want to reduce family expenditure' by migrating attracted a very low response (8.4%). A comparison between these two reasons highlights that poverty may push labourers from rural areas to urban areas for better economic opportunities, but the ultimate motivation for rural–urban migration is that migrants can then be proactive and send remittances to their families in the hometown rather than being simply a defensive attempt to reduce family expenditure. 'No future in hometown, don't like rural lifestyle' attracted the second-highest response (aside from 'Other') as the most important reason behind the move to the city (13.1%). 'Too poor in hometown, want to assist with family expenditure' again follows 'Other' as the second-most

Table 2 The most important reason for migration for adult migrants (per cent)

Reason	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Didn't like farming	5.7	1.9	0	2.6	3.1
Have been studying	8.2	0.6	0	5.5	5.3
No future in hometown, don't like rural lifestyle	5.3	12.6	9.1	16.3	13.1
Too poor at home, want to reduce family expenditure	18.1	7.5	2.3	5.4	8.4
Too poor at home, want to assist with family expenditure	15.3	26.4	27.3	17.1	18.2
Prefer city life	4.3	2.5	4.5	2.7	3.1
Many other villagers are working well in the city, would like to try	5	8.2	6.8	11	9.2
To open mind, accumulate work experience	20.3	7.5	6.8	11.8	13
The whole family is in the city	11.7	4.4	4.5	6.7	7.4
Other	6	28.3	38.6	21	19.3
Total	100	100	100	100	100

Number of observations = 1264
Source: VRUMS2013

Table 3 Distribution of all migrants in the cities, by gender (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
All	30.6	11.7	3.4	54.3	100
Gender					
Male	57.9	57	45.5	52.9	54.6
Female	42.1	43	54.5	47.1	45.4
Total	100	100	100	100	100

Number of observations = 1790
Source: VRUMS2013

important reason in HCMC and its surrounding cities. Hanoi, however, is an exception. Migrants in Hanoi said their main reason for migrating was because they wanted to accumulate more work experience (20.3%), followed by 'Too poor in hometown, want to reduce family expenditure'. 'Too poor in hometown, want to assist with family expenditure' was ranked third.

As shown in Table 3, 54.3% of the VRUMS2013 migrants were from HCMC, 30.6% were from Hanoi, while 11.7% were from Binh Duong and 3.4% from Dong Nai. Disaggregating the data by gender, Table 3 shows that 54.6% of migrants were male. Except for Dong Nai, the share of males was higher than that of females in the other three cities.

The household registration system (*ho khau*) has undergone several modifications but remains an important institutional barrier for many migrants. The VRUMS2013 asks where migrants have registered their permanent residence. Among all the migrants the VRUMS2013 surveyed in the destination city (Table 4), almost 70% reported that they had kept their rural household registration; 25% had an urban

Table 4 Distribution of migrants' household registration status

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
At this residence within this commune/precinct	29.5	12.9	21.8	17.5	20.1
Other place within this province/city	1.7	2.0	0.0	6.7	4.7
Another province/city	0.2	3.5	1.8	2.2	1.9
Kept rural household registration	55.8	78.1	74.5	72.7	69.2
Do not have	12.8	3.5	1.8	0.8	4.2

$N = 1670$
Source: VRUMS2013

Table 5 Average age of all migrants in the cities (years)

Gender	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Male	26.7	26.6	29.8	25.4	26.1
Female	25.2	24.3	24.3	26.9	26

$N = 1790$
Source: VRUMS2013

household registration within the commune/precinct of their current residence or in other places within the province/city where they currently reside; while only 4.2% reported not having any household registration status at all. Disaggregating the data by city shows the same pattern—that is, most migrants kept their permanent household registration in their home village irrespective of the city in which they were located. For instance, almost 80% of migrants in Binh Duong have a rural household registration. In Hanoi, however, only 55.8% said they had kept their rural household registration—the lowest figure among all the cities. In addition, almost 30% of migrants in Hanoi have an urban household registration within the commune/precinct where they currently live and 13% have no household registration status at all—both of which are the highest shares relative to the other cities.

On average, male and female migrants are about the same age (Table 5); however, this hides the fact that male migrants are older than their female counterparts in most of the cities. For instance, male migrants in Dong Nai are almost 30 years of age—about 6 years older than female migrants in the same city. HCMC is the only exception, where female migrants are, on average, almost 2 years older than their male counterparts.

For the migrants aged 16 or over, their marital status is shown in Table 6. Married members accounted for a dominant share, of 62.1%, in the total. The shares are even higher in Dong Nai and Binh Duong. Singles are the second-largest group, accounting for 35.2%, with the highest percentages in HCMC and Hanoi. Dong Nai is the only city with single migrants as the lowest share. Others—including separated, divorced and widowed migrants—accounted for only small shares of the migrant sample.

Table 6 Marital status of all adult migrants (per cent)

Status	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Married	60.6	66.5	77.3	61.2	62.1
Single	35.6	29.2	22.7	36.8	35.2
Others	3.9	4.3	0	2	2.8
Total	100	100	100	100	100

$N = 1456$
Source: VRUMS2013

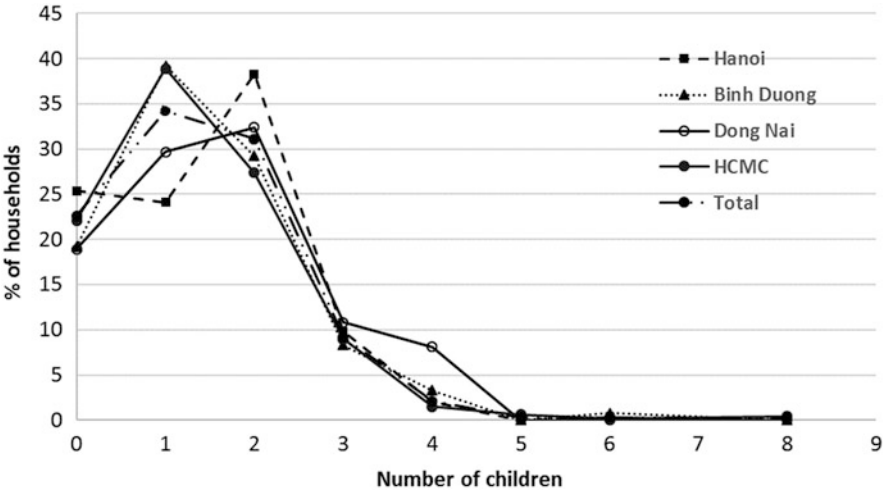


Fig. 2 Average number of children ever born (per cent). $N = 995$. Source: VRUMS2013

On average, migrant households have 1.37 children (including all living or deceased biological children). Figure 2 shows that over 43% of all migrant households have at least two children per household. On average, 38% of the migrant households living in Hanoi have two children—the highest share relative to their counterparts in the other cities. Binh Duong and HCMC reported the largest shares of one-child households (39.2 and 38.9%, respectively). Overall, only about 9% of all migrant households have three children with them in the city. Most migrant households have, at most, three children. Dong Nai is the only city where about 8% of its migrant households are four-child families.

The information on the ethnicity of migrant household members is presented in Table 7. Almost all migrants are Kinh (98%)—the main ethnic group in Vietnam. Those who migrate to large urban areas such as Hanoi, HCMC, Binh Duong or Dong Nai often come from the Red River Delta or Mekong River, with Kinh the main ethnic group. Binh Duong registers the highest share of ethnic minorities (6.5%) compared with the other provinces.

Table 7 Ethnicity of all migrants (per cent)

Ethnic group	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Kinh	99.7	93.5	100	97.7	98.0
Minority groups	0.3	6.5	0	2.3	2
Total	100	100	100	100	100

$N = 1944$
Source: VRUMS2013

Table 8 Distribution of adult migrants, by employment status and gender (per cent)

	Working	Not working
All	88.4	11.6
Gender		
Male	57.0	36.2
Female	43.0	63.8
Total	100	100

$N = 1790$
Note: 'Working' refers to individuals who did more than one hour of paid or unpaid work in the previous week
Source: VRUMS2013

Table 9 Employment status of adult migrants, by location and gender (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
All	28.7	11.6	3.5	56.2	100
Gender					
Male	61.5	60.4	44.2	54.9	57.0
Female	38.5	39.6	55.8	45.1	43.0
Total	100	100	100	100	100

2.2 Employment

Table 8 shows that about 88% migrants at least 16 years of age were engaged in paid or unpaid work. Among them, almost 57% are male. Conversely, almost 64% of female migrants did not work.

A closer examination shows that, among all adult migrants, 86.3% reported that they worked more than one hour for pay in the previous week; 2.2% did unpaid family work; and 11.5% did not work. As expected, among those who engaged in unpaid family work, females account for almost 68% (not shown here).

Table 9 presents the distribution of migrants who work, by location and gender. Fewer females work (paid and unpaid work) relative to males (43% versus 57%, respectively). Among those who work (both paid and unpaid work), over 56% are located in HCMC, about 15% in the surrounding areas such as Binh Duong and Dong Nai, and 29% in Hanoi. The higher share of male adult migrants working is

Table 10 Education of adult migrants (per cent)

Grade	Hanoi	Binh Duong	Dong Nai	HCMC	Total
No qualification	1.24	12.58	11.63	7.26	6.18
Primary	5.45	27.81	30.23	22.85	18.41
Lower secondary	27.72	23.18	23.26	24.33	25.19
Upper secondary	19.06	23.18	13.95	17.20	18.33
Elementary vocational school	0.99	0.00	0.00	0.67	0.67
Middle-level vocational school	7.18	1.32	16.28	3.23	4.62
Professional school	3.47	2.65	0.00	5.11	4.17
Vocational college	1.98	0.00	0.00	0.54	0.89
College	5.45	0.66	2.33	5.51	4.84
University or above	27.48	8.61	2.33	13.31	16.69
Total	100	100	100	100	100

$N = 1352$
Source: VRUMS2013

apparent across different cities except Dong Nai, where almost 56% of female adult migrants participated in paid or unpaid economic activities.

The primary objective of migrant workers is to seek decent jobs in the city. It is well documented in the literature that education is a key factor in finding a job. In Vietnam, there are 12 years of formal education before tertiary education, divided into the following stages: primary (Grades 1–5), lower secondary (Grades 6–9) and upper secondary (Grades 10–12). The VRUMS2013 asks: 'What is the highest diploma you obtained?' Table 10 shows the data indicate that, on average, about 6% of all migrants at least 16 years of age have no qualification. Binh Duong has the highest share of migrants with no qualification, while Hanoi has the lowest share. Among migrants who reported some qualifications, over 61% had at most upper secondary qualification, with lower secondary degree holders accounting for 25%. At the upper end of the qualification distribution, on average, about 17% of all migrants had a Bachelor, Masters or PhD degree. Hanoi registers the highest share (27%) of these highly educated migrants, while only about 2% of migrants in Dong Nai have the same qualification.

Migrant workers often move to the city without any prior job information. Information is essential for migrant workers in search of their first job. The VRUMS2013 includes a question asking migrant workers who provided the information for their first job search.

Figure 3 shows that, on average, gathering information from relatives is the most important channel for migrant workers when searching for their first job after migration. Almost 40% of migrant workers solicited information from their relatives, while only 23.3% found their first job through other migrant workers from the same village. About 37% of migrant workers received this information from sources other than their relatives and other migrant workers originating from the same village. A closer examination reveals that about 42% of migrants in Hanoi relied on other

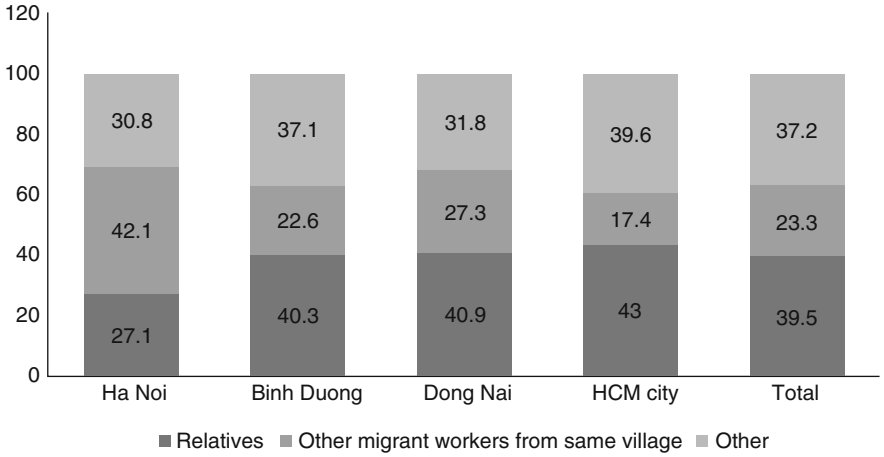


Fig. 3 Information sources for first job search for adult migrant workers (per cent). $N = 1219$. Source: VRUMS2013

Table 11 Channels through which adult migrant workers (whose current job is their first job) got their first job after migration (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Assigned by local government	1	0.7	0	0.6	0.6
Through government job agent in city	0.5	0	0	0.6	0.4
Through community employment service centre	0.5	1.3	0	0.3	0.4
Through commercial employment service (including job fair)	1.9	0.7	0	1.1	1.2
Applied for advertised job	3.3	32	25	11	13
Applied directly	6.7	10.5	9.1	18.8	15
Through family members	7.7	3.3	9.1	5	5.4
Introduced by relatives	9.6	20.9	15.9	30.1	24.5
Introduced by friends	26.8	10.5	13.6	12	14.6
Introduced by acquaintance	27.8	6.5	11.4	8.4	11.8
Employer recruitment	3.3	7.2	6.8	6.8	6.2
Other	11	6.5	9.1	5.3	6.7
Total	100	100	100	100	100

$N = 1123$
Source: VRUMS2013

migrants from the same village as the primary source of information when searching for their first job.

For the adult migrant workers whose current job was their first job, the VRUMS also asked: 'How did you get your first job?' The responses are summarised in Table 11.

The most important channel these adult migrant workers used to get their first job (their current job) after migration was introduction by their relatives (24.5%), followed by introduction by friends (14.6%) and by acquaintances (11.8%). Introduction by relatives is the most important channel for these first–job-seekers in HCMC as well. For migrant workers in Hanoi, introduction by friends or by acquaintances were the first and second most important channels to secure the first job. In Binh Duong and Dong Nai, many migrants got their first job by applying for advertised positions. Formal channels such as government job agents and community or commercial employment centres accounted for only a very small share across all four cities.

Table 12 examines the types of current primary job of adult migrants and disaggregates them by gender. In general, almost 34% of these migrants' jobs are on a long-term contract, followed by 25.3% with non-contract casual work,[6] and 17.5% with permanent jobs. About 11% are self-employed. Dividing the sample into males and females, we find that, except for unpaid work, males are overrepresented across the whole spectrum of jobs. For instance, male migrants account for 52% of those with a permanent job. Female migrants account for 75% of 'family workers without pay'.

As presented in Fig. 4, on average, 56% of all adult migrants with a current primary job are aged between 18 and 30 years. About 30% of these adult migrant workers belong to the 31–40 age group and only 12% are over 40 years of age. Only about 2% are aged 17 years or younger.

The age category of 18–30 years accounts for the largest share of adult migrant household members across all job types, except those who are self-employed. This 18–30 cohort accounts for more than half (52.3%) of all permanent jobs and 76.3 and 63.6% of work with short-term and long-term contracts, respectively. Among the holders of long-term contracts, 28.8% are aged between 31 and 40 and only about 7% are over 40 years of age. In comparison, the self-employed and older workers account for larger shares—for instance, for those with their own business, 41.2% are aged 31–40 and 22.1% are over 40 years of age.

Figure 5 disaggregates the employment status of all migrants by the duration of their stay in the city. It shows that 46.9% of all migrants have lived in the city for 5 years or less, 27.2% have been there for five to 10 years, 13.4% between 10 and 15 years, and only 12.5% for more than 15 years. Among those who are employed, 42.8% have lived and worked in the urban area for 5 years or less. As expected, for those who are unable to find a job, about 65% have lived in the urban area for 5 years or less.

The VRUMS2013 also asks all migrant household members at least 16 years of age who are either wage-earners or family workers without pay what is the main barrier preventing them from establishing their own business. The responses to this question are summarised in Table 13.

[6]Non-contract casual refers to jobs that are longer in terms of duration and more stable than temporary jobs that can be terminated at any time. It also includes jobs without a formal contract).

Table 12 The nature of the current primary job of all adult migrants, by gender (per cent)

	Permanent	Long-term contract (>1 year)	Short-term contract (<1 year)	Non-contract casual	Family workers without pay	Self-employed	Temporary job	Total
All	17.5	33.8	9.4	25.3	1.9	10.9.	1.1	100
Male	52.1	53.9	55.9	68.4	25	53.3	61.5	56.8
Female	47.9	46.1	44.1	31.6	75	46.7	38.5	43.2
Total	100	100	100	100	100	100	100	100

$N = 1257$
Source: VRUMS2013

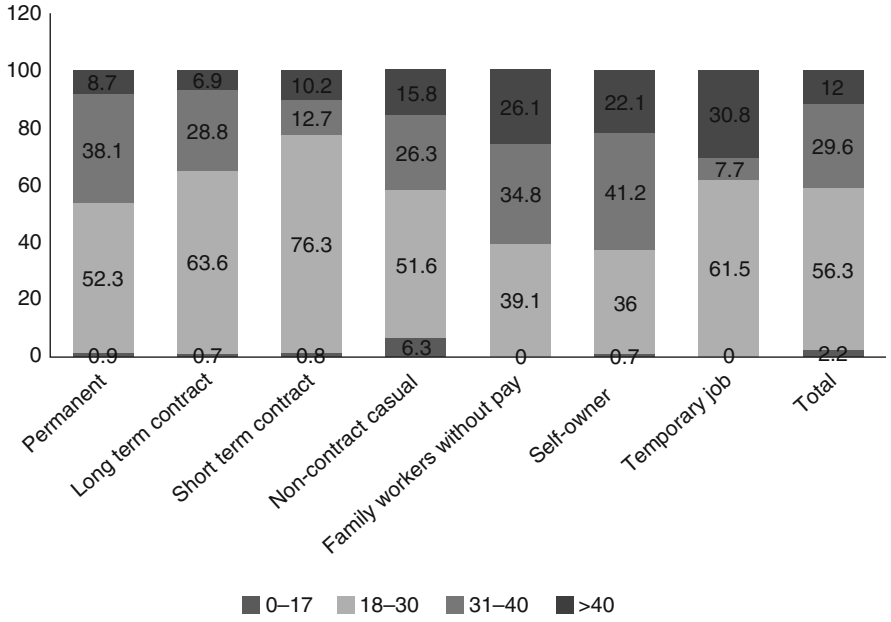


Fig. 4 The nature of the current primary job of adult migrant household members, by age group (per cent). $N = 1254$. Source: VRUMS2013

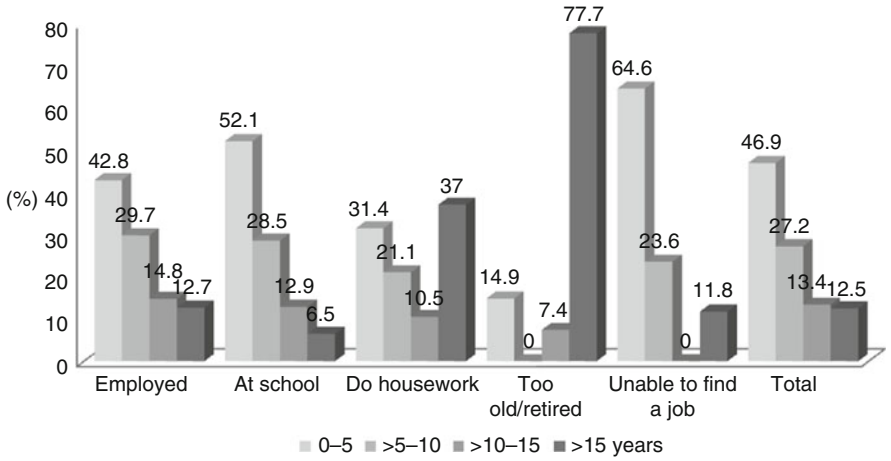


Fig. 5 Number of years living in the city and current employment status of migrants (per cent). $N = 1620$. Source: VRUMS2013

Table 13 Main reasons preventing adult migrants with paid and unpaid current jobs from establishing their own business in the city (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Inability to secure a loan	42.6	80.6	76.9	57.9	56.6
Lack of network to engage customers and lack of business permit	19.1	0	7.7	7.9	9.9
Job too difficult	11.7	0	0	6.7	7.1
Income too low	11.7	3.2	0	7.1	7.7
Other reasons	14.9	16.1	15.4	20.6	18.6
Total	100	100	100	100	100

$N = 392$
Source: VRUMS2013

As indicated in Table 13, 'Other reasons' aside, the most important barrier is the inability to secure a loan (57%). Almost 81 and 77% of the respondents in Binh Duong and Dong Nai provinces, respectively, also reported this as the most important barrier. Other important barriers included 'Lack of network to get customers and business permit' (for instance, almost 10% of all adult migrants and 19.1% in Hanoi) and 'Income too low' (7.1% on average). However, cautious interpretation is called for due to the small number of observations.

2.3 Social Protection and Migrant Workers

In Vietnam, various kinds of social protection have been put in place in the past 20 years. For instance, the Labour Code requires employers in the formal sector to provide contracts that not only guarantee workers' salaries are not lower than the minimum wage, but also require workers to be protected by a trade union or have other entitlements such as defined working hours and overtime, work safety and good working conditions, holidays, maternity leave, social insurance, and so on (Le et al. 2011).

However, as discussed in chapter "Rural–Urban Migration in Vietnam: Trend and Institutions", the general provisions of the Social Insurance Law 2007[7] exclude individuals (1) who do not work under contract, (2) who work under contract but not of indefinite term, and (3) who have contracts of a term of less than 3 months for employers specified in Clause 2 of Article 2 (National Assembly 71/2006/QH11).[8]

[7]This law does not apply to health insurance, deposit insurance and types of business insurance. This was further modified by the Social Insurance Law 2014.

[8]Clause 2 of Article 2 states that: 'Employers entitled to participate in compulsory social insurance include state agencies, non-business units, people's armed force units; political organisations, socio-political organisations, socio-professional-political organisations, socio-professional organisations, other social organisations; foreign agencies and organisations, international organisations

According to the enterprise census data: 'In 2010, about 9.4 million persons were registered in the VSS [Vietnam Social Security] (including public administration and military). This accounts for only 21.8% of the working-age population, with coverage limited mainly to those in the formal economic sector given Vietnam's current workforce of 43 million workers (in 2012) ... Analysis of the General Statistics Office's (GSO) household survey and enterprise census data indicates that in 2006, about 30% of enterprise staff or 3 million individuals were employed under short-term contracts or through intermediaries, which are exempted from the obligation to register with VSS (VASS CAF, 2009) ... Similarly, 7.7 million employees were working in small business units, many of which do not use labor contracts' (Nguyen 2012: 15).

As shown in Table 12, over 25% of all adult migrants undertake non-contract casual work. Disaggregating the data by age, as shown in Fig. 3, younger migrants account for a high share of those with temporary jobs. In other words, some migrants, and particularly those who are young, who seek out opportunities in the cities are unlikely to be covered by the VSS.[9]

Further, whether migrants without permanent residence status are eligible to receive social assistance also depends on whether they are on the 'poor list' (chapter "Rural–Urban Migration in Vietnam: Trend and Institutions"). According to Demombynes and Vu (2016: 34), the evidence is quite mixed so far, with only some migrants reporting they received some assistance designated for the poor. This is attributed to inconsistent local policies regarding whether or not migrants without permanent residence status should be included on the poor list.

The VRUMS2013 collects information on several important aspects of social protection—namely, trade union membership, pensions, unemployment benefits and work safety insurance.

Trade Unions

The 1993 Labour Code in Vietnam formalised the role of labour unions. It protects the right of workers to form unions and requires all enterprises to establish trade union organisations (Nicholson 2002). By law, migrant workers' rights are protected by a trade union. The VRUMS2013 asks adult migrants whose current primary job is as a wage-earner or unpaid family worker questions related to trade union membership. Table 14 shows that almost half of migrant workers' workplaces have a trade union. The figures for Binh Duong and Dong Nai provinces (60.3 and 61.5%, respectively) are higher than the average. Table 15 suggests the participation rates in trade union activities are high. Hanoi has the highest participation rate (84%), while the corresponding rates for Dong Nai, Binh Duong and HCMC are 83.3, 73.2

operating in the Vietnamese territory; enterprises, cooperatives, individual business households, cooperative groups, other organisations and individuals hiring, employing and paying wages to labourers.'

[9]While individuals can participate in voluntary social insurance schemes by paying an insurance premium, the enrolment rate tends to be low among migrants as they tend to have low pay and face job uncertainty.

Table 14 Presence of a trade union in migrants' workplace (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Yes	49.2	60.3	61.5	45.7	49.1
No	50.8	39.7	38.5	54.3	50.9
Total	100	100	100	100	100

$N = 1067$
Source: VRUMS2013

Table 15 Migrant workers' participation in trade union activities (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Yes	84	73.2	83.3	72.7	76.7
No	16	26.8	16.7	27.3	23.3
Total	100	100	100	100	100

$N = 550$
Source: VRUMS2013

Table 16 Does the trade union at migrant workers' workplace actually help workers? (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Yes	89.4	72	87.5	75.2	79.4
No	10.6	28	12.5	24.8	20.6
Total	100	100	100	100	100

$N = 540$
Source: VRUMS2013

and 72.7%, respectively. About 80% of migrant workers said that trade unions at their workplaces played a positive role in protecting their rights (Table 16). Among all four cities, Hanoi has the highest percentage (89.4%) of migrant workers affirming the positive role of their trade union.

Job-Related Social Insurance

For job-related insurance, information is collected on the three major types—namely, unemployment insurance, pension insurance and job injury insurance.

In Vietnam, the unemployment insurance scheme was established in January 2009 and, after 1 year of contribution collection, the payment of unemployment benefits started in January 2010. The unemployment insurance fund is based on contributions paid by employers, workers and the government. Individuals 'with employment contracts of 1–3 years or permanent contracts who are employed by private and public sector organisations with ten or more workers are covered by . . . [the] unemployment benefit' (ILO Social Security Department website).[10]

As shown in Table 17, almost 62% of migrant workers do not have unemployment insurance. The corresponding figures for those living in Hanoi, Binh Duong, Dong Nai and HCMC were 69, 49.1, 40.9 and 61.2%, respectively. This means many migrant workers do not benefit from this scheme. The second-largest source of payments for unemployment insurance (30%) is employers and migrant workers, of

[10] http://www.ilo.org/dyn/ilossi/ssimain.viewScheme?p_lang=en&p_scheme_id=3037&p_geoaid=704 (last accessed 16 May 2017).

Table 17 Unemployment insurance by payment source (per cent)

Source of payment	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Paid by employer	12.6	0	0	2.6	5.2
Paid by worker	1	0	0	0.6	0.6
Paid by both employer and worker	16.9	48.4	59.1	31.6	30
None	69	49.1	40.9	61.2	61.5
Don't know	0.5	2.5	0	4.1	2.7
Total	100	100	100	100	100

$N = 1436$
Source: VRUMS2013

Table 18 Pension by payment source (per cent)

Source of payment	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Paid by employer	17.9	0	0	3.8	7.4
Paid by yourself	2.2	0	0	0.9	1.1
Paid by both employer and yourself	22	51.6	59.1	36.3	34.5
None	57.4	47.2	40.9	56.4	55.2
Don't know	0.5	1.2	0	2.7	1.8
Total	100	100	100	100	100

$N = 1434$
Source: VRUMS2013

which Dong Nai alone accounts for almost 60%, while Hanoi accounts for only 16.9%.

For unemployment insurance, only those who work 'under labor contracts or working contracts of indefinite term or a term of between [a] full 12 months and 36 months for employers specified [see footnote 8] . . . [and] who employ ten or more laborers' are entitled to participate (National Assembly 71/2006/QH11).

To be eligible for a pension—as well as having a contract with the appropriate duration or type, as specified above—only workers who 'have paid social insurance premiums for [a] full 20 years or more are entitled to [a] retirement pension' when they reach the legal retirement age (60 years for men and 55 for women). Table 18 presents the pensions of migrant workers by payment source. About 55.2% of migrant workers do not have a pension, with Hanoi posting the highest share (57.4%). This may imply that not many migrants have a good enough job to provide pension benefits. On average, 30% of migrant workers have a pension that is co-insured by the migrants themselves and their employer. Overall, only 7.4% have a pension that is paid solely by their employer.

In reality, Vietnam's pension system covers only a small share of the working-age population. As discussed in chapter "Rural–Urban Migration in Vietnam: Trend and Institutions", by law, employers are required to contribute to employees' pension funds. The Social Insurance Law 2007 requires mandatory participation in social insurance schemes by all employees, including those in state-owned enterprises (SOEs) and non-SOEs with 10 employees or more, employees of foreign direct investment (FDI) firms, foreign or international organisations, government

administrative bodies, and members of the Communist Party and mass organisations. However, this means that small enterprises with fewer than 10 employees and workers with contracts of less than 3 months or part-time jobs are not compelled to participate in the social insurance schemes. Many migrants work in these types of enterprises/jobs and thus do not have a pension. Those who work in the informal sector also often miss out. The VRUMS2013 collects information that can provide some much needed data regarding the coverage and type of pension of migrants in the cities.

The Law on Social Insurance (Decree No. 58/2014/QH13, 20 November 2014, Article 4) and Decree No. 37/2016/ND-CP ('On detailing and guiding the implementation of certain Articles of the Law on Occupational Safety and Health with regard to compulsory insurance for occupational accidents and occupational diseases', Article 2, 19 June 2015) provide workers with an insurance regime covering labour accidents and occupational diseases. Aside from those covered by the compulsory social insurance scheme, Decree No. 37/2016/ND-CP covers '[p]ersons working under indefinite-term labour contracts and labour contracts with a term of full of 03 months and longer, and persons working under labour contracts with a term of between full of 01 month and under 03 months. This point excludes domestic workers' (Decree No. 37/2016/ND-CP, Chapter 1, Article 2.1 dd). That is, all workers with a labour contract of 1 month and over have to participate in the insurance scheme for occupational diseases and labour accidents. Those with a contract of less than 1 month or without a contract are not covered by the compulsory social insurance scheme, but they can participate voluntarily.

Table 19 reveals that 71.3% of all migrant workers have no job injury insurance. Hanoi and Dong Nai are home to 74% of the migrants without job injury insurance. Only 6.3% of all adult migrant workers received job injury insurance solely paid by their employers and 17.6% were co-insured with their employers. A mere 1% purchased the insurance themselves.

In sum, the information collected by the VRUMS2013 seems to suggest that most migrants do not have a contract, unemployment insurance, a pension or job injury insurance. Many do not work on a contract basis or have only short-term contracts. Some work in the informal sector, which is not covered by the Labour Code. Even

Table 19 Job injury insurance by payment source (per cent)

Source of payment	Hanoi	HCMC	Binh Duong	Dong Nai	Total
Paid by employer	14.5	3.1	0	3.1	6.3
Paid by yourself	0.7	0	0	1.5	1.0
Paid by both employer and yourself	8.2	34.8	45.5	17.5	17.6
None	74.5	57.1	54.5	73.5	71.3
Don't know	2.2	5.0	0	4.4	3.7
Total	100	100	100	100	100

$N = 1431$
Source: VRUMS2013

for those in the formal sector, the law may not be effectively enforced (Le et al. 2011) and their rights may not be well protected even though many responded positively to the role the trade union plays in their workplace.

2.4 *Migrants' Wellbeing: Health Status and Their Ability to Face Problems*

The VRUMS2013 collects information on the current health status of all migrant household members, including adults and children. Respondents were asked to compare their health status with those who are the same age. The survey results are presented in Table 20.

On average, over 56% of migrant household members rated their health as 'fair', 32.5% rated it as 'good' and only about 7% rated themselves as 'excellent'. Hanoi had the highest shares of individual migrants with health status rated as 'excellent' and 'good' (11.7 and 42.8%, respectively). In Binh Duong, only 1.2% rated their health as 'excellent'—the lowest across four provinces. HCMC registers a higher share of individuals who rated their health as 'excellent' (about 5%) than Binh Duong and Dong Nai, but it has the lowest share of people who regard themselves as having 'good' health. Few migrants rated their health as 'poor' or 'very poor'—which is not surprising, as individuals in poor health may be unable or may choose not to migrate.

The VRUMS2013 asks all members of migrant households whether they were sick or injured in the past 3 months. Those who responded yes to the question then answered a question about the type of treatment they sought. As shown in Table 21, on average, when a migrant family member is sick, most chose to 'get some medicines by themselves' (47.1%). This may be due to the restricted access to healthcare services, especially for those without permanent registration (chapter "Rural–Urban Migration in Vietnam: Trend and Institutions"). This was followed by seeing a doctor at a hospital (36.2%). Disaggregating by city, the same pattern is also observed for migrants in Binh Duong and HCMC; however, in Hanoi and Dong Nai, more people went to see a doctor in a hospital than to get medicines when they were sick.

Table 20 Current health status of migrant household members compared with people the same age (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Excellent	11.7	1.2	2.3	4.8	6.7
Good	42.8	31.1	36.4	26	32.5
Fair	44.4	59.6	54.5	63	56.1
Poor	1.1	8.1	6.8	6.1	4.7
Very poor	0	0	0	0.1	0.1
Total	100	100	100	100	100

$N = 1546$
Source: VRUMS2013

Table 21 Types of treatment migrants seek during the period of illness (per cent)

Type of treatment	Hanoi	Binh Duong	Dong Nai	HCMC	Total
No action or no significant action taken	9.8	2.1	11.1	0.9	2.6
Didn't take any medicine, but rested for a few days	0	0	0	0.5	0.3
Seek some medicine by yourself	31.7	43.8	22.2	51.9	47.1
See a doctor at a medical office or a small clinic	12.2	22.9	11.1	10.7	12.8
See a doctor at a hospital	46.3	31.3	55.6	34.6	36.2
Others (please specify)	0	0	0	1.4	1
Total	100	100	100	100	100

$N = 312$
Source: VRUMS2013

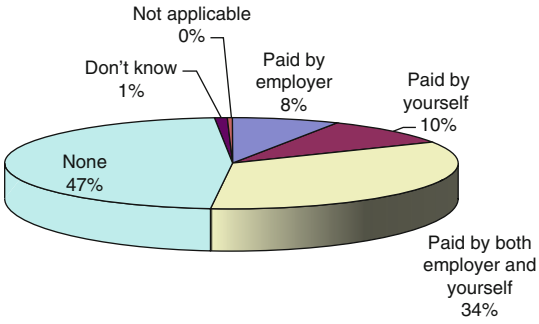


Fig. 6 Medical insurance status of migrant household workers. $N = 1257$. Source: VRUMS2013

All migrants are asked whether they have medical insurance, irrespective of whether they had a recent episode of illness. Figure 6 shows that almost half (47%) of migrant household members did not have medical insurance. Around 34% were co-insured by themselves and their employer, and only 8% had insurance fully paid by their employer.

Physical health aside, the VRUMS2013 also collects information on migrants' mental health. All adult migrants present at the time of interview were asked whether they were constantly under stress or pressure in the past few weeks. Figure 7 shows that almost half of the adults reported they sometimes felt they were under stress. About 27% of all adults felt stress either 'very often' or 'fairly often'. Only 24.2% said they never felt any form of stress. Among all adult migrants living in Hanoi, 21.2% reported that they felt stress 'very often'—which is higher than in all other provinces. In contrast, in HCMC, only 4.6% of migrants reported that they experience stress 'very often'. In fact, over 28% of migrants in HCMC did not experience any stress whatsoever.

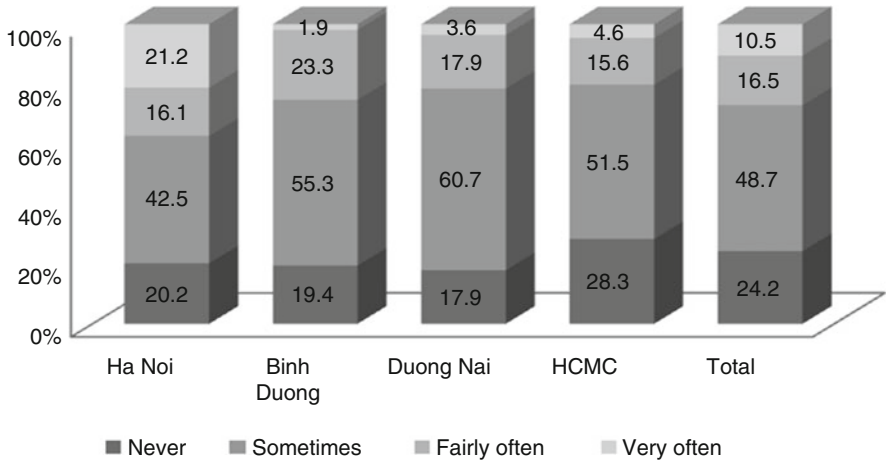


Fig. 7 Degree of constant stress or pressure for adult migrants (per cent). $N = 1112$. Source: VRUMS2013

2.5 Migrants' Children

The VRUMS2013 also collects information on migrants' children who are younger than 16 years of age and those who are at least 16 but are still in school. We include: (1) children who live in the migrant household in the city; (2) children who are left behind in the rural hometown or with relatives or friends; and (3) children who are in school in some other place. These questions are answered by the children's parents or guardians.

Among the 648 persons who responded to the question 'Where is the primary residence of this child?', around 57% were living with their families in the city, while about 40% were living in the rural hometown. The rest were in a commune in the same district, in other districts in the same city or in other provinces.

Table 22 shows that among those who have children living with them in the city, almost 90% are living with both parents. Of those who responded that their children had been left behind, over half of their children were living with their mother and 30% were living with their grandparents. Mothers are the main carers of left-behind children. This may partly explain the higher share of male than female migrants in the destination cities. The VRUMS2013 found no children living in school dormitories irrespective of where they were.

Among all children living in the destination city and those left behind in their hometown, about 35% were pre-school age. The VRUMS2013 collects information only on the education of the remaining 65% of children.[11] Recall that for migrants'

[11]Regarding the education of migrants' children, the conclusions drawn from the VRUMS2013 are quite different from those from other surveys (see chapter "Differences in Consumption Patterns Between Urban and Rural Migrant Households in Vietnam"). The VRUMS2013 children have a

Table 22 Living arrangements of migrants' children in the city and those left behind

	Rural hometown	Family in the city	Others	All
Both parents	3.3	88.7	23.5	53.2
Father	7.0	0.8	0.0	3.2
Mother	51.8	4.2	17.65	23.4
Grandparents	29.7	0.6	11.8	12.4
Other relatives	1.6	0.6	0.0	0.98
School dormitories	0	0	0	0
Rented housing near school	0.41	0.3	5.9	0.49
Others	6.17	4.8	41.2	6.3
Total	100	100	100	100

$N = 616$
Source: VRUMS2013

children, the VRUMS2013 asks parents or guardians to answer the questions for all of their children younger than 16 years and those children who are at least 16 but still in school. This section on education therefore includes children who live in the household, children who were left behind in the rural hometown or with relatives or friends, as well as children who were in school in some other place.

If we focus only on those children living with their families in the city, the sample size reduces to 85, of whom, almost 88% were either currently or previously (before dropping out) in public school, 11% were in a private school and the rest were in other types of school (not shown here).[12] A closer examination reveals that among those migrant families with a local *ho khau*, almost all children were in public school (almost 94%). For those from migrant families without a local *ho khau*, 83% were in public school and 14% were in private school. Due to the small number of observations, cautious interpretation of the results is called for. Nonetheless, the data provide some insights on these children living in the city with their families as little is otherwise known about them. In the literature on migration, the focus is mostly on left-behind children (Démurger and Xu 2015; Zhou et al. 2014).

The VRUMS2013 also asks the main reason migrants do not bring their children with them to live in the city. Among those whose children were not living with them in the city (227 responses), 40.5% cited 'The child is living with your spouse' as the main reason, followed by 'High living cost in city' (32.6%) and 'No one can look after the child [in the hometown]' (10.6%). Only 7.5% cited the 'High cost of attending school/kindergarten [in the city]' as the key reason (Table 23).

higher rate of school attendance and more children in the VRUMS2013 attend public schools. The small number of children in the sample may have a role to play (see Footnote 12).

[12]Several factors may give rise to this result. It may be due to the small number of children living with their family in the city, or some migrants may have connections that enable them to enrol their children in public school. In addition, local governments may take the initiative to enrol migrant children in public schools to promote universal education (Demombynes and Vu 2016; see chapter "Rural–Urban Migration in Vietnam: Trend and Institutions").

Table 23 The main reason children do not live with their family in the city (per cent)

	High living cost in city	High cost of attending school/ kindergarten	No one can look after the child	The child is living with your spouse	Other	Total
Children not living with their family in the city	32.6	7.5	10.6	40.5	8.8	100

$N = 227$
Source: VRUMS2013

Table 24 Quality of school attended, by location of non–pre-school aged children

	Left-behind children	Children who are household members in the city	Total
The best in the district	13.5	18.8	15.8
Better than average in the district	38.7	43.5	40.8
Average	47.8	37.7	43.4
No. of observations	111	85	196

Table 24 shows that, among all non–pre-school aged children, on average, only 16% are or were (before they dropped out) attending the best school in the district. Over 83% reported that their children are/were in schools that were better than average or average for the district. None reported they were studying or had previously studied in a below-average school. Among those living in the city with their family, about 80% are/were enrolled in a school that was average or better than the district average.

A closer examination of the data according to *ho khau* status reveals that among those without a permanent *ho khau*, almost half said their school was average for the district. Only 24% of those with a local *ho khau* fell into the same category. Also, 60% of those who had a local *ho khau* are/were in schools that were better than the district average; whereas only about 30% of migrants' children without a local *ho khau* reported that their school is/was better than average. Again, the number of observations is low, so cautious interpretation is called for.

The survey also asks migrant parents or guardians what worries them most regarding the development of their children who are not in pre-school. Table 25 focuses on migrants' children in the destination city. While 47.5% of migrants do not worry about their children, 28.4% cited they were most worried that their children's school results were not satisfactory. Among those with girls, half of migrant parents (or guardians) did not worry about their daughters. The corresponding share is about 45% for those with boys.

Table 25 The source of most worry for migrant parents or guardians about the development of their children (excluding pre-school children) who live with them in the city (per cent)

Gender of children	Don't worry at all	The child's school results aren't very good	Skips classes	Watches too much TV/plays too many computer games	Bullied by others	Makes bad friends	Other improper behaviour	Other	Total
Male	45.2	26.0	1.4	5.48	2.7	1.4	0	17.8	100
Female	50.0	30.9	1.5	1.5	1.5	4.4	1.5	8.8	100
Total	47.5	28.4	15	3.5	2.1	2.8	0.7	13.5	100

$N = 141$
Source: VRUMS2013

2.6 Household Income and Expenditure During Migration Period

One of the most important factors behind rural–urban migration is the desire to earn better income in urban areas. The survey collects information on the annual family income for the past 12 months—in particular, income from labour. The labour income includes income received from employers, including salaries, wages or self-employed income for the most and the second most time-consuming jobs. A separate item also asks about labour income in the past 30 days. The monthly labour income of wage-earners divided by five quintiles is presented in Table 26. Note that quintile 1 contains the poorest 20% of migrant wage-earners and quintile 5 contains the top 20%.

The distribution of monthly labour income is fairly even across quintile 3 to quantile 5. In the lower half of the distribution, quintile 1 alone contains 23% of the migrant wage-earners. Dividing the wage-earners according to gender reveals significant differences. For males, their labour income is distributed relatively evenly across all the quintiles. However, this is not the case for female migrant workers, who are overrepresented in the lower end of the distribution, with over 46% falling into the bottom two quintiles.

Figure 8 examines each of the five quintiles by age. Over 25% of the youngest migrant workers are in the lowest quintile, representing the largest proportion relative to that of other age groups. Only 14.1% are in the highest labour income quintile. Migrant workers who are at the prime age range of 31–40, in contrast, are concentrated in the highest labour income quintile (30%), while their share in the lowest labour income quintile is only 15.6%. In addition, 52% of the migrant workers in this age group are represented in the top two quintiles. For the group of workers over 40 years of age, the corresponding share is 46%.

In addition to labour income, the VRUMS2013 also collects information on the annual household income for the past 12 months. Annual household income consists of labour income and other income or allowances for the most and second most time-consuming jobs. It includes cash and in-kind allowances on public holidays, social allowances, maternity allowance, allowance for domestic and oversea business trips, pensions, one-time sickness and job allowances, income and support from charity organisations, association or firms, remittances and in-kind presents from overseas and domestic sources (but not from the migrants' hometown).

The annual total household income exhibits a fairly even distribution across all quintiles, but shows a different picture once the migrant households are separated

Table 26 Monthly labour income distribution of migrant wage-earners by quintile (per cent)

	1	2	3	4	5	Total
Male	19.5	17.8	21.7	20.2	20.8	100
Female	31.6	14.7	18.4	17.3	18	100
Total	23.2	16.9	20.7	19.3	20	100

$N = 864$
Source: VRUMS2013

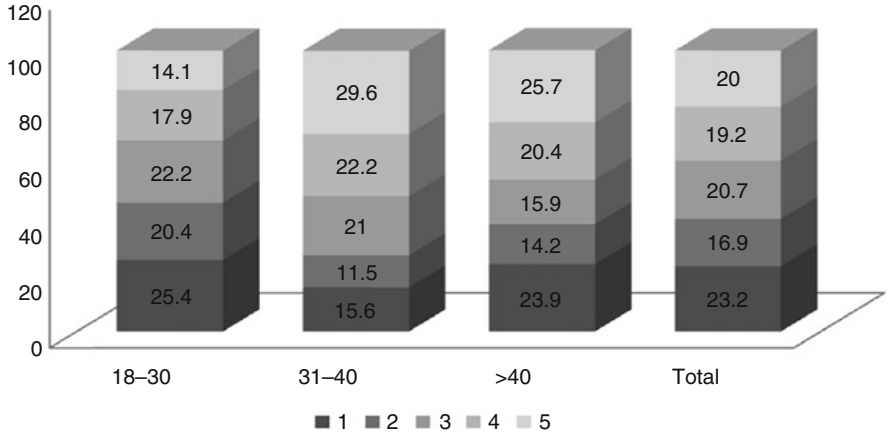


Fig. 8 Monthly labour income of migrant workers by age group and quintile (per cent). $N = 863$. Source: VRUMS2013

into male and female-headed households (Fig. 9). Again, female-headed households are overrepresented in the lower end of the distribution and underrepresented in the upper end.

For instance, the lowest quintile contains only 17.2% of the male-headed households, but 27.1% of the female-headed households. Almost half of the female-headed households are concentrated in the bottom two quintiles, but only about 37% of the male-headed households are represented in the same quintiles.

Similar to the monthly labour income (Fig. 8), the distribution of annual household income shows that almost 23% of households with heads aged between 18 and 30 years are concentrated in the bottom quintile, while only 14% are in the top income quintiles (Table 27). Among the household heads aged 31–40, the corresponding numbers are 11 and 30%, respectively.

The VRUMS2013 also collects data on migrant households' expenditure (including food and nonfood expenditure[13] and housing expenditure) net of remittances in the past 12 months. Table 28 reveals that the most important expenditure item across all four cities is 'Daily food and drink' (47.7%), followed by nonfood expenditure (32.4%). For instance, after sending remittances home, migrant households in Dong Nai spend 58.8% of their total annual household expenditure on daily food and drink, and 23.7% on nonfood items.

Housing expenditure is defined as expenditure on accommodation, including rent, house maintenance, property management fees, decoration, water, electricity and fuel for heating and cooking. Among all expenditure items, housing expenditure accounts for the smallest share of the annual expenditure of the migrant households,

[13]Nonfood expenditure consists of all expenditure for the daily life of the household, including clothing, household appliances and services (not including fixed assets), medical care, transport and communications, recreation, education and cultural services, miscellaneous goods and services, etc.

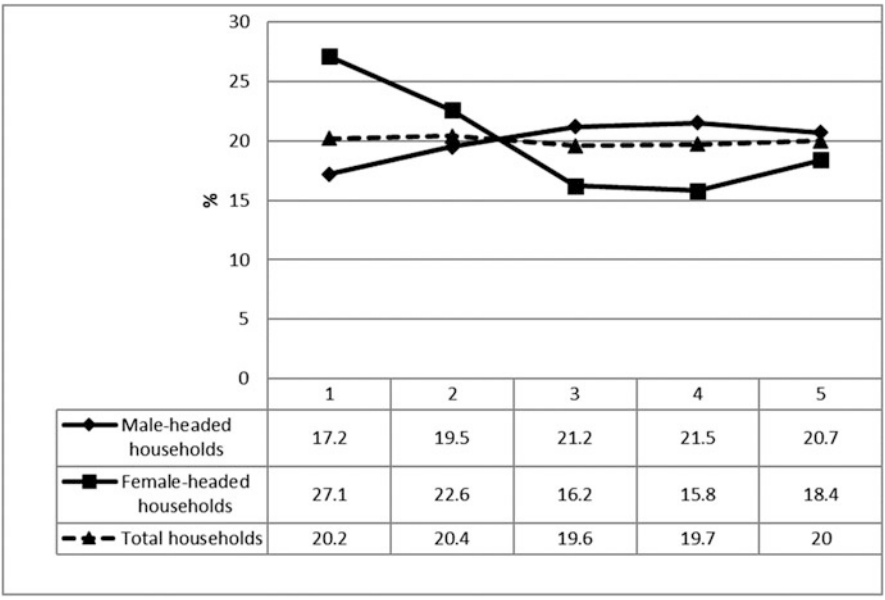


Fig. 9 Total annual household income of migrant households by quintile (per cent). $N = 866$. Source: VRUMS2013

Table 27 Total annual household income of migrant households by age group and quintile (per cent)

Age group	1	2	3	4	5	Total
18–30	22.6	24.6	20	18.5	14.3	100
31–40	11.1	13.6	21.4	23.9	30	100
>40	23	18.6	16.8	18.6	23	100
Total	20.2	20.5	19.7	19.8	19.9	100

$N = 865$
Source: VRUMS2013

irrespective of location. Note that the type of accommodation is not controlled for here.

As shown in Table 29, the average daily housing expenditure for migrant households is highest in Hanoi (VND15,533 per day), which is 23, 39 and 75% higher than the corresponding costs in HCMC, Dong Nai and Binh Duong provinces, respectively.

Sometimes migrants are referred to as the floating population. Hence, social networks are crucial not only during the preparation phase before migrants leave for their destination city, but also after they arrive at and settle in the city. Social networks often provide vital information necessary for migrants to find jobs and accommodation, as well as support when migrants face challenges in the city. To gain a comprehensive picture of migrants in cities, the role of social networks cannot be ignored (Li and Wu 2010; Long et al. 2013).

Table 28 Most important expenditure of migrant households (per cent)

Expenditure item	Hanoi	Binh Duong	Dong Nai	HCMC
Daily food and drink	51.7	46.8	58.8	47.7
Nonfood	25.5	30.7	23.7	32.4
Housing	22.8	22.6	17.5	19.9

Source: VRUMS2013

Table 29 Daily housing expenditure of migrant households (VND)

City/ province	Average daily housing expenditure of migrant households
Hanoi	15,533.91
Binh Duong	8847.81
Dong Nai	11,154.78
HCMC	12,635.44

$N = 849$
Source: VRUMS2013

The VRUMS2013 collects information on social networks. One question asks migrants for the number of people who have helped them in the past 12 months, including by lending money, helping find a job, taking care of migrant children, or talking and giving advice.

Table 30 shows that receiving help from two persons accounts for the highest share among all migrants (23%), followed by those who received no help. About one-fifth of migrant workers (21.5%) reported that they received no help in their destination city over the past 12 months. Almost half of the migrants received assistance from one to three persons (48%).

Within each of the four cities, 36.5% of migrants in Binh Duong reported that they had no one to help them. About 26% of migrants in Dong Nai and 27% in HCMC received no assistance in the past 12 months. The corresponding share of migrants in Hanoi is only 2.8%. In other words, most migrants in Hanoi reported they received some form of assistance. In fact, the data show that over one-third of migrants in Hanoi had help from five persons.

2.7 Housing and Living Conditions

The housing and living conditions of migrant workers and their families in the city affect the quality of their lives. The VRUMS2013 collects information from the household head or his/her spouse on several aspects of migrant households' housing and living conditions, such as their main source of cooking or drinking water, lighting, sanitation facilities, and the type and total living area of their current residence.

Table 30 Number of persons helping migrants during the past 12 months (per cent)

Number of persons helping migrants	Hanoi	Binh Duong	Dong Nai	HCMC	Total
0	2.8	36.5	26.1	27.1	21.5
1	15.0	5.9	3.8	15.5	13.7
2	25.7	16.9	22.3	23.1	23.0
3	9.6	19.3	15.9	11.0	11.8
4	8.0	7.2	3.8	6.5	6.9
5	31.1	6.1	15.3	6.3	13.4
6	3.4	2.0	10.8	2.4	2.9
7 and over	4.4	6.1	2.0	8.1	6.8
Total	100	100	100	100	100

$N = 4422$
Source: VRUMS2013

Table 31 Migrants' main source of cooking/drinking water in the city (per cent)

Water source	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Private tap water	69.9	9.9	0.0	22.8	35
Public tap water	22.1	7.0	0.0	19.9	18.4
Water from hand-dug and reinforced wells	1.1	2.2	0.0	1.3	1.3
Water supplied in barrels/bottles	1.2	43.8	51.0	35.6	26.5
Rainwater	0.3	0.7	0.0	0.7	0.5
Water pumped from deep drilled wells	5.3	36.3	49.0	19.7	18.2
Other	0.2	0.0	0.0	0.0	0.1
Total	100	100	100	100	100

$N = 4652$
Source: VRUMS2013

Table 31 shows that 53.4% of migrant households had access to tap water (including private and public tap water), 26.5% had water supplied in barrels/bottles and 18.2% had water pumped from deep drilled wells. Among migrant households in Hanoi, most used tap water as their main water source for cooking and drinking (92%). In contrast, no migrant households in Dong Nai used tap water, instead relying on water supplied in barrels/bottles or water pumped from deep drilled wells to meet their cooking and drinking needs.

The sanitation facilities of all migrant households in the destination city are presented in Table 32. In general, 65.9% had both bathrooms and toilets in their residence. Disaggregation of the data into the four cities shows that the corresponding shares are 69.2% in HCMC and 65.6% in Dong Nai. Overall, about 18% of migrant households reported that they had shared or public sanitation facilities. Over 30% of the migrant households in Hanoi used shared or public sanitation facilities. The corresponding rates in Dong Nai, HCMC and Binh Duong are only 14.6, 12.4 and 9.6%, respectively.

Table 32 Sanitation facilities for all migrants (per cent)

	Hanoi	Binh Duong	Dong Nai	HCMC	Total
Has both bathroom and toilet	61.8	61.5	65.6	69.2	65.9
Has toilet, no bathroom	7.8	28.9	19.7	18.4	16.5
Shared or public sanitation facilities	30.4	9.6	14.6	12.4	17.6
Total	100	100	100	100	100

$N = 4636$
Source: VRUMS2013

Table 33 shows that rental accommodation is the most common type of residence for migrant households, irrespective of the age group of the household head. Overall, 47.4% of migrant households live in independent rental accommodation. Owning a house (20.2%) and sharing a house (13.4%) are another two housing arrangements that are commonly used. Few migrant households in the VRUMS2013 live in a construction site or in other working areas. Disaggregating the data by the age of the household head shows that among those who are over 40 years of age, 33.2% own their house, with almost 40% renting independently. Conversely, only about 10% of household heads between 18 and 30 years of age own their house and almost half of these rent their accommodation independently. Among this youngest age group, 11.7% of their families live in dormitories—the highest share relative to other age categories.

3 Concluding Remarks

The Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013) was specifically designed to study rural–urban migrants in Vietnam. Its sampling strategy was based on the Vietnam Household Living Standards Survey 2012 (VHLSS2012) to deal with the problem of a lack of sampling frame and comprehensive data on rural–urban migrants. With the VHLSS2012 rural sample being a random sample of the rural population, drawing migrants from this sample and following them to their destination city ensure the randomness of the VRUMS2013 migrant sample. In addition, the VRUMS questionnaire follows the same structure as the Rural–Urban Migration in China and Indonesia (RUMiCI) survey, which has been widely used to study rural–urban migrants in China and Indonesia. These features made the VRUMS2013 a unique survey in Vietnam. The survey was conducted and coordinated by the Central Institute for Economic Management (CIEM) of Vietnam with the guidance and collaboration of Australian National University (ANU) technical team led by Professor Xin Meng. The VRUMS2013 collected information on different aspects of migrant households and migrant workers who have migrated from rural to urban areas for work. The data were collected in Hanoi, HCMC, Binh Duong and Dong Nai—the four major cities that have attracted significant inflows of rural migrants.

Table 33 Residence conditions/types for all migrants by age group of household head (per cent)

Age group of household head	Dormitory	Construction site	Other working area	Sharing house with someone	Renting house independently	Self-owned house	Other
18–30	11.7	3.1	2.1	19.2	49.7	9.9	4.3
31–40	8.4	4.9	1.5	9.2	49.1	23.3	3.6
>40	6.7	4.1	2.6	9.8	38.9	33.2	4.7
All	9.8	3.5	1.9	13.4	47.4	20.2	3.7

$N = 1729$
Source: VRUMS2013

This chapter summarises and presents the results on migrant households and their personal characteristics, work status and job-related insurance, health status, household income and expenditure, social networks, and their housing and living conditions in the city. In addition, information on the education of migrants' children is also explored. By examining these areas, a more complete picture of the lives of migrant workers and their families in urban areas can be better understood. In addition, the survey data provide useful information for policymakers to formulate economic and social policies that facilitate the rural–urban migration and urbanisation processes. This could also help in the development of policies that minimise the potential adverse effects of migration.

References

Demombynes, G., & Vu, L. H. (2016). *Vietnam's household registration system*. Washington, DC: The World Bank.

Démurger, S., & Xu, H. (2015, December). Left-behind children and return migration in China. *IZA Journal of Migration, 4*, 10. https://doi.org/10.1186/s40176-015-0035-x

General Statistics Office (GSO). (2012). *Database and survey documents of Vietnam household living standards survey 2012 (VHLSS2012)*. Hanoi: General Statistics Office.

Le, B. D., Tran, G. L., & Nguyen, T. P. T. (2011, January). *Social protection for rural–urban migrants in Vietnam: Current situation, challenges and opportunities*. CSP Research Report 08. Centre for Social Protection.

Li, Y., & Wu, S. (2010). Social networks and health among rural–urban migrants in China: A channel or a constraint? *Health Promotion International, 25*(3), 371–380.

Long, W., Appleton, S., & Song, L. (2013, August). *Job contact networks and wages of rural–urban migrants in China*. IZA Discussion Paper No. 7577.

Nguyen, N. N. (2012, June). *Vietnam: Developing a modern pension system—Current challenges and options for future reform* (No. 78282). Hanoi: The World Bank.

Nicholson, P. (2002). Vietnam's labour market: Transition and the role of law. In S. Cooney, T. Lindsey, R. Mitchell, & Z. Yin (Eds.), *Law and labour market regulation in East Asia*. London: Routledge.

Niimi, Y., Pham, T. H., & Reilly, B. (2008). *Determinants of remittances: Recent evidence using data on internal migrants in Vietnam*. Policy Research Working Paper No. 4586. Washington, DC: The World Bank.

Pfau, W. D., & Long, T. G. (2008). Gender and remittance flows in Vietnam during economic transformation. *Asia Pacific Journal, 23*(2), 13–32.

Zhou, M., Murphy, R., & Ran, T. (2014, June). Effects of parents' migration on the education of children left behind in rural China. *Population and Development Review, 40*(2), 273–292.

Internal Migration in Vietnam, 2002–2012

Ian Coxhead, Viet Cuong Nguyen, and Hoang Linh Vu

Abstract We investigate determinants of individual migration decisions in Vietnam, a country with increasingly high levels of geographical labour mobility. Using data from the Vietnam Household Living Standards Survey 2012 (VHLSS2012), we find that the probability of migration is strongly associated with individual, household and community-level characteristics. The probability of migration is higher for young people and those with post-secondary education. Migrants are more likely to be from households with better-educated household heads, female-headed households, and households with higher youth dependency ratios. Members of ethnic minority groups are much less likely to migrate, other things being equal. Using multinomial logit methods, we distinguish migration by broad destination, and find that those moving to Ho Chi Minh City or Hanoi have broadly similar characteristics and drivers of migration as those moving to other destinations. We also use the VHLSS2012 together with the VHLSS2010, which allows us to focus on a narrow cohort of recent migrants—those present in the household in 2010, but who had moved away by 2012. This yields much tighter results. For education below upper secondary school, the evidence on positive selection by education is much stronger. However, the ethnic minority "penalty" on spatial labor mobility remains strong and significant, even after controlling for

A previous version of this paper was circulated as 'Migration in Vietnam: New Evidence from Recent Surveys', World Bank Group, Vietnam Country Office, World Bank Development Economics Discussion Paper No. 2, July 2015. The views expressed in this chapter are the authors' alone. They do not necessarily reflect the views of the World Bank or its Executive Directors.

I. Coxhead (✉)
Department of Agricultural and Applied Economics, University of Wisconsin-Madison, Madison, WI, USA
e-mail: ian.coxhead@wisc.edu

V. C. Nguyen
Mekong Development Research Institute, National Economics University, Hanoi, Vietnam
e-mail: cuongnguyen@mdri.org.vn

H. L. Vu
Vietnam-Japan University, Hanoi, Vietnam

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_3

specific characteristics of households and communes. This lack of mobility is a leading candidate to explain the distinctive persistence of poverty among Vietnam's ethnic minority populations, even as national poverty has sharply diminished.

JEL Classification O15 · R23 · I32

1 Introduction

Internal migration is a standard and prominent feature of every low–middle-income country, and especially of those undergoing rapid growth and structural change. Growth rates are highly unequal across broad industries and, since industries are unequally distributed across space, unbalanced growth creates incentives for labour to move. Thus, changing patterns of labour demand align with one of the main objectives of migration, which is to increase and stabilise the incomes of migrants as well as those of their origin households (Stark and Bloom 1985; Stark and Taylor 1991; Stark 1991; Borjas 2005).

Economists as well as policymakers have long been interested in understanding the causes of migration. There are many perspectives on the migration decisions of individuals or households. In conventional theory, individuals relocate to maximise utility given spatial variation in wage and price levels (Molloy et al. 2011; Valencia 2008). In the New Economics of Labour Migration, decisions to migrate depend on characteristics of both migrants and their families (Stark and Bloom 1985; Stark and Taylor 1991). The amenities and/or community characteristics of home and destination locations are also considered to be important factors exerting 'push' and 'pull' forces on migrants (Mayda 2007; Kim and Cohen 2010; Ackah and Medvedev 2012), or limiting outmigration through attachment to place-specific kinship or cultural attributes (Dahl and Sorenson 2010). Social factors are known to be important because the 'trigger price' for migration—that is, the expected income differential between origin and destination—is always found to be much larger than the simple financial cost of relocating (Davies et al. 2001). More recently still, global climate change has been responsible for creating differences among locations. Some areas that were once well suited to particular forms of agriculture are now vulnerable to drought or other adverse conditions. Changes in agricultural yields were found to influence migration rates in a study of US counties (Feng et al. 2012). Tropical areas are experiencing increased susceptibility to storms, saline intrusion and flooding, and these environmental factors may be increasingly influential as drivers of migration in the future.

Labour mobility improves the efficiency with which workers are matched with jobs. This contributes to an increase in net income both for individuals and for the economy as a whole. Labour migration is a special case of spatial labour mobility, typically from locations where capital and other factors that raise labour productivity are scarce to locations where they are more abundant. Remittances are a mechanism for redistributing the net gains from increased spatial labour mobility. They spread these gains from migrants to the population at large (McKenzie and Sasin 2007). Since migration is usually from regions in which labour productivity (and hence low per capita income) is low to regions where it is high, remittances typically contribute to poverty alleviation (e.g. Adams and Page 2005; Acosta et al. 2007).

Vietnam's rapid economic growth has been accompanied—as in many other parts of the developing world—by increasingly high levels of geographical labour mobility. While international migration is significant, most migrants still move within the country—and indeed, most go to a relatively small number of internal destinations. Vietnam is small and geographically compact relative to many other well-studied developing countries. From Da Nang, in the centre of the country, to either of the two major cities (Hanoi and Ho Chi Minh City) is less than 800 km, or 14–16 hours by bus. Relatively short distances, coupled with near-universal access to mobile phones, mean that contemporary migration is much less costly and risky than in many other countries or in Vietnam's own past. Potential migrants can learn about job opportunities, resettlement costs, and other important considerations in destination cities before deciding on a move. In this setting, there is likely to be very little Harris and Todaro (1970) style speculative migration accompanied by urban unemployment. Unemployment in destination markets is more likely to be frictional than structural.

Economic growth and lower migration costs have been associated with large increases in migration. Vietnam's 1989 Census recorded very few internal migrants; the majority came from one rural location to another and their motives for relocating were a mix of economic and other factors (Dang 1999).[1] This changed quickly as economic growth accelerated in the 1990s. According to the 1999 Census, 4.5 million people changed location in the 5-year interval 1994–1999. By this time, the economic reform era was well under way, and the surge in spontaneous migration was also driven far more explicitly by income differentials (Phan and Coxhead 2010). By the next census, in 2009, this 5-year migration figure had increased by almost 50%, to 6.6 million (Marx and Fleischer 2010), or almost 8% of the total population. Again, a large fraction of those who moved did so for economic reasons. Vietnam's economic growth since the early 1990s has been dominated by secondary and tertiary sectors, with a big contribution from foreign investment and the reform of state-owned enterprises (SOEs). Changes in the sectoral and institutional structures of labour demand have mirrored these trends (McCaig and Pavcnik 2013). Growth of employment and labour productivity in Vietnam is overwhelmingly in nonfarm industries and urban areas.

Moving to where job prospects and earnings growth are higher is sensible for most individuals, subject to cultural and behavioural norms, transaction costs and other constraints. Promoting labour mobility and remittances is also in general good development policy. Therefore, understanding the drivers of migration and remittances is an input to policy recommendations for development. The main objective of this research is to investigate the dynamics of the individual migration decision in Vietnam.

There have been many studies of internal migration in Vietnam (Guest 1998; Djamba et al. 1999; Dang et al. 1997, 2003; Dang 2001a, b; GSO and UNFPA 2005; Cu 2005; Dang and Nguyen 2006; Nguyen et al. 2008, 2015; Tu et al. 2008; Phan 2012). However, the Vietnamese economy continues to grow and develop apace,

[1]The Census identifies an individual as a migrant if he/she was at least 5 years of age at the time of the Census and had changed place of residence within the past 5 years.

and the domestic labour market is one of the key conduits for structural change. From 2005 to 2013, urban employment in Vietnam grew by 45%, rising from about one-quarter of jobs to nearly one-third. Meanwhile, rural employment expanded by only 14% (data from gso.gov.vn, accessed 5 July 2015). Foreign investment, much of which goes into labour-intensive manufacturing enterprises located in urban and peri-urban industrial zones, surged after Vietnam's World Trade Organisation (WTO) accession in 2007. Moreover, government policies affecting labour demand and supply, including migration decisions, have also evolved—in particular, the previously strong emphasis on the *ho khau* (residence certificate)[2] as a prerequisite for working in cities has diminished considerably. Institutional barriers to migration (for example, land tenure security and access to credit) are also changing, albeit more slowly. Taken together, these trends provide good reason to regularly revisit migration trends and associated labour market developments as new data become available. We have an opportunity to gain perspective through comparisons with findings from earlier studies and to contribute to the design and evaluation of labour and social policy for the near future.

Our chapter fits within a familiar tradition, yet it differs from earlier work in several respects. First, we examine factors associated with different types of migration, including migration for work and non-work purposes, and migration with different choices of location. Second, we use the most recent available data, from the nationally representative VHLSS2010 and VHLSS2012. The VHLSS2012 in particular contains a special module on migration, with extensive data on both migrants and sending households. Thus, the results of the study will help identify factors influencing migration decisions at the national as well as regional levels.

The rest of the chapter is structured as follows. The next section briefly reviews the relevant literature. Section 3 discusses the data used in this study. Section 4 presents migration patterns in Vietnam. Sections 5 and 6 present the estimation method and empirical results of determinants of migration, respectively. The final section concludes the analysis.

2 Migration Choices: A Review of the Literature

Traditional migration models link migration decisions with 'pull' and 'push' factors. Pull factors are destination-specific incentives such as job opportunities and higher real wages. Push factors at the place of origin cause outmigration. This 'disequilibrium'

[2]Imported from China, this system was implemented from 1955 in urban areas and nationwide from 1960. Each household is given a registration booklet that records the name, sex, date of birth, marital status, occupation, and relationship to the household head of all household members. In principle, no one can have his or her name listed in more than one household registration booklet. The *ho khau* is intended to be tied to the place of residence and to provide access to social services such as housing, schooling and health care in that location. As in China, in Vietnam, changing one's registered location is a difficult and time-consuming process.

view of migration emphasises persistent expected income differentials as a major motivation for migration. The New Economics of Labour Migration (Stark and Bloom 1985) broadens this approach by regarding migration decisions as household-level resource allocation decisions, taken to maximise household utility and minimise variability in household income. Recent research tries to identify factors behind migration, considering market failures due to information asymmetries, credit market imperfections and network effects.

There are two top-level approaches to estimation of migration propensity: descriptive (based on an ex post model such as the gravity equation) and behavioural (e.g. based on an ex ante model such as utility maximisation). Though the two are not mutually exclusive, most empirical migration models start from either one or the other. Behavioural models make use of microdata such as surveys of individuals or households, while gravity models appeal to the representative agent assumption and make use of aggregate data—for example, census data in which migration rates are measured at the level of the community or administrative unit (Phan and Coxhead 2010; Etzo 2010; Huynh and Walter 2012).

The ex ante approach typically starts from a utility function and derives an estimating model that measures the propensity to migrate. In the case of household decisions, migration can be seen as portfolio diversification—for example, in response to uninsurable risk in farming. In these models, the migrant must implicitly be considered as a continuing household member, at least for the purposes of remittances and/or emergency gifts.[3]

The simplest migration model at the micro-level specifies a binary variable (migrate or not) as a function of a set of regressors capturing incentives and constraints to labour mobility. In this approach, migration choice is usually modelled by a logistic regression, either a probit or a logit model. At the macroeconomic level, migration is correctly treated as a resource allocation problem (Sjaastad 1962). People move for work because they calculate that the additional returns to doing so outweigh the additional costs. Households (when these are the decision-making units) accept the loss of a productive worker at home in return for the expectation of a flow of remittances that will more than compensate the loss.

In Vietnam, previous studies indicate that migration is a key response of households and individuals to both economic opportunities and livelihood difficulties. A popular strand of research on the determinants of migration is to use the macro-gravity model. Dang et al. (1997) used 1989 Census data and found, not surprisingly, that more highly developed provinces attracted higher volumes of migrants, other things being equal, while the government's organised population movements appeared unsuccessful. Phan and Coxhead (2010) used data from the 1989 and 1999 censuses to investigate migration patterns and determinants and the role of migration on cross-province income differentials. They found that provinces with

[3]Of course, any fully articulated model of household decision-making must also come to terms with intra-household bargaining and distribution, whether by assuming it to take a specific structure or by modelling it directly.

higher per capita income attract more migrants. However, the coefficient of income in the sending province was also positive and significant, implying that the 'liquidity constraint effect' outweighed the 'push' effect in inhibiting migration in poorer regions.

Nguyen-Hoang and McPeak (2010) used a macro-gravity model to study the determinants of interprovincial migration using annual survey data on population released by the General Statistics Office (GSO) of Vietnam. The authors included urban unemployment rates and policy-relevant variables in their model. They found that migration is influenced primarily by the cost of moving, expected income differentials, disparities in the quality of public services, and demographic differences between source and destination areas.

Several other authors have applied micro-approaches to assess drivers of migration. Nguyen et al. (2008) used panel data of households in 2002 and 2004 to explore factors associated with outmigration both for 'economic' and for 'non-economic' reasons and comparing short and long-term migration. They applied a probit model and found that migration is strongly affected by household and commune characteristics. Larger households, and households with a high proportion of working members, tend to have more migrants. Higher education attainments of household members also increased the probability of migration. They found evidence of a 'migration hump' for long-term economic migration—that is, the probability of migration has an inverse U-shape with respect to per capita expenditures. The presence of nonfarm employment opportunities lowered short-term migration, but not long-term movements. Their core regression analysis, however, did not test for ethnicity-based differences in migration rates.

Tu et al. (2008) examined the impacts of distance, wages and social networks on migrants' decisions. They modelled the migration decision as a function of choice attributes and individual characteristics. Choice attributes include wages in destination areas, transport between origin and destination, migrants' social networks, farm prices and local job opportunities. Individual-specific factors include age, education, gender, marital status, and the shares of children and elders in the household. They find that wages and networks have significantly positive effects on migration choices, while distance affects them negatively.

Phan (2012) developed an agricultural household model to determine whether credit constraints are a motivation for or a deterrent to migration. Using survey data from four provinces, she found that for households with high demand for agricultural investments and high net migration returns, migration is used as a way to finance capital investments.

Fukase (2013) investigated the influence of employment opportunities created by foreign-owned firms on internal migration and destination choices. The author used both the Vietnam Migration Survey 2004 and VHLSS2004 and used multinomial logit and conditional logit models. This paper found that the migration response to foreign job opportunities is larger for female workers than male workers; there appears to be intermediate selection in terms of educational attainment; and migrating individuals on average tend to go to destinations with higher foreign employment opportunities, even after controlling for income differentials, land differentials, and distances between sending and receiving areas.

Niimi et al. (2009) look at the determinants of remittances instead of migration. They find that migrants send remittances to their original households as an insurance method to cope with economic uncertainty. Remittances are more likely to be sent by high education migrants in big cities such as Hanoi and Ho Chi Minh City.

Recently, Nguyen et al. (2015) used data from several rounds of a three-province survey in central Vietnam and found that households are more likely to move from rural to urban areas when exposed to agricultural and economic shocks. However, the probability of migration decreases with the employment opportunity in the village.

3 Data

3.1 All Migration

This study relies on the VHLSS rounds of 2010 and 2012, conducted by the GSO with technical support from the World Bank in Vietnam. The most widely accessed forms of these surveys contain detailed information on individuals, households and communes, collected from 9402 households nationwide. Individual data include demographics, education, employment, health, and migration. Household data are on durables, assets, production, income and expenditure, and participation in government programs.

The VHLSS2012 contained a special module on migration. Respondents—that is, the heads of interviewed households—were asked about all former members who had departed the household. The module defined former household members as (1) those who had left the household for 10 years or more; and (2) those who had left the household for less than 10 years but were still considered 'important' to the household in terms of either filial responsibility or financial contributions.

Certainly, not all those former household members can be considered migrants. Some people leave or separate from their households—for example, due to marriage or separation—and continue to live nearby. Therefore, we define migrants as living in a different province from the household. Interprovincial migration is more costly than intraprovince migration.[4] We also exclude migrants who left the household more than 10 years prior to the 2012 survey, as the time lapse is too long to be useful. There can be large measurement errors in data on pre-migration variables of migrants, since respondents' memories grow increasingly faulty. We also exclude migrants reported as having left home when they were younger than 15.

Another set of questions asks about the migration experience of household members. A household member is considered as having migration experience if that person was absent from the household for the purpose of employment for at least 6 months during the past 10 years. This group basically includes two types:

[4]There are 63 provinces and cities in Vietnam. The average area of a province or city is 5000 sq. km. As a result, workers do not need to migrate if they are working within a province or a city.

(1) migrants who still visit their origin households, and (2) migrants who have left the household permanently. The total number of individual observations is 26,015, of which 1974 are considered migrants. These, however, may have moved away at any time one to 10 years prior to the 2012 survey.

3.2 Recent Migrants

To model recent migration, we take advantage of a panel data link between adjacent rounds of the VHLSS, and we use the so-called large sample VHLSS, which covers an additional 37,000 households to the 9402 in the small sample.[5] The 2010 and 2012 VHLSSs contain a panel that covers 21,052 households. In this panel data there are 5075 household members who were present in the VHLSS in 2010 but not in 2012. Of these recent migrants, 1150 (22.7%) were reported as having left for employment elsewhere. Information about this group is especially powerful as they comprise a single migrant cohort. Moreover, their decisions are responses to the most recent trends in the Vietnamese economy, as opposed to those of the full sample, who have made their decisions at different points over a decade-long interval. We expect less heterogeneity within the recent migrant group, and also more accurate information about them from respondents. There is also less time in which their characteristics might change (for example, acquire more education)—a problem that may afflict reporting on the longer-term migrants described above.

For consistency with the previous definition, we define migrants as those aged 15–59 who moved across provincial boundaries. In the 2010–12 VHLSS panel, data on whether individuals moved across provinces are collected only for migrants reported as having moved for employment. For individuals who left their households for other reasons, such as marriage or separation, there are no data on the destination. We cannot know whether these individuals moved within or between provinces. Thus, we will focus on recent migration for the purpose of work only. The total number of individuals used for this analysis is 54,898, of which 953 are defined as migrants for employment.

4 Migration Patterns in Vietnam

Figure 1 shows the purposes and the destination of migrants as reported in the migration module of VHLSS2012. More than half of migrants moved for employment purposes. Marriage is the second stated reason, accounting for 21%, followed by study (13%) and all other purposes (11%). In this chapter, we will focus on

[5]There are no data on expenditure for the 37,000 'large sample' households, but other information is as collected in the small sample.

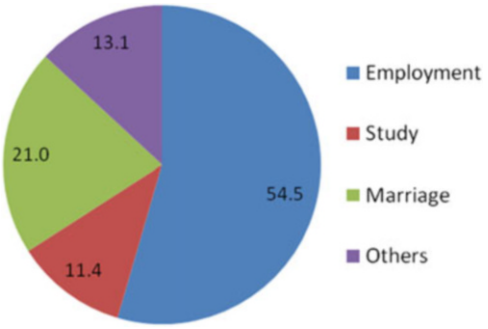


Fig. 1 Reasons for interprovincial migration. Source: Own calculations, based on VHLSS2012

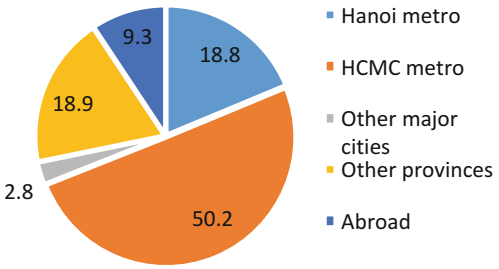


Fig. 2 Interprovincial migration destinations. Source: Calculated from VHLSS2012

work migration. However, we also examine patterns and determinants of non-work migration. Although non-work migration may not be determined primarily by economic motives, it is likely to improve the welfare of the migrant-sending household, if only by reducing dependency ratios (Nguyen et al. 2011). Moreover, the female labour force participation rate is very high in Vietnam, where marriage is typically patrilocal. So even though women may report moving for marriage, they are also quite likely to rejoin the labour force in their destination.

Migrant destinations are very highly concentrated. Half of all interprovincial migrants went to the Ho Chi Minh City (HCMC) metropolitan area[6] and almost one-fifth (19%) to the Hanoi metropolitan area[7] (Fig. 2). Of the remainder, 3% moved to one of three other major cities (Hai Phong, Da Nang, and Can Tho) and the rest to other internal destinations or to other countries. With three-quarters of all interprovincial moves going to cities, the 'rural–urban' stylisation is a very accurate one for Vietnam. The destination of recent work migration in the panel of VHLSS2010–12 is also similar to the 2012 data.

Figure 3 shows the age distributions of migrants. Younger people are far more likely to move than older people; in both surveys, the mode is 20 years. Older workers have diminished incentives to move, in part because a shorter payoff period

[6]The Ho Chi Minh metropolitan region includes the provinces of Bình Dương, Bình Phước, Tây Ninh, Long An, Đồng Nai, Bà Rịa-Vũng Tàu, Tiền Giang and Ho Chi Minh City (eight provinces).

[7]The Hanoi metropolitan region includes the provinces of Phú Thọ, Vĩnh Phúc, Thái Nguyên, Bắc Giang, Bắc Ninh, Hưng Yên, Hải Dương, Hà Nam, Hòa Bình and Hanoi (10 provinces).

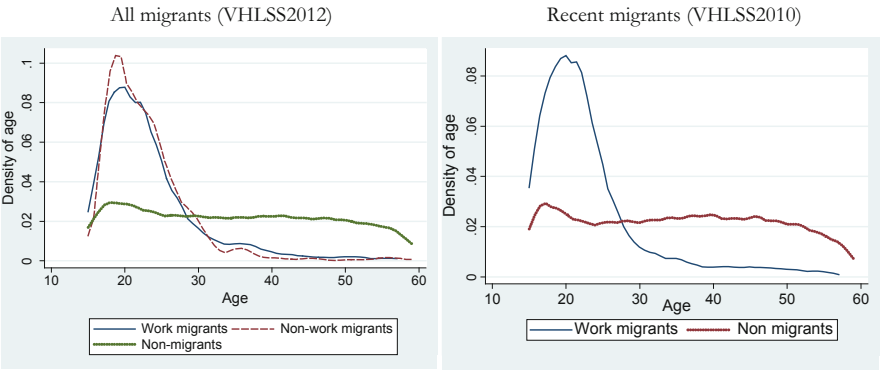


Fig. 3 Age distribution of migrants and non-migrants. Source: Authors' own calculations, based on VHLSS2010 and VHLSS2012

decreases the net gains to migration (Borjas 2005). All migrants, whether for work or not, are younger on average than non-migrants. Their average age is 23, which is 12 years lower than the average age of non-migrants. Other characteristics of migrants and non-migrants are summarised in Appendix Table 7.

Table 1 shows the demographic characteristics of migrants. The proportions of work and non-work migrants from VHLSS2012 are 4.3% and 3.3%, respectively. In the 2010–12 panel, 1.7% migrated recently for work. Males have a higher rate of migration for work, but a lower rate for non-work than females. Kinh (ethnic majority) and Hoa (ethnic Chinese) people are more likely to migrate than other ethnic groups. A large proportion of ethnic minorities live in mountainous and remote areas and have limited information on migration opportunities. Migration costs may also be higher due to long distances to cities. But we shall see in the next section that distance and remoteness alone do not account for differences between Kinh/Hoa and ethnic minority groups.

Among those who move for work, Table 1 shows a weak inverse-U–shaped relation between education and migration. People with very low or very high education migrate for work at lower rates than those with middle-level education (i.e. secondary school). This pattern appears both for all migrants and for those moving in the 2010–2012 period, but not among non-work migrants. Since education and household wealth are typically correlated, it presumably reflects the same forces that produce an inverse-U–shaped relation between wealth and migration: migration rates are typically higher for middle-income households than for either the very poor, who may lack the means to move, or the very rich, for whom the gains from migration might be relatively small.

By region, people in the Central Coast are most likely to migrate, followed by those in the Mekong River Delta (Table 2). People in the South-East—the richest region—have the lowest migration rate. Much of the South-East region is already integrated with the greater Ho Chi Minh City metropolitan area. Urban people also move, but the proportion is higher in rural than in urban areas.

Table 1 Migration rate by demographic characteristics (per cent)

	All migration (VHLSS2012)		
	Work migration	Non-work migration	Recent work migration (Panel VHLSS2010–12)
Gender			
Male	4.77	2.32	2.10
Female	3.90	4.28	1.38
Ethnicity			
Kinh, Hoa	4.58	3.63	1.91
Ethnic minorities	2.75	1.35	1.01
Completed education level			
<Primary	3.42	3.75	0.63
Primary	3.38	2.49	1.43
Lower-secondary	4.46	2.05	1.81
Upper-secondary	4.84	3.68	3.69
Technical degree	6.82	4.64	1.68
Post-secondary	3.96	6.40	1.40
Total	4.33	3.31	1.74

Source: Authors' estimations from VHLSS2010–12

Migrants change jobs in ways that reflect the economic structure of destinations. Table 3 shows the occupational transition matrices of migrants, where the occupation skill level is based on VHLSS occupation codes.[8] Even though these data include non-work migrants as well as those moving within or into the labour market, the trends are clear. In panel (a), the largest off-diagonal transitions are from unskilled jobs or no work (including school) into semi-skilled occupations, which include construction, process and production line work and other categories related to the fast-growing urban-industrial economy. Panel (b) shows that two-thirds of new semi-skilled workers in the migrant sample came from either unskilled jobs (28.8%) or not working (36.9%).

Similarly, two-thirds (65.9%) of new skilled workers were not working prior to migration. These transitions are matched by sectoral changes. In panel (c), only one-fourth (25.6%) of workers in agriculture remain in that sector after migration, whereas 60% transition into industry or services (mainly the former). Former farm workers make up one-third (33.4%) of new industrial sector jobs taken by migrants (panel (d)).

[8]Skilled occupations include leaders/managers from sectors and organisations, high-level experts, and average-level experts. Semi-skilled occupations include office staff, service and sales staff, skilled labourers in agriculture, forestry, and fisheries, manual labourers and related occupations, machine assembling and operating workers. Other workers are defined as unskilled.

Table 2 Migration rate by region of origin (per cent)

	All migration (VHLSS2012)		
	Work migration	Non-work migration	Recent work migration (Panel VHLSS2010–12)
Region			
Red River Delta	3.40	3.46	1.28
Northern Mountains	3.96	2.05	1.17
Central Coast	7.36	3.79	2.75
Central Highlands	1.95	2.98	1.44
South-East	0.91	2.29	0.61
Mekong River Delta	5.55	4.38	2.30
Location			
Rural	5.33	3.50	1.98
Urban	1.93	2.86	1.05
Vietnam	4.33	3.31	1.74

Source: Authors' estimations from VHLSS2010–12

5 Estimating Model

In this section, we explore factors associated with the migration decision. The workhorse model for migration decisions is the logistic regression model. This estimates an individual's likelihood to migrate as a function of individual characteristics and the characteristics of their household and community. In particular, we have the following form:

$$P(y_{ijk} = 1|X) = \mathrm{F}(\alpha + INDIVIDUAL_{ijk}\gamma + HOUSEHOLD_{jk}\delta + COMMUNE_k\theta), \tag{1}$$

where y_{ijk} is the migration variable of individual i in household j in commune k. This is a binary outcome, with 1 corresponding to an individual being a current migrant and 0 otherwise. $INDIVIDUAL_{ijk}$, $HOUSEHOLD_{jk}$, and $COMMUNE_k$ denote vectors of corresponding characteristics. F is the logistic function, which can be expressed as follows:

$$P(y_{ijk} = 1|X) = \frac{e^{X\beta}}{1 + e^{X\beta}},$$

where $X\beta$ denotes (α + $INDIVIDUAL_{ijk}\gamma$ + $HOUSEHOLD_{jk}\delta$ + $COMMUNE_k\theta$).

The individual variables in a model of this kind include age, gender, ethnicity, and education. Typical household variables include household composition, characteristics of the household head, and household assets including land and claims on

Table 3 Occupation and sector transitions

Occupation in destination					
Occupation in home	Skilled	Semi-skilled	Unskilled	Not working	Total
Panel (a)					
Skilled	82.56	2.71	2.47	12.26	100
Semi-skilled	1.01	74.25	5.71	19.03	100
Unskilled	0.91	42.13	42.24	14.71	100
Not working	13.6	32.49	6.86	47.04	100
Total	9.93	42.34	16.73	31.01	100
Panel (b)					
Skilled	29.46	0.23	0.52	1.4	3.54
Semi-skilled	1.98	34.06	6.63	11.92	19.42
Unskilled	2.66	28.81	73.13	13.74	28.96
Not working	65.9	36.9	19.72	72.94	48.08
Total	100	100	100	100	100
Sector in destination					
Sector in home	Agriculture	Industry	Service	Not working	Total
Panel (c)					
Agriculture	25.59	37.67	22.36	14.38	100
Industry	1.88	68.61	11.89	17.62	100
Service	2.16	7.16	71.3	19.38	100
Not working	1.31	25.42	26.23	47.04	100
Total	8.5	32.6	27.89	31.01	100
Panel (d)					
Agriculture	87.16	33.44	23.21	13.42	28.95
Industry	2.82	26.83	5.44	7.24	12.75
Service	2.6	2.24	26.14	6.39	10.22
Not working	7.43	37.48	45.22	72.94	48.08
Total	100	100	100	100	100

Source: Own calculations, based on VHLSS data

pensions and transfers. The characteristics of origin locations (in Vietnam, communes) include geography, infrastructure and community-level proxies for the existence of migrant networks.

In our study, people are reported as migrating for both work and non-work purposes. It is not clear to us whether this distinction is meaningful, as undoubtedly many of those who migrate for 'non-work' purposes ultimately seek and find employment in their new home. However, the fact they reported different reasons for moving may itself convey information about differences among individuals. Therefore, to take this distinction into account, we estimate a multinomial logit (MNL) model. Whereas the logit model allows only for a binary choice (migrate/not migrate), in the MNL model the outcome variable y is not binary, but discrete. Individuals have three mutually exclusive choices: migrate to work, migrate for non-work reasons, and not migrate. In this model, y is equal to 1, 2 or 3 if an

individual selects 'migrate for work', 'migrate for non-work' and 'not migrate', respectively. The model is as follows:

$$P(y = 1|X) = \frac{e^{X\beta_1}}{1 + (e^{X\beta_2} + e^{X\beta_3})} \tag{2}$$

$$P(y = 2|X) = \frac{e^{X\beta_2}}{1 + (e^{X\beta_2} + e^{X\beta_3})} \tag{3}$$

$$P(y = 3|X) = \frac{1}{1 + (e^{X\beta_2} + e^{X\beta_3})}, \tag{4}$$

in which the third choice, 'not migrate', is the reference category. X is a vector of individual, household and commune characteristics, as previously described, and β is a vector of coefficients to be estimated.

The MNL can be easily extended to more than three choices. In a second set of estimates, we also examine propensity to migrate by destination. Individuals face four mutually exclusive choices: migrate to Hanoi or HCMC, migrate to other provinces, migrate abroad, and stay at home.

Since the estimating functions are nonlinear, the partial effects of control variables vary across the X vector. We will report their marginal effects, calculated as estimated partial derivatives with respect to X, evaluated at the mean values of X.

Finally, it is important to note that some explanatory variables could be endogenous with respect to the migration decision. If migration is positively selected on education, for example, some individuals may invest in more education for the purpose of migration. Our estimates will then be inconsistent. Similarly, measures of household wellbeing and assets in 2012 may in part reflect remittance income from prior migrants. Dealing with this risk is a demanding task in cross-sectional data. The joint use of 2010 with 2012 data helps overcome some (though not all) of these risks.

6 Estimation Results

6.1 Work and Non-work Migration

We first use multinomial logit regressions to examine factors associated with the work and non-work migration decisions of all former household members identified in the VHLSS2012 migration module. The sample consists of all non-migrants and migrants aged between 15 and 59. Variables are as summarised above and in Appendix Table 7 (complete variable lists with summary statistics are shown in Appendix Tables 8 and 9). Note that for migrants, "age" refers to their age at the time of migration.

To capture migration networks, we created a commune-level variable as the ratio of out-migrants to the commune population. The rationale is that a person is more likely to migrate if others in her/his commune have gone ahead. She/he can receive

information on migration from other migrants. For rural communes, we also included geographic variables (this information is unavailable for urban areas).

Table 4 presents the marginal effects from the migration choice MNL estimation.[9] Since an individual faces three mutually exclusive choices, the sum of marginal effects is equal to 0. Therefore, we do not report estimates for the non-migration choice. We do, however, report estimates separately for all migrants and for the subsample of those from rural households.

Most coefficient estimates in Table 4 are of expected sign. Men and women are equally likely to migrate for work, but women are more likely to migrate for non-work reasons. The likelihood of migration diminishes with age.[10] Ethnic minority people are much less likely to migrate than Kinh or Hoa.

Regarding education, we find that relative to the reference category (no schooling) and after controlling for other covariates, people with post-secondary education are more likely to move and those with either primary or secondary education are less likely. These results corroborate the positive selection hypothesis only for post-secondary schooling. Other studies of internal migration by education level in comparable countries are similarly ambiguous (e.g. Deb and Seck 2009).

Household characteristics play an important role in migration decisions. People living in a household with a female head are more likely to migrate. The age of the household head has an inverted-U–shaped relation with the probability of work migration of household members. As the age of the head increases, the probability of household members migrating for work tends to increase. However, after a peak of around 67 years of age, this probability tends to decrease. The relation between the age of the household head and non-work migration also follows an inverted-U–shaped relation, but this age peak is around 14. It means that the probability of non-work migration of household members mainly decreases as the age of the household head increases. The education (in years) of household heads promotes migration for work, but not for non-work purposes.

Household composition also matters for migration decisions. Migrants are more likely to come from larger households, but less likely to move from households with a large proportion of dependent children. The age dependency rate seems to have no influence. Having a migrant already in the household reduces the chance of migration of other household members. This is because the cost of migration is higher for the remaining household members. For example, if a father already migrated, a mother should stay to take care of children and other dependent members.

[9]Many studies using MNL models report tests for the independence of irrelevant alternatives (IIA). We conducted Hausmann and Small–Hsiao tests, and both rejected the null hypothesis that IIA holds. However, Monte Carlo studies indicate that these tests are biased towards rejection (Cheng and Long 2007). Ex ante, the choices faced in our model seem 'plausibly . . . distinct and weighed independently in the eyes of each decision-maker' (McFadden 1974). Ex post, estimates using logit models applied separately to each choice yield marginal effects that are very similar to those obtained in the MNL model (results available on request).

[10]A quadratic term in age was included in earlier versions, but it was insignificant and subsequently dropped.

Table 4 Migration choices by all migrants, VHLSS2012

	Multinomial logit: full sample		Multinomial logit: Rural residents	
Explanatory variables	Work migration (yes = 1, no = 0)	Non-work migration (yes = 1, no = 0)	Work migration (yes = 1, no = 0)	Non-work migration (yes = 1, no = 0)
Female (Y/N)	−0.00057	0.00417***	−0.00046	0.00359***
	(0.00082)	(0.00074)	(0.00113)	(0.00072)
Age	−0.00112***	−0.00068***	−0.00147***	−0.00057***
	(0.00008)	(0.00008)	(0.00012)	(0.00008)
Ethnic minority (Y/N)	−0.00835***	−0.00497***	−0.01150***	−0.00497***
	(0.00144)	(0.00087)	(0.00207)	(0.00101)
Primary	−0.00339**	−0.00316***	−0.00426**	−0.00300***
	(0.00149)	(0.00071)	(0.00210)	(0.00076)
Lower-secondary	−0.00455***	−0.00583***	−0.00566**	−0.00549***
	(0.00156)	(0.00094)	(0.00222)	(0.00105)
Upper-secondary	−0.00634***	−0.00423***	−0.00775***	−0.00358***
	(0.00149)	(0.00077)	(0.00201)	(0.00075)
Technical degree	0.01639***	0.00799***	0.02294***	0.00836***
	(0.00330)	(0.00196)	(0.00515)	(0.00224)
Post-secondary	0.00279	0.00440***	0.00047	0.00416***
	(0.00239)	(0.00154)	(0.00307)	(0.00152)
Urban resident (Y/N)	−0.00936***	−0.00164**		
	(0.00138)	(0.00067)		
Age of HH head	0.00126***	0.00100***	0.00194***	0.00101***
	(0.00034)	(0.00024)	(0.00051)	(0.00026)
Age squared of HH head	−0.00001***	−0.00001***	−0.00001***	−0.00001***
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
Head is female (Y/N)	0.00560***	0.00252***	0.00844***	0.00380***
	(0.00179)	(0.00087)	(0.00287)	(0.00112)
HH head education (years)	0.00039**	0.00007	0.00062**	0.00007
	(0.00018)	(0.00009)	(0.00026)	(0.00009)
Proportion of children in HH	−0.04580***	−0.02827***	−0.06074***	−0.02648***
	(0.00509)	(0.00421)	(0.00708)	(0.00467)
Proportion of elderly in HH	0.00362	0.00271	0.00503	0.00229
	(0.00392)	(0.00217)	(0.00553)	(0.00213)
HH size	0.00400***	0.00215***	0.00567***	0.00212***
	(0.00049)	(0.00036)	(0.00071)	(0.00041)
Other HH member migrated (Y = 1, N = 0)	0.00052	−0.00102*	−0.00118	−0.00147***
	(0.00117)	(0.00053)	(0.00154)	(0.00052)
HH has ag. land (Y/N)	0.02706***	0.00830***	0.02298***	0.00552***
	(0.00514)	(0.00237)	(0.00337)	(0.00149)
HH has ag. land*Log of land area	−0.00385***	−0.00127***	−0.00524***	−0.00117***
	(0.00063)	(0.00034)	(0.00088)	(0.00036)

(continued)

Table 4 (continued)

Explanatory variables	Multinomial logit: full sample		Multinomial logit: Rural residents	
	Work migration (yes = 1, no = 0)	Non-work migration (yes = 1, no = 0)	Work migration (yes = 1, no = 0)	Non-work migration (yes = 1, no = 0)
House is permanent structure (Y/N)	−0.00261**	−0.00234***	−0.00340*	−0.00228***
	(0.00128)	(0.00069)	(0.00179)	(0.00066)
HH has nonfarm income (Y/N)	−0.02784***	−0.01264***	−0.03290***	−0.01070***
	(0.00433)	(0.00267)	(0.00501)	(0.00253)
HH receives social transfers/pension (Y/N)	−0.00128	−0.00069	−0.00249	−0.00066
	(0.00124)	(0.00060)	(0.00176)	(0.00059)
Ratio of migrants in commune			0.00072**	0.00010
			(0.00032)	(0.00014)
Distance to nearest town (km)			0.00435	0.00132
			(0.00663)	(0.00248)
Commune in mountainous area			0.00498**	−0.00121
			(0.00243)	(0.00082)
Commune has all-season road (Y/N)			0.00399*	0.00073
			(0.00204)	(0.00071)
Commune has market (Y/N)			−0.00588***	−0.00130**
			(0.00158)	(0.00059)
Regional dummies	Yes		Yes	
Observations	26,015		18,657	
R^2	0.331		0.303	

Notes: Standard errors in parentheses. Standard errors are corrected for sampling weight and within-cluster correlation. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. Excluded category is 'No Migration'. Education reference category is 'No Education'
Source: Authors' own estimations, based on VHLSS2012

Wealthier households—those with better housing, nonfarm income and larger farm land area—are less likely to send their members to migrate for work as well as non-work purposes. Farm households (having crop land) tend to send their members for work migration, presumably to diversify income. However, conditional on having some land, households with larger farm areas send out fewer migrants. A larger farm implies higher agricultural labour productivity. As a result, people with larger farms are less likely to migrate.

We have suppressed full coefficient estimates for regions to save space. These show, however, that populations in the Central Coast, the Northern Mountains and the Mekong River Delta are more likely to migrate than those in the Red River Delta or the South-East Region—the two regions closest to Vietnam's large cities.

For rural areas, we also examine the effect of community on migration via commune variables. Most of these are not significant. Only people living

in mountains and villages without daily markets tend to migrate at higher rates.[11]

6.2 Choice of Destination

Table 5 reports estimates of the choice of migrant destination using an MNL model. As noted above, we use four destination choices: Hanoi or Ho Chi Minh City; other provinces; migrating abroad; and the reference category, not migrating. Once again, we do not report reference category results since these are simply the negative of the sum of the other three.

Age, gender and ethnicity have similar effects on migration decisions, whether to Hanoi/HCMC or to other provinces. There are minor differences between these and international migration, and to foreign countries. It should be noted that international migration is mainly in the form of labour exports to countries such as Taiwan and Malaysia (e.g., see Labor Newspaper 2008; Nguyen and Mont 2010). These labourers find mainly semi-skilled occupations—for example, as process workers in factories and farms. Of course, there are other factors that govern international migration decisions. We do not explore these in detail.

Household variables are more important in internal migration decisions. Households with farmland are more likely to have internal migrants. However, conditional on having land, a greater area tends to reduce the probability of migration, as already seen in Table 4. Other measures of household wealth also discourage internal, but not international, migration.

Geographically, those in the landlocked Central Highlands are much less likely to choose international migration. People from urban areas are less likely to migrate internally than those from rural areas. However, there is no difference between urban and rural areas in the probability to move internationally.

6.3 Recent Migrants for Work Purposes

The analysis of the preceding section refers to all migrants who moved in the decade from 2002 to 2012. In this section, we focus only on the extensive margin of recent migrants aged 15–59 for work, using the panel component of the combined 2010 and 2012 VHLSSs. Decisions made by these migrants can be expected to reflect the most recent information available about labour market conditions and opportunities, which evolve along with the Vietnamese economy.

We use logit regression to evaluate work-related migration decisions for the full sample, and for rural residents as a distinct subgroup. In the full sample there are no

[11] In other runs, we included variables recording frequency of floods, storms and droughts in the commune; however, these were insignificant in the cross-section estimates and were dropped.

Table 5 Migration destination choices by all migrants, VHLSS2012

	Multinomial logit: Full sample		
Explanatory variables	Migration to Hanoi or HCMC	Migration to other provinces	International migration
Female (Y/N)	0.00094**	0.00093*	0.00072
	(0.00046)	(0.00050)	(0.00056)
Age	−0.00061***	−0.00065***	−0.00020***
	(0.00007)	(0.00007)	(0.00003)
Ethnic minority (Y/N)	−0.00480***	−0.00397***	−0.00328***
	(0.00088)	(0.00084)	(0.00069)
Primary	−0.00290***	−0.00235***	0.00019
	(0.00084)	(0.00078)	(0.00131)
Lower-secondary	−0.00420***	−0.00465***	0.00063
	(0.00102)	(0.00087)	(0.00130)
Upper-secondary	−0.00376***	−0.00450***	0.00003
	(0.00093)	(0.00081)	(0.00124)
Technical degree	0.00787***	0.01108***	0.00332**
	(0.00203)	(0.00246)	(0.00154)
Post-secondary	0.00472**	0.00262*	−0.00063
	(0.00230)	(0.00134)	(0.00132)
Urban resident (Y/N)	−0.00339***	−0.00447***	−0.00053
	(0.00075)	(0.00081)	(0.00084)
Age of HH head	0.00077***	0.00098***	0.00021
	(0.00025)	(0.00023)	(0.00016)
Age squared of HH head	−0.00001***	−0.00001***	−0.00000
	(0.00000)	(0.00000)	(0.00000)
HH head is female (Y/N)	0.00281***	0.00241**	0.00264**
	(0.00090)	(0.00104)	(0.00125)
HH head education (years)	0.00022**	0.00013	0.00017
	(0.00010)	(0.00011)	(0.00011)
Proportion of children in HH	−0.02232***	−0.02873***	−0.00746***
	(0.00419)	(0.00369)	(0.00230)
Proportion of elderly in HH	0.00272	0.00086	0.00393*
	(0.00216)	(0.00223)	(0.00234)
HH size	0.00176***	0.00211***	0.00127***
	(0.00039)	(0.00029)	(0.00024)
HH member migrated (Y = 1, N = 0)	−0.00005	−0.00071	−0.00006
	(0.00061)	(0.00058)	(0.00059)
HH has ag. land (Y/N)	0.01118***	0.01489***	0.00360
	(0.00307)	(0.00342)	(0.00222)
HH has ag. land*Log of land area	−0.00157***	−0.00203***	−0.00043
	(0.00040)	(0.00040)	(0.00031)
House is permanent structure (Y/N)	−0.00106	−0.00304***	0.00088
	(0.00067)	(0.00072)	(0.00084)
HH has nonfarm income (Y/N)	−0.01136***	−0.01691***	−0.00687***
	(0.00239)	(0.00304)	(0.00226)

(continued)

Table 5 (continued)

Explanatory variables	Multinomial logit: Full sample		
	Migration to Hanoi or HCMC	Migration to other provinces	International migration
HH receives social transfers/ pension (Y/N)	−0.00062	−0.00064	−0.00110
	(0.00058)	(0.00071)	(0.00068)
Regional dummies	Yes	Yes	Yes
Observations		25,774	
R^2		0.270	

Notes: Standard errors in parentheses. Standard errors are corrected for sampling weight and within-cluster correlation. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. Excluded category is 'No Migration'. Education reference category is 'No Education'
Source: Authors' own estimation, based on VHLSS2012

commune variables, since in the VHLSS these are recorded only for rural areas. Among the commune variables we add a count of the number of years (of the previous three) in which the commune was reported as having experienced drought conditions. Other weather variables (shown in Table 8) were previously included but were dropped for lack of significance. The data differ in one other way: unlike VHLSS2012, the 2010 data indicate whether or not an individual is single (never married). As might be expected, this is a powerful predictor of migration choices.

Table 6 reports marginal effect estimates for these regressions. It also reports MNL estimates of the destination choices of migrants. In the latter regressions, the reference category (not reported) is non-migration.

The estimation results for recent migrants are very similar to those for migrants over the 2002–2012 period. Among the recent migrant group males, Kinh/Hoa and single people are more likely to migrate for work than females, ethnic minorities and those who are married (including separated, divorced, widowed). Residents of urban areas are also less likely to move. The relation between age and migration is an inverse-U. As age increases, the probability of migration increases. However, after the peak age, estimated at around 19, the probability of migration decreases.

In contrast with the previous results, migration among recent movers is consistently and for the most part significantly positively selected on education (the results for migrants whose education ends with middle school (lower secondary) narrowly miss conventional significance levels, with $p < 0.136$). Positive selection is consistent with findings from many other empirical studies in the developing world. However, recent work on schooling and wage work suggests that in Vietnam, as in other labour-abundant industrialising economies, a job applicant's formal schooling qualifications may matter less to potential employers than other more directly observable characteristics (Coxhead and Shrestha 2017).

Household conditions matter to recent migration decisions. Migration is more likely from large households, although other demographic characteristics of the household are unimportant. Household wealth (land and housing quality) are associated with lower propensity to migrate as before, but nonfarm and unearned incomes have no effect.

Table 6 Migration choices by post-2010 migrants for work, VHLSS2010 and VHLSS2012

	Logit: Full sample	Logit: Rural sample	Multinomial logit: Full sample	
Explanatory variables	Migration for work since 2010	Migration for work since 2010	Migration to Hanoi, HCMC and abroad	Migration to other provinces
Female (Y/N)	−0.00145***	−0.00189***	−0.00071***	−0.00129***
	(0.00041)	(0.00053)	(0.00026)	(0.00040)
Age	0.00059***	0.00086***	0.00048***	0.00032**
	(0.00014)	(0.00018)	(0.00009)	(0.00014)
Age squared	−0.00001***	−0.00002***	−0.00001***	−0.00001***
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
Ethnic minority (Y/N)	−0.00244***	−0.00332***	−0.00203***	−0.00022
	(0.00082)	(0.00110)	(0.00053)	(0.00082)
Single	0.01043***	0.01369***	0.00673***	0.00647***
	(0.00169)	(0.00233)	(0.00131)	(0.00155)
Primary	0.00252**	0.00311**	0.00152*	0.00078
	(0.00112)	(0.00136)	(0.00079)	(0.00094)
Lower-secondary	0.00154	0.00217*	0.00110	0.00071
	(0.00103)	(0.00128)	(0.00074)	(0.00092)
Upper-secondary	0.00426***	0.00467**	0.00304**	0.00272**
	(0.00156)	(0.00192)	(0.00119)	(0.00138)
Technical degree	0.00420**	0.00567**	0.00232*	0.00537**
	(0.00191)	(0.00266)	(0.00127)	(0.00221)
Post-secondary	0.00281	0.00361	0.00198	0.00444**
	(0.00181)	(0.00259)	(0.00131)	(0.00219)
Urban resident (Y/N)	−0.00318***		−0.00171***	−0.00285***
	(0.00081)		(0.00048)	(0.00071)
Age of HH head	0.00080***	0.00087***	0.00029**	0.00064***
	(0.00020)	(0.00026)	(0.00012)	(0.00018)
Age squared of HH head	−0.00001***	−0.00001***	−0.00000**	−0.00001***
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
HH head is female (Y/N)	0.00101	0.00109	0.00049	0.00089
	(0.00067)	(0.00092)	(0.00042)	(0.00059)
HH head education (years)	0.00005	0.00004	0.00003	0.00005
	(0.00008)	(0.00011)	(0.00005)	(0.00007)
Proportion of children in HH	−0.00222	−0.00265	−0.00075	−0.00179
	(0.00206)	(0.00277)	(0.00126)	(0.00177)
Proportion of elderly in HH	0.00017	−0.00160	0.00105	−0.00055
	(0.00196)	(0.00254)	(0.00118)	(0.00194)
HH size	0.00049***	0.00067***	0.00019*	0.00034**
	(0.00019)	(0.00025)	(0.00010)	(0.00015)
HH member migrated (Y/N)	0.00490***	0.00533***	0.00305***	0.00155*
	(0.00112)	(0.00133)	(0.00077)	(0.00079)
HH has ag. land Y/N)	0.00500***	0.00439***	0.00123	0.00412**
	(0.00181)	(0.00170)	(0.00121)	(0.00163)

(continued)

Table 6 (continued)

Explanatory variables	Logit: Full sample	Logit: Rural sample	Multinomial logit: Full sample	
	Migration for work since 2010	Migration for work since 2010	Migration to Hanoi, HCMC and abroad	Migration to other provinces
HH has ag. land*Log of land area	−0.00059**	−0.00064**	−0.00017	−0.00054**
	(0.00024)	(0.00031)	(0.00016)	(0.00021)
House is permanent structure (Y/N)	−0.00156***	−0.00170***	−0.00065**	−0.00145***
	(0.00051)	(0.00064)	(0.00032)	(0.00049)
HH has nonfarm income (Y/N)	0.00033	0.00030	0.00023	0.00046
	(0.00057)	(0.00065)	(0.00037)	(0.00052)
HH receives social transfers/pension (Y/N)	0.00048	0.00099	0.00020	0.00004
	(0.00074)	(0.00101)	(0.00046)	(0.00063)
Ratio of migrants in commune		0.02086***		
		(0.00745)		
Commune in mountainous area		0.00301**		
		(0.00133)		
Commune had drought in the past 3 years		0.00322***		
		(0.00090)		
Regional dummies	Yes		Yes	
Observations	54,898		40,568	
R^2	0.186		0.170	

Notes: Standard errors in parentheses. Standard errors are corrected for sampling weight and within-cluster correlation. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$. Excluded category is 'No Migration'. Education reference category is 'No Education'
Source: Authors' own estimation, based on VHLSS2012

Network effects are clearly seen to be important among recent migrants. Individuals are significantly more likely to move from households with previous migrants and (in rural areas) from communes with great outmigration rates. Other commune characteristics are insignificant, except that migration out of mountainous areas is more likely.[12]

The results from the 2010–12 panel are more consistent with expectations than those from the 2012 sample alone. However, even after controlling for household and commune-level heterogeneity, the association between ethnic minority status and migration for work remains significantly negative. Members of Vietnam's ethnic minority groups clearly face barriers to mobility that are not accounted for by our explanatory variables. Whether these are supply side (the pull of localised cultural

[12]In other specifications, recent drought (in the past 3 years) was also found to be a significant stimulus to outmigration for work.

and kinship ties, for example) or demand side (discrimination on the part of potential employers), or a mix of the two, remains to be discovered.

While an exact comparison is infeasible because of variation in data sources and methods, it is nevertheless instructive to compare our results with those from earlier studies. In the 2000s, economic reasons for migration have dominated (this was not the case in the 1990s, when Vietnam was still in the early stages of its transition from a command to a market economy; see Nguyen et al. 2008). The movement of workers to major urban centres has intensified, and urban–rural discrepancies that underlie differences in labour productivity appear not to have narrowed. Importantly, many of the implied policy conclusions from earlier studies remain true a decade or more later, as we discuss in the next section.

7 Conclusions and Policy Discussion

We have investigated factors influencing internal migration decisions by individuals in households surveyed in the VHLSS, a nationally representative household sample. At individual, household, and community levels, the results, for the most part, confirm prior findings with respect to determinants of migration decisions. Compared with results from the VHLSS2012 migration module, which asked about all migrants over a 10-year recall period, our results are stronger and more consistent with priors when we limit ourselves to examining the decisions of migrants who left within a short and recent window, between the 2010 and 2012 VHLSSs.

Households treat migration as part of their investment and diversification strategy. Migration is often associated with better human capital at both individual and household levels, and with better access to migration networks. Age is also very important for both work and non-work migration. Younger people are more likely to migrate. In Vietnam's largely patrilocal culture, women move at a higher rate than men for non-work reasons, but there is no appreciable gender differentiation in migration for work. Members of ethnic minority groups migrate at far lower rates, other things being equal, than do their Kinh/Hoa counterparts.

Several 'push' factors could be considered important, too. Households with fewer assets and smaller agricultural land endowments are more likely to send out migrants. Agricultural land fragmentation is a major problem in rural Vietnam (Pham et al. 2007). Fragmentation is promoted by aspects of Vietnam's system of land laws, which inhibit land sales or use of land as collateral (Kompas et al. 2012). Our results support the notion that for rural households with very small farms, labour productivity can be significantly improved through outmigration. To some, this finding may suggest that encouraging nonfarm economic activities in rural areas will have significant (negative) impacts on rural–urban migration. However, Vietnam has a long history of programs intended to subsidise rural development and agricultural productivity growth. It may be time to re-evaluate the returns to programs of this kind, which the government itself has acknowledged have had little direct impact (MOLISA 2009). The opportunity cost of spending on rural development is greater investment

in well-functioning modern cities; it may well be the case that the marginal social value of spending on improved urban infrastructure, services and amenities exceeds that of continued efforts to persuade rural populations to remain in place.

Our estimates for the most recent migrant cohort confirm that outmigration from rural areas is positively selected on education. Supposing that education is correlated with important capabilities, including entrepreneurial spirit and the potential for innovation, migration may thus reduce the capacity of the sending household or community to produce, be technologically dynamic, and take advantage of entrepreneurial opportunities. This loss of human capital is offset by remittance receipts. If these are used for productive investments, they might generate substitutes for the lost labour and skills (Phan 2012). But increased spending on consumption could exacerbate losses due to outmigration, even as overall household welfare (as conventionally measured) rises.

For poor rural communities, there may well be externalities to outmigration by the best and brightest young people. While remittance receipts could produce increased demand for employment in construction, personal services and the like, there is probably lower potential for dynamic growth of the local economy through entrepreneurship. The biggest losers, at a community level, would be those households who have not sent out migrants (and so receive no direct remittance flows) and remain dependent on employment growth in the rural economy. In Vietnam, ethnic minority groups are notable for far lower migration rates than the majority Kinh or Hoa groups. Minority groups live mainly in geographically remote and economically deprived areas and are therefore far less well prepared on almost all counts to participate in the gains from expansion of Vietnam's rapidly growing industrial and urban economies. Poverty among ethnic minorities remains stubbornly high and widespread, even as it has diminished at quite an extraordinary rate among the population as a whole (Kozel 2014). However, our statistical findings confirm the persistence of a large and negative ethnic minority bias in migration rates even after controlling for location and other variables commonly associated with 'geographical poverty traps'. This bias persists in spite of many years of government programs directed at bringing minority groups into the mainstream of economic life. These programs, we conclude, are either succeeding very slowly or not at all.

Finally, a topic for further research concerns continuing barriers to migration due to the *ho khau* system. In Vietnam, the impacts of the *ho khau* remain poorly understood. This is in large part because the main sources of data, including the VHLSS, do not collect information on households that are not registered where they actually reside. A very large fraction of recent arrivals to cities are unregistered. In fact, the number of unregistered people in Hanoi and HCMC is even larger than the number who reported living elsewhere 5 years previously. In the 2009 Census, approximately 350,000 people in Hanoi and one million in HCMC reported living in a different province 5 years previously. Government-provided services for health, schooling, and social protection are tied to the registration system, which restricts or privileges access to those permanently registered. Prior research also found that unregistered migrants paid more for water and electricity in urban areas (Dang and Nguyen 2006).

Unregistered migrants are less likely to seek professional care when ill and less likely to have health insurance (Haughton 2010). Likewise, there is evidence that lack of registration prevents many poor children from attending school. Although unregistered individuals are concentrated in working ages, the number of unregistered children is not insignificant. Qualitative studies have found that urban schools, which are often overcrowded, give priority to children of residents. Unregistered children and those with temporary residence are sometimes required to pay higher fees to attend public schools, must pay to attend private schools, or do not attend school at all (Oxfam and ActionAid 2012). Therefore, an important subject for future research is to learn more about the welfare implications of migration among two specific migrant groups: adults or families accompanied by dependent children, and teenaged youth, especially those who truncate their education at home to join the urban industrial labour force.

Acknowledgements The authors thank John Giles and Hai-Anh Dang (World Bank), and Amy Liu and Xin Meng (Australian National University) for helpful comments on earlier versions of this paper. We are also grateful to participants in a seminar in the IPAG Business School, Paris, France, and participants in the conference 'Study of Rural–Urban Migration in Vietnam with Insights from China and Indonesia' (Hanoi, Vietnam, January 2015) for helpful comments on earlier drafts.

Appendix

Table 7 Characteristics of migrants and non-migrants

	All migration (VHLSS2012)			Short-term migration (Panel VHLSS2010–12)	
Variables	Work migration	Non-work migration	Non-migrants	Work migrants	Non-migrants
Individual characteristics					
Female (yes = 1, male = 0)	0.457	0.656	0.505	0.392	0.509
Age	23.36	22.75	35.26	23.04	34.82
Ethnic minorities (yes = 1, Kinh/Hoa = 0)	0.088	0.057	0.144	0.099	0.146
Urban (yes = 1, rural = 0)	0.131	0.253	0.303	0.151	0.287
Number of schooling years	9.465	9.648	8.448	9.514	8.258
Household characteristics					
Household size	4.315	4.554	4.453	4.853	4.537
Having crop land	0.775	0.665	0.622	0.706	0.548
Log of crop land size	6.202	5.400	5.075	6.071	5.059
Solid house	0.253	0.276	0.331	0.275	0.326
Number of observations	1102	872	24,041	953	53,945

Source: Authors' estimations from VHLSS2010–12

Table 8 Summary of variables used in regressions of all migration (VHLSS2012)

Variables	Mean	Std Dev.	Min.	Max.
Individual and household variables				
Female (female = 1, male = 0)	0.5076	0.5000	0	1
Age	34.330	12.880	15	59
Ethnic minorities	0.1391	0.3460	0	1
Primary	0.2278	0.4194	0	1
Lower-secondary	0.3140	0.4641	0	1
Upper-secondary	0.2312	0.4216	0	1
Technical degree	0.0987	0.2982	0	1
Post-secondary	0.1017	0.3022	0	1
Age of household head	48.897	11.603	13	97
HH head is female	0.2129	0.4094	0	1
HH head with primary	0.2455	0.4304	0	1
HH head with lower-secondary	0.2804	0.4492	0	1
HH head with upper-secondary	0.0926	0.2899	0	1
HH head with technical degree	0.1017	0.3022	0	1
HH head with post-secondary	0.0661	0.2485	0	1
Proportion of children in household	0.1858	0.1888	0	0.8
Proportion of elderly in household	0.0643	0.1319	0	0.75
Pre-migration household size	4.4501	1.5482	1	15
Have a member migrated	0.1626	0.3690	0	1
Have agricultural land	0.6297	0.4829	0	1
Have agricultural land * Log of agricultural land	5.1344	4.0363	0	11.64
Have solid (permanent) house	0.3259	0.4687	0	1
Have nonfarm income	0.8652	0.3415	0	1
Receive social assistance, pensions	0.1689	0.3747	0	1
Urban (yes = 1, rural = 0)	0.2935	0.4554	0	1
Red River Delta	0.2234	0.4165	0	1
Northern Uplands	0.1342	0.3409	0	1
Central Coast	0.2292	0.4203	0	1
Central Highlands	0.0550	0.2280	0	1
South-East	0.1599	0.3665	0	1
Mekong River Delta	0.1983	0.3988	0	1
Commune variables				
Ratio of migrants in communes	1.1465	1.8433	0	33.33
Distance to nearest town	0.1121	0.1175	0	1.95
Commune in mountain	0.3433	0.4748	0	1
Village has good road	0.8428	0.3640	0	1
Village has a market	0.3153	0.4647	0	1
Commune had storm in the past 3 years	0.1966	0.4337	0	4
Commune had drought in the past 3 years	0.1758	0.4014	0	3
Commune had flood in the past 3 years	0.1788	0.4360	0	4

Source: Authors' estimations from VHLSS2012

Table 9 Summary of variables used in regressions of short-term migration (VHLSS2010–12)

Variables	Mean	Std Dev.	Min.	Max.
Individual and household variables				
Female (female = 1, male = 0)	0.5072	0.5000	0	1
Age	34.619	12.698	15	59
Ethnic minorities	0.1449	0.3520	0	1
Single	0.2998	0.4582	0	1
Primary	0.2319	0.4221	0	1
Lower-secondary	0.2968	0.4569	0	1
Upper-secondary	0.1538	0.3608	0	1
Technical degree	0.0899	0.2860	0	1
Post-secondary	0.0701	0.2554	0	1
Had skilled job in home area	0.0814	0.2734	0	1
Had semi-skilled job in home area	0.3300	0.4702	0	1
Not working in home area	0.1902	0.3924	0	1
Had job in agricultural sector	0.3550	0.4785	0	1
Had job in industrial sector	0.2035	0.4026	0	1
Age of household head	48.070	11.781	16	101
HH head is female	0.2084	0.4062	0	1
HH head with primary	0.2526	0.4345	0	1
HH head with lower-secondary	0.2669	0.4423	0	1
HH head with upper-secondary	0.0835	0.2766	0	1
HH head with technical degree	0.1063	0.3082	0	1
HH head with post-secondary	0.0629	0.2427	0	1
Proportion of children in household	0.1955	0.1923	0	0.833
Proportion of elderly in household	0.0527	0.1174	0	0.75
Pre-migration household size	4.5421	1.6076	1	16
Have a member migrated	0.0911	0.2877	0	1
Have agricultural land	0.5505	0.4975	0	1
Have agricultural land * Log of agricultural land	5.0762	4.0574	0	12.65
Have solid (permanent) house	0.3255	0.4686	0	1
Have nonfarm income	0.7651	0.4239	0	1
Receive social assistance, pensions	0.1442	0.3513	0	1
Urban (yes = 1, rural = 0)	0.2847	0.4513	0	1
Red River Delta	0.2305	0.4212	0	1
Northern Uplands	0.1380	0.3449	0	1
Central Coast	0.2220	0.4156	0	1
Central Highlands	0.0600	0.2376	0	1
South-East	0.1554	0.3623	0	1
Mekong River Delta	0.1940	0.3954	0	1
Commune variables				
Ratio of migrants in communes	0.0105	0.0213	0	1
Distance to nearest town	0.0115	0.0130	0	0.16
Commune in mountain	0.1740	0.3791	0	1

(continued)

Table 9 (continued)

Variables	Mean	Std Dev.	Min.	Max.
Village has good road	0.8011	0.3992	0	1
Village has a market	0.2881	0.4529	0	1
Commune had storm in the past 3 years	0.1917	0.4419	0	4
Commune had drought in the past 3 years	0.1835	0.4099	0	3
Commune had flood in the past 3 years	0.1749	0.4443	0	4

Source: Authors' estimations from VHLSS2010

References

Ackah, C., & Medvedev, D. (2012). Internal migration in Ghana: Determinants and welfare impacts. *International Journal of Social Economics, 39*(10), 764–784.

Acosta, P., Calderon, C., Fajnzylber, P., & Lopez, H. (2007). What is the impact of international remittances on poverty and inequality in Latin America? *World Development, 36*(1), 89–114.

Adams, J. R., & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries? *World Development, 33*, 1645–1669.

Borjas, G. J. (2005). *Labor economics* (3rd ed.). New York: McGraw Hill/Irwin.

Cheng, S., & Long, J. S. (2007). Testing for IIA in the multinomial logit model. *Sociological Methods & Research, 35*(4), 583–600.

Coxhead, I., & Shrestha, R. (2017). Globalization and school–work choices in an emerging economy: Vietnam. *Asian Economic Papers, 16*(2), 28–45.

Cu, C. L. (2005). Rural to urban migration in Vietnam. In H. H. Thanh & S. Sakata (Eds.), *Impact of socio-economic changes on the livelihoods of people living in poverty in Vietnam*. Tokyo: Institute of Developing Economies, Japan External Trade Organization.

Dahl, M. S., & Sorenson, O. (2010). The social attachment to place. *Social Forces, 89*(2), 633–658.

Dang, N. A. (1999). Market reforms and internal labor migration in Vietnam. *Asian and Pacific Migration Journal, 8*(3), 381–409.

Dang, N. A. (2001a). *Migration in Vietnam: Theoretical approaches and evidence from a survey*. Hanoi: Transport Communication Publishing House.

Dang, N. A. (2001b). Rural labor out-migration in Vietnam: A multi-level analysis. In *Migration in Vietnam: Theoretical approaches and evidence from a survey*. Hanoi: Transport Communication Publishing House.

Dang, N. A., & Nguyen, T. L. (2006). *Vietnam migration survey 2004 internal migration and related life course events*. Mimeo. Hanoi: VASS.

Dang, A., Goldstein, S., & McNally, J. W. (1997). Internal migration and development in Vietnam. *International Migration Review, 31*(2), 312–337.

Dang, N. A., Tackle, C., & Hoang, X. T. (2003). *Migration in Vietnam: A review of information on current trends and patterns, and their policy implications*. Paper presented at the Regional Conference on Migration, Development and Pro-Poor Policy Choices in Asia, 22–24 June 2003, Dhaka, Bangladesh.

Davies, P. S., Greenwood, M. J., & Li, H. (2001). A conditional logit approach to US state-to-state migration. *Journal of Regional Science, 41*, 337–360.

Deb, P., & Seck, P. (2009). *Internal migration, selection bias and human development: Evidence from Indonesia and Mexico*. MPRA Paper No. 19214. http://mpra.ub.uni-muenchen.de/19214/

Djamba, Y., Goldstein, S., & Goldstein, A. (1999). Permanent and temporary migration in Vietnam during a period of economic change. *Asia-Pacific Migration Journal, 14*(3), 25–28.

Etzo, I. (2010). *Determinants of inter-regional migration flows in Italy: A panel data analysis*. MPRA Paper No. 26245.

Feng, S., Oppenheimer, M., & Schlenker, W. (2012). *Climate change, crop yields and internal migration in the United States*. NBER Working Paper No. 17734.

Fukase, E. (2013). *Foreign job opportunities and internal migration in Vietnam*. Policy Research Working Paper Series No. 6420, The World Bank.

General Statistics Office (GSO), & United Nations Population Fund (UNFPA). (2005). *Vietnam migration survey 2004: Major findings*. Hanoi: Statistical Publishing House.

Guest, P. (1998). *The dynamics of internal migration in Vietnam*. UNDP Discussion Paper 1, Hanoi.

Harris, J. R., & Todaro, M. P. (1970). Migration, unemployment and development: A two-sector analysis. *American Economic Review, 60*(1), 126–142.

Haughton, J. (2010). *Urban poverty assessment in Ha Noi and Ho Chi Minh City*. Hanoi: United Nations Development Program. http://dl.is.vnu.edu.vn/handle/123456789/94

Huynh, T. H., & Walter, N. (2012). *Push and pull forces and migration in Vietnam*. MPRA Paper 39559, University Library of Munich, Germany.

Kim, K., & Cohen, J. E. (2010). Determinants of international migration flows to and from industrialized countries: A panel data approach beyond gravity. *International Migration Review, 44*(4), 899–932.

Kompas, T., Che, T. N., Nguyen, H. Q., & Nguyen, H. T. M. (2012). Productivity, net returns and efficiency: Land and market reform in Vietnamese rice production. *Land Economics, 88*(3), 478–495.

Kozel, V. (Ed.). (2014). *Well begun but not yet done: Progress and emerging challenges for poverty reduction in Vietnam*. Washington, DC: World Bank Group.

Labor Newspaper. (2008). *Exporting labor*. Labor Union of Ho Chi Minh City, 11 November 2008 (in Vietnamese).

Marx, V., & Fleischer, K. (2010). *Internal migration: Opportunities and challenges for socio-economic development in Vietnam*. Hanoi: UNDP.

Mayda, A. (2007). *International migration: A panel data analysis of the determinants of bilateral flows*. CReAM Discussion Paper No. 07/07. London: Centre for Research and Analysis of Migration, Department of Economics, University College London.

McCaig, B., & Pavcnik, N. (2013). *Moving out of agriculture: Structural change in Vietnam*. NBER Working Paper No. 19616.

McFadden, D. (1974). Conditional logit analysis of qualitative choice behavior. In P. Zarembka (Ed.), *Frontiers of econometrics*. New York: Academic Press.

McKenzie, D., & Sasin, M. J. (2007). *Migration, remittances, poverty, and human capital: Conceptual and empirical challenges*. World Bank Policy Research Working Paper 4272. Washington, DC: The World Bank.

Ministry of Labour, Invalids and Social Affairs (MOLISA). (2009). *Dê án he thông an sinh xã hoi v_i dân c nông thôn giai đoan 2011–2020*. Draft report. Hanoi: Ministry of Labour, Invalids and Social Affairs.

Molloy, R., Smith, C. L., & Wozniak, A. (2011). Internal migration in the United States. *Journal of Economic Perspectives, 25*(3), 173–196.

Nguyen, H. L., & Mont, D. (2010). *Vietnam's regulatory, institutional and governance structure for cross-border labor migration*. Working Paper.

Nguyen, T. P., Tran, N. T. M. T., Nguyen, T. N., & Oostendorp, R. (2008). *Determinants and impacts of migration in Vietnam*. Depocen Working Paper Series No. 2008/01, Hanoi.

Nguyen, V. C., Van den Berg, M., & Lensink, R. (2011). The impact of work and non-work migration on household welfare, poverty and inequality. *The Economics of Transition, 19*(4), 771–799.

Nguyen, L., Raabe, K., & Grote, U. (2015). Rural–Urban migration, household vulnerability, and welfare in Vietnam. *World Development, 71*, 79–93.

Nguyen-Hoang, P., & McPeak, J. G. (2010). Leaving or staying: Inter-provincial migration in Vietnam. *Asia and Pacific Migration Journal, 19*(4), 473–500.

Niimi, Y., Pham, T., & Rilly, B. (2009). Determinants of remittances: Recent evidence using data on internal migrants in Vietnam. *Asian Economic Journal, 23*(1), 19–39.

Oxfam and ActionAid. (2012). *Participatory monitoring of urban poverty in Viet Nam: Five-year synthesis report (2008–2012)*. Hanoi: Oxfam and ActionAid.

Pham, H. V., MacAulay, G., & Marsh, S. (2007). The economics of land fragmentation in the north of Vietnam. *Australian Journal of Agricultural and Resource Economics, 51*(2), 195–211.

Phan, D. (2012). Migration and credit constraints: Theory and evidence from Vietnam. *Review of Development Economics, 16*(1), 31–44.

Phan, D., & Coxhead, I. (2010). Interprovincial migration and inequality during Vietnam's transition. *Journal of Development Economics, 91*(1), 100–112.

Sjaastad, L. A. (1962). The costs and returns of human migration. *Journal of Political Economy, 70* (5), 80–93.

Stark, O. (1991). *The migration of labour*. Cambridge, MA: Harvard University Press.

Stark, O., & Bloom, D. (1985). The new economics of labor migration. *American Economic Review, 75*, 173–178.

Stark, O., & Taylor, J. (1991). Migration incentives, migration types: The role of relative deprivation. *The Economic Journal, 101*, 1163–1178.

Tu, T. A., Thang, D. N., & Trung, H. X. (2008). *Migration to competing destinations and off-farm employment in rural Vietnam: A conditional logit analysis*. Working Paper 22. Vietnam: Development and Policies Research Center (DEPOCEN).

Valencia, J. (2008). Migration and its determinants: A study of two communities in Colombia. *Atlantic Economic Journal, 36*(2), 247–260.

Migration Duration and Migration Outcomes

Ha Trong Nguyen

Abstract This chapter uses the 2013 Vietnam Rural–Urban Migration Survey to study the factors associated with duration of migration and how migration duration may relate to migration outcomes. Our models show that an increase in the migration duration is closely related to migrants' age, education and parental socioeconomic status. We additionally find that migrants with longer migration duration have better labour market outcomes as measured by a greater probability of working or higher family incomes. Migration duration, however, is not statistically significantly associated with migrants' life satisfaction.

1 Introduction

Internal migration has increased significantly over the past decades in Vietnam. Data from censuses show that, during the 1994–1999 period, 6.5% of the Vietnamese population changed their place of residence (GSO 2012). The figure increased to 8.6% during the same time horizon a decade later (i.e., 2004–2009). Given the increasing trend in internal migration, unsurprisingly, there is a rich literature focusing on the determinants (Dang et al. 1997; Nguyen et al. 2008; Nguyen-Hoang and McPeak 2010; Phan and Coxhead 2010; Phan 2012; Fukase 2013) and impacts of internal migration (de Brauw and Harigaya 2007; Niimi et al. 2009; Nguyen et al. 2008, 2011, 2012, 2015; Le and Booth 2013) in the country. There is, however, a paucity of empirical evidence on the factors associated with the duration of migration as well as how that duration may relate to migration outcomes in Vietnam.[1]

[1]This gap in the literature is presumably due to a lack of migration duration information in commonly used datasets in Vietnam. Datasets such as censuses, Vietnam Household Living Standards Surveys (VHLSSs), and the Vietnam Migration Survey 2004 only contain information on either temporary or permanent migrants, but not both.

H. T. Nguyen (✉)
Bankwest Curtin Economics Centre, Curtin Business School, Curtin University, Perth, WA, Australia
e-mail: ha.nguyen@curtin.edu.au

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_4

This chapter aims to contribute to the literature by using the latest data from the 2013 Vietnam Rural–Urban Migration Survey (VRUMS2013), which contains detailed information on both temporary and permanent migrants and various measures of migration duration to investigate the factors associated with duration of migration and its relationship with migration outcomes in Vietnam. The distinction of migrants by duration is necessary because typically both temporary and permanent migrants are prevalent (Dustmann 2003), thus focusing only on one type of migrant does not provide a full picture of internal migration. More importantly, economic theories show that factors determining migration duration may also explain why migrants may have different behaviours regarding consumption, saving and investment (Dustmann 2003; Mesnard 2004). An understanding of the factors associated with the duration of migration and their relationship with migration outcomes thus may have important implications for migration policies for both sending and receiving regions.

Using the VRUMS data, we show that migrants' age, completed education levels and parental socioeconomic background are the factors contributing to longer migration duration. We also find that migrants with longer migration duration have better labour market outcomes.

The rest of the chapter is structured as follows: Section 2 describes the data and Sect. 3 presents our empirical models. Descriptive results are discussed in Sect. 4. Section 5 presents empirical results, while Sect. 6 concludes.

2 Data and Sample

This chapter uses data from the VRUMS, coordinated by the Central Institute for Economic Management (CIEM) of Vietnam in 2013. The VRUMS2013 collected information from households with members who migrated from rural areas to urban areas. These households or individuals come from a sample of rural households surveyed in the nationally representative Vietnam Household Living Standards Survey (VHLSS) undertaken by the General Statistics Office of Vietnam (GSO) in 2012. The VRUMS focuses on rural households with members migrating to Hanoi and Ho Chi Minh City (HCMC) for work purposes. Of this rural household base, about 30%, or 869, migrant households were successfully interviewed.

We further limit our sample to those individuals aged 16 or older[2] surveyed in the VRUMS. We also restrict our attention to migrants since not every individual surveyed is a migrant.[3] We use the length of stay in the current host city/province to identify migrants. Accordingly, migrants in this analysis are respondents who have stayed in their current location for at least one month. We also exclude

[2]Household members younger than 16 are not asked the relevant questions.

[3]We do not have information about the respondent's place of birth in the data so can't use it to define migrants.

37 respondents whose length of stay in the current city/province equals their age to account for the possibility that they might have been born in the current location and are not considered migrants. After excluding individuals with missing information on important variables, we have a final sample of about 1000 individual migrants for analysis.

3 Empirical Framework

Our empirical framework for the migration duration model is based on two closely related economic theoretical lines: one aims to explain the decision to migrate and the other attempts to predict how long migrants stay in the receiving regions. Migration theories usually show that factors contributing to an individual's decision to migrate may include the wage/income differentials between the sending and receiving regions (Sjaastad 1962; Todaro 1969), the costs of moving (Carrington et al. 1996) or migration 'networks' (Stark 1991). If we assume that the factors motivating individuals to migrate also explain why they stay longer at the receiving location, these migration theories also provide some implications for our empirical model, specified below. In turn, migration duration (or return migration) theories show that the factors predicting migrants' return to sending regions include location-specific preferences (Hill 1987; Djajić and Milbourne 1988), the relationship between migration and credit market constraints (Mesnard 2004), changes in relative purchasing power (Dustmann 1997, 2003; Nguyen and Duncan 2017) and changes in returns to human capital between the sending and receiving regions (Dustmann and Kirchkamp 2002).

In this chapter, we do not directly test the above hypotheses set out by (return) migration theories because doing so requires data on the migration duration as well as panel data that show the changes in economic conditions in sending and receiving regions. Such information is not readily available in our dataset. Our data, however, allow us to indirectly capture migrants' duration in the host locations in several ways: (i) the length of time the migrants have been living in the receiving location, (ii) the number of months the migrants lived away from their hometown due to work or business in the past 12 months, and (iii) the number of days the migrants lived away from their hometown due to work or business in the past 30 days.[4] We use these three indicators since each is derived from a different question and each, in turn, may capture different aspects of the migration duration. For example, the length of time the migrants have spent in the host location is probably the most common indicator used in the migration literature—especially that on international migration—to examine the assimilation process of migrants (Borjas 1985; Meng and

[4]A lack of panel data has precluded us from estimating a hazard model, which is typically used in migration duration studies (Wooldridge 2010). Here our measures of migration 'duration' are simply measured at one point in time (Wooldridge 2010).

Gregory 2005; Nguyen and Duncan 2017). Furthermore, this measure is likely to capture migration duration among more permanent migrants (Dustmann 2003; Mesnard 2004). Possibly due to the geographical proximity of our domestic migrants with their hometown, our data also contain two variables describing the migration duration over shorter time horizons: the number of months away from the hometown during the past year and the number of days away from the hometown during the past month. As these two indicators may capture some information about temporary migration, we use them in addition to our main migration duration variable (i.e., (i)) in this analysis.

We examine the factors associated with the duration of migration using the following empirical model:

$$T_i = X_i^P \beta_1 + X_i^H \beta_2 + X_i^R \beta_3 + u_i, \quad (1)$$

where T_i is the duration of individual i in the receiving location as specified above; X_i^P is a set of individual characteristics; X_i^H is a set of household characteristics; X_i^R is a set of sending and receiving regional characteristics; β is a vector of parameters to be estimated; and u_i is a random error term.

Individual and household characteristics included in the above model are age (and its square), gender, whether the migrant belongs to the Kinh ethnic group, completed education levels, whether the individual has a disability, marital status, number of co-residing children in four age cohorts (under 6, 6–10, 11–17, and 18 or over), number of children left behind in rural areas, number of the migrant's siblings, whether the migrant is the oldest child,[5] socioeconomic status of the migrant's parents (extremely poor peasant—the base group—poor or relatively poor peasant, and non-peasant),[6] number of living biological parents of the migrant, and living arrangements of his/her living biological parents (non-co-residing—the base group—or co-residing with one or two parents). We also control for previous migration experiences by including a dummy variable describing whether the migrant has migrated to more than one city for work.[7]

[5] According to Vietnamese culture, sons, especially eldest sons, are expected to take care of their elderly parents and this may affect their migration decisions (Nguyen et al. 2012). To test whether being the oldest son affects the migration decision, we interacted the variable indicating whether the migrant is the oldest child with the gender dummy of the migrant. The estimates for the interaction term are not statistically significant in all regressions. These results will be available upon request.

[6] Questions about the economic background of parents are asked regardless of whether the parents are alive. Unfortunately, the data do not allow us to identify fathers and mothers separately. Hence, the variable parental socioeconomic background refers to the socioeconomic background of the parent with the highest status.

[7] We do not include the age at first migration as an explanatory variable due to the issue of multi-collinearity. In our sample, about three-quarters of migrants have not migrated for work purposes to cities other than the current one. For them, their years in the current host city (which we control for in the regression) equal their current age (which we also include in the regression) minus the age at migration. Similarly, we do not include the age at migration in the migration outcome equations as we have also controlled for years in the host city.

We measure the distance between the sending and receiving locations by including in all regressions five dummy variables representing six sending geographic-economic regions in Vietnam and one dummy variable indicating whether the receiving location is Hanoi (compared with HCMC). We further include interaction terms of these two types of location variables to capture any differential impact by region. The inclusion of these regional variables and their interaction also captures the costs of migration, job search, as well as psychological costs.[8] We also control for seasonality of work/migration decisions by including the survey quarter in all regressions. Finally, we include years in the host city (both the number of years in the host city and the number of months away from the hometown in the past year) in the regression using months away from the hometown in the past year (the number of days away from the hometown in the past month) as the dependent variable.

We also examine the association of migration duration with some migration outcomes (Y_i) by including the above mentioned migration duration variables (T_i) in the following model:

$$Y_i = T_i\gamma_1 + X_i^P\gamma_{12} + X_i^H\gamma_3 + X_i^R\gamma_4 + v_i, \tag{2}$$

in which migration outcomes (Y_i) include: (i) whether the migrant worked in the week prior to the survey, (ii) the migrant's monthly family income, (iii) the migrant's yearly family income, and (iv) the migrant's life satisfaction level. The last outcome is derived from a question asking respondents about how happy they are when they consider each aspect of their life. The respondents are asked to choose from four levels of life satisfaction: very happy, fairly happy, not very happy, and not happy at all. We use responses to this question to construct a life satisfaction variable, which ranges from 1 (not happy at all) to 4 (very happy), with a higher value indicating a higher level of life satisfaction.[9] In Eq. (2), other explanatory variables included are the same as those in Eq. (1).

For the migrant's family income outcomes (ii)–(iii), we use log forms to increase the model fit or capture any nonlinearity effect on the outcomes.[10] To capture the possible nonlinearity between the main migration duration variable (i.e. years in the host city) and migration outcomes, we include its square term. Our approach to include migration duration in the migration outcome equation is similar to that commonly used in the migration literature to examine the assimilation process of migrants in the host location (Borjas 1985; Meng and Gregory 2005). With an

[8]Due to data unavailability, the current chapter cannot further control for other local variables such as economic opportunities, as has been done in some previous work (Démurger 2012; Dang 2015).

[9]There is a large literature devoted to examining economic aspects of subjective wellbeing/life satisfaction/happiness. See, for example, Frey and Stutzer (2002), Di Tella and MacCulloch (2006), Kahneman and Krueger (2006), Clark et al. (2008), and Ferrer-i-Carbonell (2013) for reviews. Recently, studies have investigated the impact of home countries' macroeconomic conditions on the happiness of international immigrants (Nguyen and Duncan 2018; Akay et al. 2017).

[10]For the 18 (six) migrants reporting zero monthly (yearly) income, we assign an arbitrary and small number (VND1000) to them in order to take the log.

exception where a probit model is employed to estimate the probability of whether the migrant worked in the week prior to the survey time, the ordinary least squares (OLS) method is used to estimate all other equations.

4 Descriptive Analysis

Summary statistics reported in Table 1 reveal that about 57% of our sample migrants are male. On average, migrants in the sample are around 30 years old and most (97%) belong to the Kinh ethnic group. Of all migrants, 21% could be considered highly educated, with a college or university degree. We also observe that 62% of migrants are either married or divorced/separated/widowed. Regarding the living arrangements of migrants, about half of the migrants do not live with all of their (possibly young)[11] children. Furthermore, while 90% of migrants have at least one parent alive and 29% are the oldest child of their parents, only 3% of migrants live with their parents. The data also show that 81% of migrants reported that their parents are poor farmers. Table 1 additionally shows that about one-quarter of migrants in our sample have migrated to another city/province before residing in the current city and the age at which they first moved to the city to work is about 23. The geographic distribution of sending regions shows that while migrants in our sample originated from all over the country, about 73% resided in Ho Chi Minh City or surrounding provinces (Binh Duong or Dong Nai).

Regarding migration duration using different measures, Table 1 reveals that, on average, migrants in our sample have lived in the current city for about 7 years. In addition, migrants were absent from their hometowns for about 10 months in the year prior to the survey and about 28 days in the previous 30 days, on average. Figure 1 represents the distribution of the three migration duration variables. Panel A in Fig. 1 suggests that most (93%) migrants in our sample have spent less than 17 years in the current city. Panel B (C) in Fig. 1 additionally indicates that more than half of migrants spent the whole year (month) in the host city.

To compare the characteristics of migrants with different lengths of stay in the current host city, we categorise migrants into two groups according to their length of stay relative to the median length of stay of all migrants in the sample. Long-term (short-term) migrants are those with the length of stay greater (equal to or smaller) than the median. Table 1 suggests that, compared with short-term (ST) migrants, long-term (LT) migrants are older and are more likely to belong to the Kinh ethnic group. They are better educated and more likely to be married, with more (especially young) children living with them; they also have more siblings, richer parents, and are less likely to have both parents alive; they moved to cities to work for the first

[11]This is based on the fact that migrants in our sample are quite young (i.e. 30 years old). Unfortunately, data do not allow us to identify the ages of the non-co-residing children of the migrants who are not the head of the household.

Table 1 Summary statistics by migration duration

Variables	Short-term migrants	Long-term migrants	P (ST = LT)	All
Age	27.60	32.98	0.00	30.20
Male[b]	0.54	0.60	0.10	0.57
Kinh ethnicity[b]	0.96	0.99	0.02	0.97
No educational degree[a,b]	0.09	0.04	0.00	0.07
Primary or lower-secondary degree[b]	0.45	0.45	0.97	0.45
Higher-secondary degree[b]	0.19	0.19	0.94	0.19
Vocational or professional degree[b]	0.11	0.10	0.62	0.10
College degree[b]	0.07	0.03	0.00	0.05
University or higher degree[b]	0.09	0.20	0.00	0.14
Disabled[b]	0.05	0.03	0.17	0.04
Single[a,b]	0.53	0.22	0.00	0.38
Married[b]	0.45	0.75	0.00	0.59
Divorced/separated/widowed[b]	0.02	0.03	0.71	0.02
Number of own children co-residing	0.18	0.57	0.00	0.37
Age 1–5	0.10	0.30	0.00	0.20
Age 6–10	0.01	0.15	0.00	0.08
Age 11–17	0.03	0.08	0.01	0.05
Age over 17	0.03	0.05	0.43	0.04
Number of non-co-residing own children	0.48	0.52	0.50	0.50
Number of siblings	3.34	3.91	0.00	3.61
Oldest child[b]	0.29	0.27	0.35	0.28
Extremely poor peasant parents[a,b]	0.23	0.15	0.00	0.19
Poor or relatively poor peasant parents[b]	0.62	0.62	0.90	0.62
Non-peasant parents[b]	0.15	0.22	0.00	0.19
No parent alive[a,b]	0.09	0.09	0.66	0.09
One parent alive[b]	0.17	0.24	0.02	0.20
Two parents alive[b]	0.74	0.67	0.02	0.71
No co-residing parents[a,b]	0.97	0.95	0.11	0.96
One co-residing parent[b]	0.01	0.04	0.01	0.02
Two co-residing parents[b]	0.01	0.01	0.43	0.01
Migrated to more than one city[b]	0.28	0.24	0.11	0.26
Age at first migration to a city to work	23.95	21.71	0.00	22.87
Red River Delta[a,b]	0.10	0.19	0.00	0.14
Northern Uplands[b]	0.11	0.13	0.28	0.12
Central Coast[b]	0.31	0.33	0.52	0.32
Central Highlands[b]	0.05	0.04	0.57	0.04
South-East[b]	0.03	0.05	0.38	0.04
Mekong River Delta[b]	0.40	0.26	0.00	0.33
Hanoi[b]	0.20	0.24	0.21	0.22
Migration duration variables				
Years in the host city (years)	3.04	11.93	0.00	7.33

(continued)

Table 1 (continued)

Variables	Short-term migrants	Long-term migrants	P (ST = LT)	All
Months away from hometown in past year (months)	9.34	10.49	0.00	9.89
Days away from hometown in past month (days)	27.99	28.06	0.86	28.02
Migration outcome variables				
Worked in past week[b]	0.93	0.95	0.34	0.94
Monthly family income (VND million)	5.94	9.25	0.00	7.54
Yearly family income (VND million)	65.92	127.24	0.00	95.50
Self-reported life satisfaction	2.96	3.12	0.00	3.04
Number of observations	486	454		940

Notes: Long-term (short-term) migrants are defined as those with months in the current city above (equal to or below) the median of this variable of all individuals in the sample. P(ST = LT) is the P value from a test for the difference of variable means between short-term and long-term migrants
[a]base variables used in regressions, [b]dummy variables

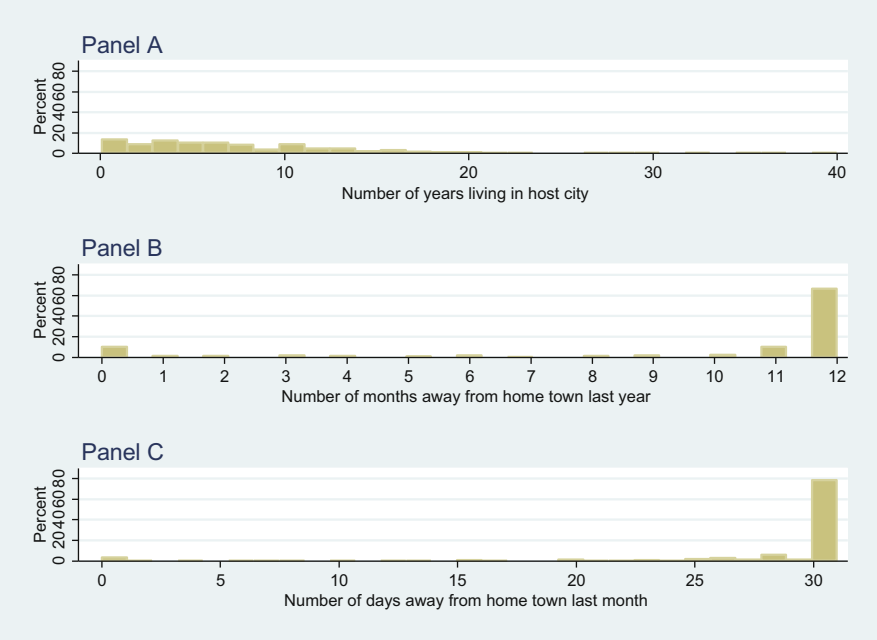


Fig. 1 Histograms of migration duration variables

time at a younger age, and are more likely to come from the Red River Delta (Mekong River Delta) regions.

Consistent with our definition of short-term/long-term migrants, long-term migrants spent one more month away from the hometown in the previous 12 months

than short-term migrants. However, there is no statistically significant difference between short-term and long-term migrants in the number of days they were away from their hometown in the past month. Table 1 additionally shows that long-term migrants have better economic outcomes (as measured by higher family incomes) and a higher level of life satisfaction than short-term migrants.

5 Empirical Results

5.1 Factors Associated with Duration of Migration

We first examine factors associated with the differences in migration duration. Regression results for three migration duration measures are reported in Table 2.[12] Table 2 shows that migration duration (for all migration duration measures considered except the third one in Column 3) increases with migrants' age but at a decreasing rate because estimates for the age squared variables are negative and statistically significant. Migration duration (as measured by the number of years in the host city) also increases with the completed levels of education. For example, compared with migrants without an educational degree, those with a primary/lower secondary (university) degree have stayed in the host city for 3 (4) years longer. It is interesting to observe that while migrants with a primary/lower secondary degree and those with a higher secondary degree both have longer migration duration than migrants without an educational degree, primary/lower secondary school graduates have spent about 7 months[13] longer in the host city than higher secondary graduates. This difference in the length of stay could possibly be explained by differences in labour demand for different skill levels in the cities. The longest length of stay in the host city observed among university graduates could be explained by the possibility that they moved to the city to study and stayed there to work after graduation.[14] The evidence of negative (positive) selection on low (high) education on the migration duration found in this chapter is thus in line with other work on migration decisions in Vietnam (Coxhead et al. 2015). In contrast to the significant impact of education on the number of years migrants have spent in the host city, education plays no statistically significant role in explaining other migration duration measures, as can be seen from Table 2 (Columns 2 and 3).

[12]About 69% of migrants in our sample are identified as the household head. Household heads are the household's breadwinners, so their decisions may not be the same as those of other household members. To investigate this possibility, we estimated Eq. (1) for a sample of household heads only. Estimation results are largely similar to those presented for the whole sample of migrants in terms of the magnitude and direction, indicating that the above prediction does not hold with our data. Unfortunately, the small sample size of our data prevents us from estimating our empirical models for males and females separately.

[13](3.08–2.51)*12≈7 (months).

[14]Unfortunately, the data do not provide information about the time and location of university graduation for us to test this prediction.

Table 2 Factors associated with migration duration

Variables	Years in the current city (1)	Months away from hometown in past year (2)	Days away from hometown in past month (3)
Age	0.51***	0.16**	0.08
	[0.10]	[0.06]	[0.11]
Age square	−0.00*	−0.00**	0.00
	[0.00]	[0.00]	[0.00]
Male	0.35	−0.06	−0.03
	[0.33]	[0.22]	[0.35]
Kinh	1.22	−0.19	−0.29
	[1.04]	[0.69]	[1.12]
Primary or lower-secondary degree[a]	3.08***	−0.54	−1.13
	[0.69]	[0.47]	[0.76]
Higher-secondary degree[a]	2.51***	0.18	−1.47*
	[0.78]	[0.52]	[0.84]
Vocational or professional degree[a]	2.19**	−0.22	−0.45
	[0.86]	[0.57]	[0.93]
College degree[a]	3.12***	0.33	−1.43
	[1.02]	[0.68]	[1.11]
University or higher[a]	4.11***	−0.15	−0.87
	[0.86]	[0.58]	[0.94]
Disabled	−0.69	1.32**	0.30
	[0.78]	[0.52]	[0.84]
Married[b]	1.26**	−0.51	0.29
	[0.49]	[0.32]	[0.53]
Divorced/separated[b]	1.14	−0.46	0.22
	[1.15]	[0.76]	[1.24]
Number of co-residing own children aged 1–5	1.40***	−0.17	−1.92***
	[0.43]	[0.29]	[0.47]
Number of co-residing own children aged 6–10	2.28***	−0.77*	0.17
	[0.64]	[0.43]	[0.69]
Number of co-residing own children aged 11–17	0.63	−0.06	0.83
	[0.64]	[0.43]	[0.69]
Number of co-residing own children aged over 17	−2.41***	−0.68	−1.13
	[0.84]	[0.56]	[0.91]
Number of non-co-residing own children	−1.61***	−0.40**	−0.42
	[0.27]	[0.18]	[0.30]
Number of siblings	0.03	−0.14**	0.01
	[0.09]	[0.06]	[0.09]
Oldest child	0.51	−0.32	−0.08
	[0.38]	[0.25]	[0.41]
Poor or relatively poor peasant parents[c]	0.99**	0.49*	−1.50***
	[0.44]	[0.29]	[0.48]

(continued)

Table 2 (continued)

Variables	Years in the current city (1)	Months away from hometown in past year (2)	Days away from hometown in past month (3)
Non-peasant parents[c]	1.21**	0.42	−1.39**
	[0.56]	[0.37]	[0.60]
One parent alive[d]	0.19	0.19	−0.50
	[0.67]	[0.44]	[0.72]
Two parents alive[d]	−0.42	0.36	0.10
	[0.63]	[0.42]	[0.68]
One co-residing parent[e]	2.14*	−1.06	−2.69**
	[1.09]	[0.73]	[1.18]
Two co-residing parents[e]	−2.45*	−2.76***	1.81
	[1.48]	[0.99]	[1.61]
Have migrated to more than one city	−1.07***	0.67***	−0.05
	[0.37]	[0.25]	[0.41]
Northern Uplands[f]	2.52**	1.84**	0.27
	[1.12]	[0.75]	[1.22]
Central Coast[f]	−0.31	0.03	0.77
	[0.76]	[0.50]	[0.82]
Central Highlands[f]	−0.73	−0.68	0.08
	[1.03]	[0.69]	[1.12]
South-East[f]	−0.67	−1.19*	0.08
	[1.07]	[0.71]	[1.15]
Mekong River Delta[f]	−0.55	0.03	0.25
	[0.75]	[0.50]	[0.81]
Hanoi	2.28**	−3.59***	−1.75*
	[0.94]	[0.62]	[1.03]
Northern Uplands × Hanoi[g]	−2.78**	−1.49	2.42
	[1.37]	[0.91]	[1.48]
Central Coast × Hanoi[g]	−0.34	1.70**	0.38
	[1.16]	[0.77]	[1.25]
Quarter 2[h]	0.09	3.29***	−3.91***
	[0.81]	[0.54]	[0.89]
Quarter 3[h]	−0.20	3.87***	−3.34***
	[0.81]	[0.54]	[0.89]
Quarter 4[h]	0.26	−1.65**	−0.66
	[0.96]	[0.64]	[1.04]
Years in the current city		0.15***	−0.06
		[0.02]	[0.04]
Months away from hometown in past year			0.85***
			[0.05]
Constant	−11.32***	4.30***	24.94***
	[2.38]	[1.60]	[2.61]

(continued)

Table 2 (continued)

Variables	Years in the current city (1)	Months away from hometown in past year (2)	Days away from hometown in past month (3)
Number of observations	940	940	940
R squared	0.37	0.40	0.31

Notes: OLS results from the regression (1). Standard errors are in square brackets. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

[a]Having no degree, [b]Being single, [c]Having extremely poor peasant parents, [d]Having no parent alive, [e]Having no co-residing parent, [f]Red River Delta, [g]Red River Delta × Hanoi, and [h]Quarter 1 as the base group, respectively

Table 2 also shows that migrants with a disability have spent about 1 month longer in the host city, probably because once they have migrated they are less mobile than able migrants. Migrants with more children living with them also have different migration duration; however, the impact of these family structure variables varies by the age of co-residing children or migration duration measures. For instance, parents of a child aged between 1 and 10 are found to spend more (between one and two, as can be seen from Column 1) years in the current city. One possible explanation is that more established migrants are more likely to have children. By contrast, parents with an adult child (i.e. aged 18 or over) have spent about 2 years less in the current city. In the same vein, parents with co-residing children aged under six are found to have 2 fewer days away from their hometown (Column 3), possibly because children of these ages require child care from grandparents living in the hometown. Irrespective of how migration duration is measured, Table 2 consistently shows that migrants with more children living elsewhere have shorter migration duration as demonstrated by their shorter time in the host city (except the third migration duration variable where the estimate is not statistically significant; Column 3).

Migrants with richer parents are found to have a longer length of stay in the host city. Specifically, migrants with poor or relatively poor peasant parents have stayed in the host city for about 1 year longer than migrants with extremely poor peasant parents (the base group). Similarly, migrants with non-peasant parents have spent about 1.2 years longer in the host city than migrants with extremely poor peasant parents. Compared with migrants with extremely poor peasant parents, those with poor or relatively poor peasant parents spent fewer days (about 1.5 days) away from their hometown in the week prior to the survey. We also found that migrants who lived with their parents in the host city had shorter migration duration than those who did not live with either parent.[15] An exception is observed for migrants with one co-residing parent, who spent about 2 years longer in the current city (Column 1 in Table 2). We additionally observe that migrants who had migrated to another city/

[15]Parents and their children may make decisions about migration (duration) and co-residence together, so our living arrangement variables (such as the number of (non)-co-residing children or the number of co-residing parents) could be endogenous in our migration duration models (Nguyen et al. 2012). We test this possibility by excluding these living arrangement variables from the regressions and find the estimates for other remaining variables are largely unchanged.

province before the current one are more mobile than those without prior migration experience, as demonstrated by the fact that the former have stayed for a shorter period (for about 1 year) in the current host city. The last row in Table 2 (Column 2) suggests that migrants with more years in the current city have also spent more months away from their hometown in the past year. Similarly, migrants with more months away from their hometown in the past year have also stayed away from their hometown longer during the past month (Column 3, Table 2). We do not, however, find any significant differences in migration duration patterns by other characteristics of migrants such as gender, ethnicity, birth order, and whether their parents are alive.

It is interesting to note that, using different measures of migration duration, we sometimes observe opposing relationships between some explanatory variables and migration duration measures. For example, while the number of co-residing children aged under six is positively correlated with the number of years in the city, it is negatively associated with the number of months away from the hometown in the past year. Also, relative to migrants with extremely poor parents, migrants with parents who are not as poor have spent more years in the host city but fewer days away from their hometown in the past month. These different migration patterns may reflect the different nature of permanent and temporary migration. Investigation into migrants' family arrangements in their home village—which is beyond the scope of this chapter—may provide further insights into the reasons behind these results.

Places of origin and destination (see Table 2) also help explain the migration duration patterns. For instance, migrants originating from the Northern Uplands have spent about 2.5 years longer in the current location than their counterparts from the Red River Delta. In the past year before the survey, the former also spent about 2 months longer away from their hometown than the latter. In addition, compared with migrants living in HCMC, those in Hanoi have a greater number of years of stay in the current city (Column 1 in Table 2), but fewer months or days away from their hometown (Columns 2 and 3). Furthermore, migrants originating from the Northern Uplands and residing in Hanoi have shorter migration duration as measured by the first two migration duration measures compared with those in the base group (i.e. originating from the Red River Delta and living in HCMC). By contrast, migrants originating from the Central Coast region and living in Hanoi are found to be away from their hometowns for about 2 months longer than those in the base group.[16] Finally, statistically significant estimates for some survey time dummies highlight the importance of controlling for the time of survey in our empirical models.

5.2 The Association of Migration Duration with Outcomes

We next analyse the association of our main measure of migration duration (i.e. years in the host city) with some labour market outcomes and the life satisfaction

[16]Only the dummies for Northern Uplands and Central Coast are interacted with the dummy for Hanoi. Other regional variables (i.e. Central Highlands, South-East and Mekong River Delta) are not used because there were no migrants from these regions living in Hanoi in our sample.

of migrants. Results for this main variable, which are reported at the end of Table 3, show two interesting features. First, the number of years in the host city has a statistically significant association with migrants' labour market outcomes only. This result suggests that migrants' labour market outcomes improve when they stay longer in the host city. This finding is consistent with the assimilation theory and most empirical findings in the migration literature (Borjas 1985; Chiswick et al. 2005; Abramitzky et al. 2014). In our case, the positive association between the number of years in the host city and migrants' labour market outcomes can be explained by the possibility that migrants with better labour market outcomes are more likely to stay in the host city (Sjaastad 1962; Todaro 1969). Second, the association of migration duration and labour market outcomes increases with migration duration, but at a decreasing rate since estimates for the migration duration squared variable are negative and statistically significant in most cases. Figure 2, which presents the migrants' labour market outcomes by their years in the host city, also confirms the nonlinear association between years in the host city and migrants' labour market outcomes. Figure 2 additionally conveys that the highest work probability, monthly family income and annual family income are observed when the migrants have stayed in the host city for about 15, 20, and 25 years, respectively.

The signs of the estimated coefficients for other variables included in the migration outcome equations are as expected (see Table 3). For example, migrants' work probability is higher for males and migrants who are the oldest child in the family and lower for migrants with more dependent family members living with them (Column 1 in Table 3). In addition, the migrants' family incomes are higher for more educated or for married migrants (Liu 2004; Le and Booth 2013; Cai and Liu 2015) (Columns 2 and 3). However, yearly family income is statistically significantly lower for migrants with more children not living with them in the city. One possible explanation is that they may have to divide their time between work and visiting their non-co-residing children. Furthermore, on average, migrants are more satisfied in life when staying with their spouses or children and when they have better parental socioeconomic status (Column 4). We also note that those who have migrated to more than one city are much less satisfied with their lives than those who have not.

We next investigate the robustness of the estimates of the main migration duration variable (i.e. years in the host city) when two other migration duration variables measuring a shorter time horizon are added to the migrants' outcome equations.[17] Table 4 shows that additionally controlling for the other two migration duration measures largely does not change our results presented earlier for the main migration duration variable. An exception is that—possibly due to the high correlation among the three migration duration measures—the estimate for the number of years in the host city variable is no longer statistically significant in the work probability

[17]In this experiment, we introduce the two additional migration duration measures linearly because migration duration variables are highly correlated. Results for other variables are largely similar to those reported in Table 3 so they are not reported for brevity purposes.

Table 3 Factors associated with migration outcomes

Variables	Worked in past week (1)	Monthly family income (log) (2)	Yearly family income (log) (3)	Life satisfaction (4)
Age	0.005	−0.027	−0.005	−0.011
	[0.004]	[0.028]	[0.023]	[0.016]
Age square	0.000	0.000	0.000	0.000
	[0.000]	[0.000]	[0.000]	[0.000]
Male	0.055***	−0.044	−0.098	0.015
	[0.016]	[0.088]	[0.073]	[0.048]
Kinh	−0.020	−0.131	−0.112	−0.033
	[0.060]	[0.278]	[0.230]	[0.156]
Primary or lower-secondary degree[a]	0.010	0.506***	0.137	0.047
	[0.029]	[0.191]	[0.158]	[0.105]
Higher-secondary degree[a]	0.019	0.635***	0.202	0.077
	[0.034]	[0.213]	[0.176]	[0.117]
Vocational or professional degree[a]	−0.027	0.741***	0.289	0.137
	[0.036]	[0.233]	[0.193]	[0.128]
College degree[a]	−0.046	0.358	0.542**	0.130
	[0.041]	[0.277]	[0.229]	[0.150]
University or higher[a]	0.006	0.688***	0.334*	0.081
	[0.038]	[0.235]	[0.195]	[0.129]
Disabled	0.007	0.327	0.062	0.035
	[0.039]	[0.209]	[0.173]	[0.103]
Married[b]	−0.003	0.536***	0.554***	0.311***
	[0.026]	[0.131]	[0.108]	[0.071]
Divorced/separated[b]	−0.025	0.619**	0.425*	−0.336**
	[0.046]	[0.307]	[0.255]	[0.157]
Number of co-residing own children aged 1–5	−0.062***	0.005	0.054	0.058
	[0.018]	[0.118]	[0.096]	[0.068]
Number of co-residing own children aged 6–10	−0.006	0.014	−0.067	0.141
	[0.030]	[0.174]	[0.144]	[0.102]
Number of co-residing own children aged 11–17	−0.016	0.073	−0.078	0.001
	[0.026]	[0.172]	[0.143]	[0.100]
Number of co-residing own children aged over 17	−0.007	0.274	0.132	−0.067
	[0.036]	[0.227]	[0.188]	[0.132]
Number of non-co-residing own children	−0.012	−0.118	−0.179***	−0.099**
	[0.012]	[0.074]	[0.061]	[0.042]
Number of siblings	0.003	0.031	−0.002	0.007
	[0.004]	[0.023]	[0.019]	[0.013]
Oldest child	0.070***	0.063	−0.015	0.007
	[0.023]	[0.102]	[0.085]	[0.055]
Poor or relatively poor peasant parents[c]	−0.047*	0.157	0.020	0.157**
	[0.024]	[0.119]	[0.098]	[0.064]
Non-peasant parents[c]	−0.041	0.028	0.012	0.092
	[0.029]	[0.150]	[0.124]	[0.080]

(continued)

Table 3 (continued)

Variables	Worked in past week (1)	Monthly family income (log) (2)	Yearly family income (log) (3)	Life satisfaction (4)
One parent alive[d]	−0.019	−0.099	−0.166	−0.030
	[0.030]	[0.180]	[0.149]	[0.100]
Two parents alive[d]	−0.012	−0.057	−0.096	0.037
	[0.030]	[0.170]	[0.141]	[0.095]
One co-residing parent[e]	−0.085**	0.016	0.134	−0.129
	[0.038]	[0.295]	[0.245]	[0.172]
Two co-residing parents[e]	−0.095*	0.025	−0.055	−0.217
	[0.051]	[0.398]	[0.330]	[0.203]
Have migrated to more than one city	0.010	−0.091	0.074	−0.147***
	[0.018]	[0.101]	[0.084]	[0.054]
Years in the host city	0.009***	0.076***	0.098***	0.010
	[0.003]	[0.021]	[0.017]	[0.011]
Years in the host city squared	−0.000***	−0.002**	−0.002***	0.000
	[0.000]	[0.001]	[0.001]	[0.000]
Number of observations	934	934	937	771
(Pseudo) R squared	0.200	0.130	0.190	0.260

Notes: The probability of working (Column 1) is estimated using a probit model while other outcomes are estimated using the OLS method. Marginal effects are reported for probit regression. Other explanatory variables included are regional variables, and survey quarter dummies. Standard errors are in square brackets. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

[a]Having no degree, [b]Being single, [c]Having extremely poor peasant parents, [d]Having no parent alive, and [e]Having no co-residing parent as the base group, respectively

regression (Column 1, Table 4). Table 4 additionally suggests that, conditional on the number of years in the host city, migrants who have spent more months away from their hometown during the year prior to the survey appear to have better labour market outcomes and a higher level of life satisfaction. Table 4 also indicates that, conditional on the number of years in the host city and the number of months away from their hometown in the past year, migrants who have spent more days away from their hometown in the past month are more likely to work and have lower annual family income and a lower level of life satisfaction.

6 Conclusion

This chapter has examined the factors associated with duration of migration and how migration duration is associated with outcomes using the 2013 Vietnam Rural–Urban Migration Survey. Results from migration duration models show that migration duration is positively associated with migrants' age, education levels and

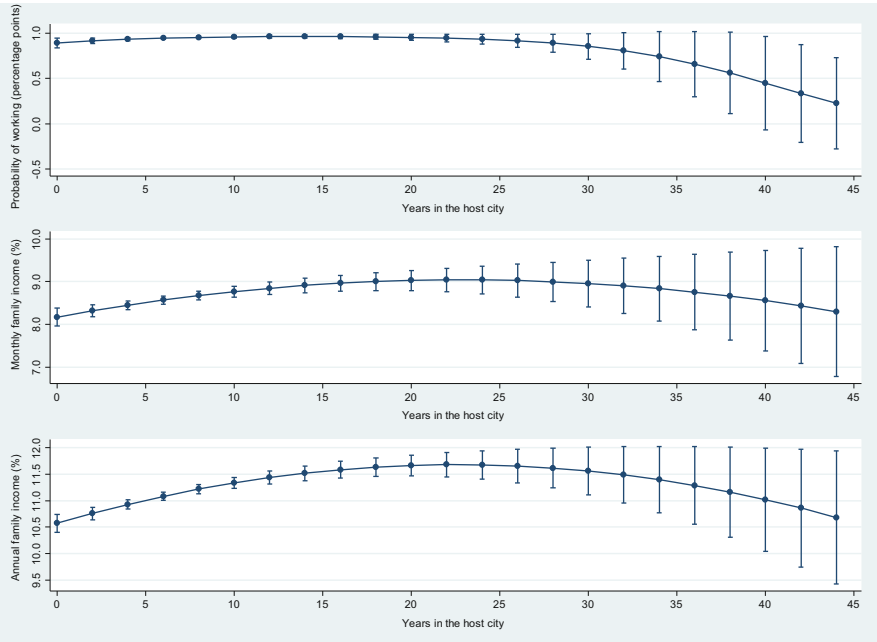


Fig. 2 Migrants' labour market outcomes by years in the host city. Notes: Marginal effects (with 95% confidence interval) are estimated using results from regression models similar to those used in Table 2

Table 4 Migration duration and migration outcomes: additional migration duration measures

Migration duration variables	Worked in past week	Monthly family income (log)	Yearly family income (log)	Life satisfaction
	(1)	(2)	(3)	(4)
Years in the host city	0.003	0.057***	0.058***	0.003
	[0.004]	[0.022]	[0.017]	[0.012]
Years in the host city squared	0.000	−0.001	−0.001*	0.000
	[0.000]	[0.001]	[0.001]	[0.000]
Months away from hometown in past year	0.007***	0.042***	0.094***	0.021**
	[0.003]	[0.016]	[0.012]	[0.008]
Days away from hometown in past month	0.002**	−0.004	−0.014**	−0.015***
	[0.001]	[0.008]	[0.007]	[0.005]

Notes: The probability of working (Column 1) is estimated using a probit model while other outcomes are estimated using the OLS method. Marginal effects are reported for probit regressions. Other explanatory variables are similar to those reported in Table 3. Standard errors are in square brackets. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

parental socioeconomic status. We subsequently show that migrants with longer migration duration have better labour market outcomes as measured by a higher work probability and higher monthly or annual family incomes. We do not, however, find any significant association between migration duration and migrants' life

satisfaction level. Our finding of a positive association between migration duration and labour market outcomes has an important policy implication: policies to motivate migrants to stay longer in the host location would also help to improve the labour market outcomes of migrants. This, in turn, will help develop the economies of both sending and receiving regions. To this end, further studies on possible policies to facilitate migrants staying longer in the host city would be worthwhile.

Acknowledgements Comments and suggestions on a previous version of the paper from Cahit Guven, Amy Liu, Xin Meng, and participants at the Vietnam Rural–Urban Migration Survey (VRUMS) Conference are gratefully acknowledged.

References

Abramitzky, R., Boustan, L. P., & Eriksson, K. (2014). A nation of immigrants: Assimilation and economic outcomes in the age of mass migration. *Journal of Political Economy, 122*, 467–506.

Akay, A., Bargain, O., & Zimmermann, K. F. (2017). Home sweet home? Macroeconomic conditions in home countries and the well-being of migrants. *Journal of Human Resources, 52*(2), 351–373. https://doi.org/10.3368/jhr.52.2.0115-6900R1

Borjas, G. J. (1985). Assimilation, changes in cohort quality, and the earnings of immigrants. *Journal of Labor Economics, 3*, 463–489.

Cai, L., & Liu, A. Y. C. (2015). Wage determination and distribution in urban China and Vietnam: A comparative analysis. *Journal of Comparative Economics, 43*, 186–203.

Carrington, W. J., Detragiache, E., & Vishwanath, T. (1996). Migration with endogenous moving costs. *The American Economic Review, 86*, 909–930.

Chiswick, B. R., Lee, Y. L., & Miller, P. W. (2005). Immigrant earnings: A longitudinal analysis. *Review of Income and Wealth, 51*, 485–503.

Clark, A. E., Frijters, P., & Shields, M. A. (2008). Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature, 46*, 95–144.

Coxhead, I., Nguyen, C. V., & Vu, L. H. (2015). *Internal migration in Vietnam: New evidence from recent surveys*. Paper presented at the Vietnam Rural–Urban Migration Survey (VRUMS) Conference, Hanoi, 13–14 January 2015.

Dang, D. A. (2015). *Social networks and income dynamics: Evidence in Vietnam*. Paper presented at the Vietnam Rural–Urban Migration Survey (VRUMS) Conference, Hanoi, 13–14 January 2015.

Dang, A., Goldstein, S., & McNally, J. (1997). Internal migration and development in Vietnam. *International Migration Review, 31*, 312–337.

de Brauw, A., & Harigaya, T. (2007). Seasonal migration and improving living standards in Vietnam. *American Journal of Agricultural Economics, 89*, 430–447.

Démurger, S. (2012). Mapping modes of rural labour migration in China. In H. McKay & L. Song (Eds.), *Rebalancing and sustaining growth in China*. Canberra: ANU Press.

Di Tella, R., & MacCulloch, R. (2006). Some uses of happiness data in economics. *The Journal of Economic Perspectives, 20*, 25–46.

Djajić, S., & Milbourne, R. (1988). A general equilibrium model of guest-worker migration: The source-country perspective. *Journal of International Economics, 25*, 335–351.

Dustmann, C. (1997). Return migration, uncertainty and precautionary savings. *Journal of Development Economics, 52*, 295–316.

Dustmann, C. (2003). Return migration, wage differentials, and the optimal migration duration. *European Economic Review, 47*, 353–369.

Dustmann, C., & Kirchkamp, O. (2002). The optimal migration duration and activity choice after re-migration. *Journal of Development Economics, 67*, 351–372.
Ferrer-i-Carbonell, A. (2013). Happiness economics. *SERIEs, 4*, 35–60.
Frey, B. S., & Stutzer, A. (2002). What can economists learn from happiness research? *Journal of Economic Literature, 40*, 402–435.
Fukase, E. (2013). *Foreign job opportunities and internal migration in Vietnam*. World Bank Policy Research Working Paper.
General Statistics Office (GSO). (2012). *Migration and urbanization in Vietnam: Patterns, trends and differentials*. Hanoi: General Statistics Office.
Hill, J. K. (1987). Immigrant decisions concerning duration of stay and migratory frequency. *Journal of Development Economics, 25*, 221–234.
Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives, 20*, 3–24.
Le, H. T., & Booth, A. L. (2013). Inequality in Vietnamese urban–rural living standards, 1993–2006. *Review of Income and Wealth, 60*, 862–886.
Liu, A. Y. C. (2004). Gender wage gap in Vietnam: 1993 to 1998. *Journal of Comparative Economics, 32*, 586–596.
Meng, X., & Gregory, R. G. (2005). Intermarriage and the economic assimilation of immigrants. *Journal of Labor Economics, 23*, 135–174.
Mesnard, A. (2004). Temporary migration and capital market imperfections. *Oxford Economic Papers, 56*, 242–262.
Nguyen, H. T., & Duncan, A. (2017). Exchange rate fluctuations and immigrants' labour market outcomes: New evidence from Australian household panel data. *Journal of International Economics, 105*, 174–186.
Nguyen, H. T., & Duncan, A. (2018). Macroeconomic fluctuations in home countries and immigrants' well-being: New evidence from down under. *International Migration Review*. https://doi.org/10.1177/0197918318813975.
Nguyen, T. P., Tran, N. T. M. T., Nguyen, T. N., & Oostendorp, R. (2008). *Determinants and impacts of migration in Vietnam*. The DEPOCEN Working Paper Series.
Nguyen, C. V., Van den Berg, M., & Lensink, R. (2011). The impact of work and non-work migration on household welfare, poverty and inequality. *The Economics of Transition, 19*, 771–799.
Nguyen, H. T., Liu, A. Y. C., & Booth, A. L. (2012). Monetary transfers from children and the labour supply of elderly parents: Evidence from Vietnam. *Journal of Development Studies, 48*, 1177–1191.
Nguyen, L. D., Raabe, K., & Grote, U. (2015). Rural–urban migration, household vulnerability, and welfare in Vietnam. *World Development, 71*, 79–93.
Nguyen-Hoang, P., & McPeak, J. (2010). Leaving or staying: Inter-provincial migration in Vietnam. *Asian and Pacific Migration Journal, 19*, 473–500.
Niimi, Y., Pham, T. H., & Reilly, B. (2009). Determinants of remittances: Recent evidence using data on internal migrants in Vietnam. *Asian Economic Journal, 23*, 19–39.
Phan, D. (2012). Migration and credit constraints: Theory and evidence from Vietnam. *Review of Development Economics, 16*, 31–44.
Phan, D., & Coxhead, I. (2010). Inter-provincial migration and inequality during Vietnam's transition. *Journal of Development Economics, 91*, 100–112.
Sjaastad, L. A. (1962). The costs and returns of human migration. *Journal of Political Economy, 70*, 80–93.
Stark, O. (1991). *The migration of labor*. Oxford: Blackwell.
Todaro, M. P. (1969). A model of labor migration and urban unemployment in less developed countries. *The American Economic Review, 59*, 138–148.
Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data* (2nd ed.). Cambridge, MA: MIT Press.

Occupational Wage Differential Between Urban Workers and Rural Migrants in Vietnam

Amy Y. C. Liu

Abstract This chapter uses the Vietnam Rural–Urban Migration Survey conducted in 2013 (VRUMS2013) and the Vietnam Household Living Standards Survey 2012 (VHLSS2012) to investigate the earnings differential between urban residents and rural migrants. Rural migrants not only receive lower wages than their urban counterparts, but also tend to be in low-paying jobs. The decomposition results of Brown et al. (Journal of Human Resources 15(1): 3–28, 1980) suggest that within-occupation earnings differential, especially within-job characteristic difference, is the key contributing factor for migrants' lower relative economic position. Taking the within- and between-occupational difference together—while the explained component remains more important than the unexplained component in accounting for the overall earnings differential, the contribution of the unexplained component (especially the unexplained within-occupation component) is not negligible.

1 Introduction

In the past decades, Vietnam has experienced a remarkable increase in the internal migrant population in its cities. The Vietnam Population and Housing Census 2009 data show that 7.2% of the population aged over five who migrated internally in 1999 were rural–urban migrants. This rose to 9.2% in 2009 (GSO 2011). Spontaneous rural–urban migration flows are partly in response to the new economic opportunities unleashed by the market reform known as *Doi Moi* ('Renovation'), introduced in 1986. Research on rural–urban migration in Vietnam has been focused on understanding its patterns and the migrants' decision-making (for instance, Dang et al. 2003; Dang 2001), as well as remittances and their impact (for instance, Niimi et al. 2008; Binci and Giannelli 2012; Nguyen 2001). However, none has studied the wage differentials between urban workers and rural migrants in Vietnamese cities,

A. Y. C. Liu (✉)
International and Development Economics, Crawford School of Public Policy, Australian National University, Canberra, ACT, Australia
e-mail: yukchu.liu@anu.edu.au

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_5

especially with a focus on occupational distribution. If migrants tend to concentrate in low-paying jobs, this potentially has an adverse impact on, for instance, remittances and therefore on poverty in migrant-sending rural areas—and subsequently, on rural–urban inequality (for instance, Zhu and Luo 2010).

Studies focusing on labour market segregation between urban residents and migrants in China in terms of wages and welfare consistently find that migrant workers work more hours and receive less pay than urban residents (Meng and Zhang 2001; Knight and Yueh 2009; Démurger et al. 2009; Dong and Bowles 2002; Zhang 2009; Frijters et al. 2010, 2011; Deng and Li 2010). Why do rural migrant workers tend to receive lower wage rates? These studies suggest there are two broad explanations. First, rural migrants may have productivity-related characteristics that adversely affect their pay. For instance, they tend to be less educated than their urban counterparts and the education received in rural areas is of poor quality. They also tend to be younger, have little city experience and less stable jobs. Hence, they may not be able to benefit from the increase in skill-biased demand. Second, they may be 'discriminated' against in the job market. Discrimination in the labour market is present if equally productive workers are treated differently. For example, Lu and Song (2006) attribute part of the wage gap between migrant and urban workers in China to discrimination or the so-called unexplained factor. They argue that migrants are paid less simply because they do not have urban registration status. Like China, Vietnam has a household registration (*ho khau*) system. It serves as an institutional barrier to control population movement by tying individuals to their place of residence. Stringent conditions, such as continuous employment and residence (as much as 5 years until 2005), have to be met for migrants to acquire a *ho khau* in the destination city. Rural migrants in the cities without urban registration may face significant challenges in finding jobs in the formal sector, especially the state sector. In some instances, employers are instructed by provincial officials to give priority to local residents to support the local economy and address issues of redundancy of local workers (Le et al. 2011). Migrants may also face difficulties finding good jobs with stable income. Most may end up with jobs that locals do not want to take. Without a local *ho khau*, migrants are also not entitled to public services such as basic health care, social insurance and other social welfare, and their children cannot access public education in urban areas (Le et al. 2011; Taylor 2011). In 2007, the law was revised to relax the requirements for migrants applying for permanent residence in the cities. For instance, the duration required for residence was reduced to 1 year. Migrants were also no longer required to have uninterrupted employment before applying for urban *ho khau*. Recently, the restrictions have been tightened again.[1] Migration institutions aside, traditional perceptions may also work against migrant workers even if they have the same productive

[1]The requirements to acquire urban *ho khau* have been tightened recently. The Law on Residence, which came in effect in 2014, requires migrant applicants to again have had uninterrupted employment for at least 2 years prior to the application for local *ho khau* in Hanoi, Hai Phong, Da Nang, HCMC and Can Tho. In addition, migrants who want to apply for permanent residence in Hanoi must own a house or be renting one under a long-term contract and must also have lived there continuously for at least 3 years (see Chaps. 1 and 10).

characteristics as their urban counterparts. For instance, urban people are generally regarded as superior to rural people. Urban residents tend to attribute the rise in crime and other social problems to the influx of rural migrants (Taylor 2004). Employers can penalise rural migrant workers in accordance to their taste for discrimination.

Frijters et al. (2010) used the 2008 wave of the Rural–Urban Migration in China and Indonesia (RUMiCI) survey and found that 54% of the wage gap between locals and rural migrants in China was due to differences in characteristics; the remainder was due to differences in returns or the 'unexplained'. Meng and Zhang (2001) examine earnings differentials between urban residents and rural migrants with a focus on occupation. Using the decomposition method developed by Brown et al. (1980), they find that migrants were disproportionately concentrated in blue-collar jobs. In 1995, not only did migrants earn half of urban workers' hourly earnings in Shanghai, but also over half of the earnings differential was attributable to within-occupational discrimination.

Similar to Meng and Zhang (2001), this chapter aims to examine the wage gap between urban residents and migrants in the cities with a special focus on occupation segregation. It uses a new dataset from the Vietnam Rural–Urban Migrant Survey (VRUMS).

Do migrants in Vietnam receive lower pay than their urban counterparts? To what extent is the gap explained by within-occupational difference in characteristics and discrimination; and to what extent is it attributable to difference in occupation distribution between the two groups (occupational segregation)? These are the questions this chapter seeks to answer. The relative importance of with- and between-occupational differentials has valuable policy implications: should attention be directed more towards promoting equal pay within occupations or towards promoting more equal access to various occupations?

The organisation of the chapter is as follows. Section 2 discusses the data source and the sample. In Sect. 3, I outline the conventional procedures used, such as Oaxaca (1973) and Neumark (1988), and present the empirical results. Section 4 uses the methodology of Brown et al. (1980) to examine the contributing factors to the earnings disparities between locals and migrants, taking into consideration their occupational distribution. Concluding remarks and possible policy implications are presented in Sect. 5.

2 Data

The data used in this study are drawn from the Vietnam Rural–Urban Migration Survey conducted in 2013 (VRUMS2013). It adopts the questionnaires of the RUMiCI, which is particularly designed to collect information on rural–urban migrants. Based on the rural household sample in the Vietnam Household Living Standards Survey 2012 (VHLSS2012), the VRUMS2013 collects extensive information on rural households and individuals who have migrated to the urban areas of Hanoi, Ho Chi Minh City (HCMC) and its surrounding areas (Binh Duong and

Dong Nai). In total, 869 migrant households were successfully interviewed. The data include detailed information that is critical to better understanding migrants' behaviour, such as whether they have permanent or temporary contracts and their household registration status. In addition, the VRUMS2013 allows researchers to draw comparisons between migrants and their counterparts in the cities by linking with the VHLSS2012.

I use the VHLSS2012 to compile the sample for urban residents. To conduct a comparative study of urban local workers and rural migrants, ideally, the sample of 'urban resident (or local)' workers should be restricted to individuals who are living in the city in which they were born and have permanent residence, and should exclude rural–urban migrants. Unfortunately, the VHLSS2012 does not collect information on individuals' birthplace.[2] Unable to distinguish between the local-born and migrants, I instead use the information on respondents' household registration status to define the urban sample. Specifically, the VHLSS2012 collects data on four types of *ho khau*: (1) an individual who has registered in the commune/ward in which he/she is residing at the time of interview; (2) an individual who has registered in another commune/ward within the same province/city in which that individual is residing; (3) an individual who has registered in another province/city altogether; and (4) an individual who has never registered.[3] To get a clean sample of urban local workers, I exclude those who fall into the last three categories of household registration status. That is, urban residents are those who registered their *ho khau* in the commune in the city in which they were living at the time of the interview. This definition is far from ideal. By defining the urban sample this way, the sample may also include urban-to-urban migrants, as well as rural migrants who already hold local *ho khau* (long-term migrants). If the wage disadvantage of rural migrants relative to the locals persists over time, as suggested by the literature on migrants' assimilation,[4] including these migrants with urban *ho khau* may bias the average wages of the locals downward, and hence, the average earnings gap downward.

The migrant sample is from the VRUMS2013. To ensure a sufficient sample for different occupation cells, I opt to keep the long-term rural migrants in the cities in the rural migrant sample. By including them in the migrant sample, I may bias the earnings of the migrants upward.[5] Consequently, by including long-term migrants in

[2]The information for the length of stay in the cities is also not collected for those who registered their household status in the same province/city where they resided. The absence of this particular information has made it impossible to identify urban residents who were born in the city by comparing the age of the respondents with the length of stay.

[3]Further data examination reveals that most who have never registered are infants.

[4]Zhang (2009) uses the China Household Income Project 1999 (CHIP1999) and CHIP2002 and finds that the wage gap between urban workers and long-term migrants has narrowed over time, but the gap remains as their pay remains lower than that of urban residents.

[5]As expected, the VRUMS2013 shows that the earnings of migrants are higher if we include these long-term migrants with urban *ho khau* in the migrant sample rather than excluding them.

Table 1 Summary statistics for the main variables used in earnings equations, by migration status

	Urban		Migrants		Difference	
Variables	Mean	SD	Mean	SD	Mean	SD
Log hourly earnings	3.35	0.66	2.88	0.54	0.47***	0.03
Potential experience	19.60	11.85	12.86	9.52	6.75***	0.52
Potential exp^2	524.56	538.74	255.81	372.28	269.07***	22.01
Gender	0.53	0.50	0.58	0.49	−0.05*	0.02
Married	0.69	0.46	0.60	0.49	0.09***	0.02
Years of schooling	12.22	4.14	10.80	3.98	1.42***	0.19
State	0.38	0.49	0.16	0.36	0.22***	0.02
Private	0.50	0.50	0.62	0.49	−0.12***	0.02
Foreign-invested firms	0.12	0.01	0.22	0.01	−0.10***	0.01
HCMC	0.47	0.50	0.55	0.50	−0.08***	0.02
Hanoi	0.33	0.47	0.28	0.45	0.05***	0.02
Other	0.20	0.01	0.17	0.01	0.03	0.02
No. of observations	724		988			

Notes: The column labelled 'Difference' is derived from t-tests that compare the mean difference of the same variable between rural migrants and urban residents. The null hypothesis is that there is no difference of means

'***,' '**,' and '*' indicate 1, 5, and 10% significance levels, respectively

both the urban sample and the migrant sample, the wage gap will be underestimated. Therefore, the estimates in this chapter represent the lower bound of the wage gap.

The sample used in the empirical work is defined as rural–urban migrants and urban residents who: (1) are wage-earners in their main job[6]; (2) are aged between 16 and 65 years, inclusive; and (3) report earnings information. To make the samples from the VRUMS2013 and VHLSS2012 comparable, I restrict the urban samples to those who were in Hanoi, HCMC and surrounding areas such as Binh Duong and Dong Nai. There are 1712 wage-earners in the sample (724 urban residents and 988 migrants). I also deflate the earnings data of the VRUMS2013 to be comparable with the VHLSS2012.[7] In the empirical work, I first categorise respondents' jobs into two broad categories: white-collar jobs and blue-collar jobs. White-collar jobs refer to professionals and office workers (for simplicity, I refer to this occupation category as professionals hereafter). Blue-collar occupations consist of: (1) jobs related to production (e.g. machine operator and other manual jobs), and (2) all other jobs (e.g. services, sales and military).

Table 1 reports the summary statistics of the main variables used in the empirical work by migrant status. As expected, on average, migrants have lower log hourly

[6]The VRUMS2013 also collects information on migrants who are self-employed. However, there are many missing values for this group.

[7]In 2013, the urban consumer price index (CPI) increased by 6.28% compared with 2012 (Business Times 2014).

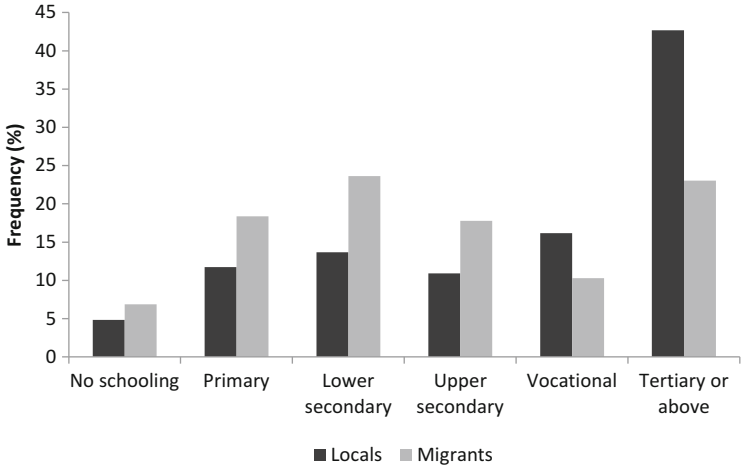


Fig. 1 Education attainment, by migration status

earnings,[8] shorter potential experience,[9] and fewer years of schooling than urban workers. A closer examination of the data on education attainment (Fig. 1) indicates that about 50% of migrants, compared with 30% of their urban counterparts, have lower-secondary qualifications or below. The respective share of workers with tertiary qualifications is only 23% for migrants (versus 43% for urban workers).

Most of the migrants work in the private sector and fewer are married; there are more females in the migrant sample than in the sample of local workers. Using a t-test, the null hypothesis that there is no difference in a particular variable between urban local workers and migrant workers is rejected across the board.

Noticeably, the largest earnings disparity between urban workers and rural migrant workers is among white-collar workers (professionals and office workers) (Table 2). For instance, urban professionals are paid an hourly wage rate about 16% higher than their migrant counterparts (3.72 versus 3.2 in log differentials). The column labelled 'Difference' indicates that this difference is significant at 1%. A significant earnings difference between the two groups is also found among blue-

[8]It refers to the hourly earnings rate of the main job, and includes cash, bonuses, allowances and in-kind payments, measured in VND1000.

[9]Arguably the work experience of migrants in rural villages may be quite different from those in the city. I compiled a migrant's city work experience using the interview date and questions such as 'When did the migrant first arrive in the city?' and 'How long did he/she take to find the first job if he/she did not find the first job immediately after arriving in the city?' For migrants, I replaced their potential experience with city work experience. Except for the fact the returns to experience and the estimated coefficient of being married are slightly higher relative to the model using potential experience, the results did not change much. Given that there are quite a few missing values on those questions required to compile the variable 'city work experience', I subsequently used the model specification with potential experience to preserve the sample size for the purpose of further disaggregating occupation into three groups.

Table 2 Summary statistics for the main variables used in earning equations in different sectors

	White-collar workers						Blue-collar workers					
	Urban		Migrants		Difference		Urban		Migrants		Difference	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Log hourly earnings	3.72	0.63	3.20	0.58	0.52***	0.05	3.03	0.50	2.79	0.49	0.24***	0.03
Potential experience	17.01	10.94	8.35	6.39	8.65***	0.83	21.84	12.16	14.09	9.85	7.75***	0.66
Potential exp^2	408.62	445.62	110.34	176.76	298.28***	32.09	624.40	590.17	295.04	400.58	329.36***	29.32
Gender	0.52	0.50	0.50	0.50	0.02	0.04	0.54	0.50	0.60	0.49	−0.06*	0.03
Married	0.73	0.45	0.53	0.50	0.20***	0.04	0.67	0.47	0.63	0.48	0.04	0.03
Years of schooling	15.38	2.15	14.44	2.44	0.94***	0.19	9.49	3.45	9.81	3.74	−0.32	0.23
State	0.56	0.50	0.35	0.48	0.21***	0.04	0.22	0.42	0.10	0.30	0.12***	0.02
Private	0.34	0.48	0.45	0.50	−0.11***	0.04	0.64	0.48	0.67	0.47	−0.03	0.03
Foreign-invested	0.10	0.02	0.19	0.03	−0.09***	0.03	0.14	0.02	0.23	0.01	−0.09***	0.02
HCMC	0.39	0.49	0.60	0.49	−0.21***	0.04	0.54	0.50	0.54	0.50	0.01	0.03
Hanoi	0.50	0.50	0.31	0.46	0.18***	0.04	0.19	0.39	0.27	0.44	−0.08***	0.02
Others	0.12	0.02	0.09	0.02	0.03	0.03	0.27	0.02	0.20	0.01	0.07***	0.02

Notes: The column labelled 'Difference' is derived from t-tests that compare the mean difference of the same variable between rural migrants and urban residents. The null hypothesis is that there is no difference of means
'***,' '**,' and '*' indicate 1, 5, and 10% significance levels, respectively

Table 3 Occupation distribution, hours worked, and earnings of rural migrants and urban residents

	Occupation distribution				Hours worked per month by occupation			
	Urban residents		Rural migrants		Urban residents		Rural migrants	
	Freq.	%	Freq.	%	Mean	SD	Mean	SD
White-collar	335	46.27	211	21.36	186.86	32.09	207.64	41.60
Blue-collar	389	53.73	777	78.64	204.33	50.31	240.12	65.77
– Productive workers	287	39.64	697	70.55	200.05	43.42	237.59	64.00
– Others	102	14.09	80	8.10	216.37	64.68	262.16	76.51
All	724	100	988	100.00	196.24	43.70	233.19	62.82

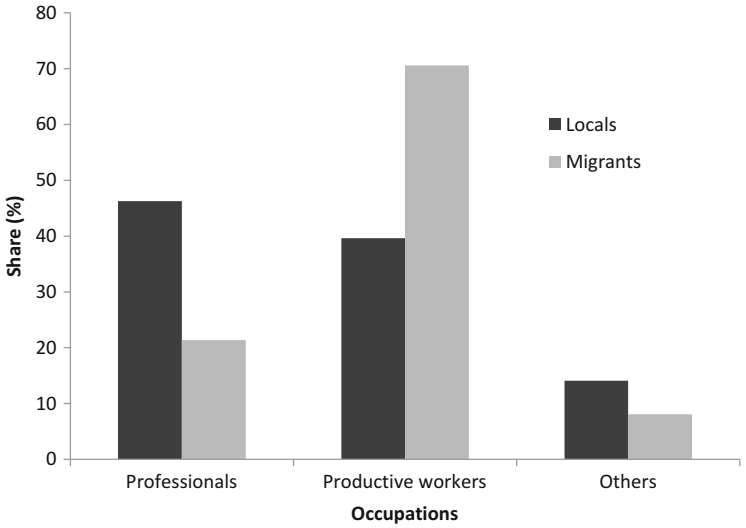


Fig. 2 Distribution of occupations, by migration status

collar workers. In addition, white-collar workers have more years of schooling irrespective of their migration status. Among them, urban residents have a year more schooling than their migrant counterparts. This difference in education is significant for the white-collar workers, but not for those with blue-collar jobs. Among individuals with a white-collar job, more migrants work in HCMC and for foreign-invested firms, whereas more urban residents are in Hanoi and work in the state sector. Among blue-collar workers, migrants tend to work for foreign-invested firms in Hanoi. All these differences are significant at the 1% level.

In terms of the occupational distribution (Table 3; Fig. 2), on average, about 46% of urban residents have white-collar jobs. Only 21% of migrants have a white-collar job. More migrants have blue-collar jobs compared with their urban counterparts (78% versus 54%). Among blue-collar migrant workers, 71% work in production-

related activities. Migrants also tend to have longer working hours per month irrespective of their occupation. Consequently, migrants receive lower hourly wages, as shown earlier.

3 Traditional Decomposition Methodologies: OAXACA (1973) and Neumark (1988)

3.1 Methodologies

Oaxaca's (1973) approach to estimating wage gaps is commonly used in the literature. Two separate, standard Mincerian log wage equations are estimated for urban and rural migrants. Defining the wage gap as the wage of urban residents minus that of rural migrants, Oaxaca decomposes the wage gap into: (1) the wage differential due to the different characteristics of urban workers and rural migrants (explained component)[10]; and (2) the wage gap attributable to different returns to those characteristics (unexplained), which is often referred to as discrimination. Note that the unexplained component is not immune to problems such as omitted variables and unobserved factors. Hence, the unexplained component is not necessarily an exact measure of discrimination. Instead, it should be regarded as an 'upper bound' of discrimination.

Oaxaca decomposition is often subject to the index number problem (Jones 1983). Neumark (1988) proposes a general decomposition to overcome this.

$$\ln \bar{w}_u - \ln \bar{w}_r = \beta\left(\bar{x}_u - \bar{x}_r\right) + \left[(\beta_u - \beta)\bar{x}_u + (\beta - \beta_r)\bar{x}_r\right] \quad (1)$$

where β is the non-discriminatory wage structure. Neumark shows that β can be estimated using the weighted average of the wage structures of urban residents and rural migrants. In the presence of discrimination, he argues that the wage structure can be further decomposed into two parts. First, urban workers are paid competitive wages, but rural migrants are underpaid as a result of being discriminated against. If this is the case, the urban workers' coefficients should be taken as the non-discriminatory wage structure. Second, if employers pay rural migrants competitive wages but pay urban residents more as a result of nepotism, the rural migrants' coefficients should be used as the non-discriminatory wage structure.

The first term is the wage gap attributable to differences in characteristics. The second and the third terms capture the difference between the actual and the pooled returns for urban residents and rural migrants, respectively. The sum of these two terms measures the extent of overall discrimination. The Neumark

[10]Note also that, following the literature, occupational differences are assumed to only reflect differences in characteristics rather than the preferences of an individual worker.

decomposition—like other conventional decomposition methods—fails to account for differences in occupational structures between the two groups.

3.2 Empirical Results

I first estimate the Mincerian log hourly earnings equation (Mincer 1974) for the pooled sample, then separately for urban and migrant workers. I include in these earnings equations typical variables, such as years of schooling, potential experience and its square term to proxy labour market experience, as well as dummies on gender, marital status, employer ownership (state sector, private domestic firms or foreign-invested firms), destination city (Hanoi, HCMC, and others—Binh Duong and Dong Nai), an occupation dummy (white or blue-collar job) and migrant status (for the pooled sample).[11] Table 8 summarises the definitions of the main variables used. As shown in Table 9, the estimated coefficients of the key variables are of expected signs and the adjusted R^2 values are reasonable for all models.

The negative estimated coefficient of the migrant dummy for the pooled sample is significant, indicating rural migrant workers earn about 28% less than locals, even controlling for a range of variables that capture human capital, occupation, ownership and location. I then estimate the earnings equations for local and rural migrant workers separately. For urban residents, being a married man, working for a foreign-invested firm, with a white-collar job and residing in HCMC or Hanoi tends to see you earning more. Potential experience and its squared term describe the expected inverted-U–shaped relationship between wage rates and labour market experience. Also, urban residents receive an average of 7% more in earnings for each additional year of education. For rural migrants, like their urban counterparts, males earn more than females, and potential experience exhibits an inverted-U shape. Migrants have lower returns to their education. They receive only about 6% for an additional year of schooling—less than their urban counterparts. This may reflect the lower quality of education in rural areas. In terms of occupation, the estimated coefficient for having a white-collar job for the pooled sample is positive and strongly significant, indicating there is a wage premium for professionals. The separate estimation for locals and rural migrants also shows that it pays to be a professional, irrespective of migration status. However, migrants with white-collar occupations do earn more than their blue-collar counterparts. For the former, the wage premium is not as high as the white-collar locals (22% versus 35%, respectively).

As the focus of this chapter is to compare the earnings outcomes of urban residents with rural migrants, the Chow test is used to examine whether there is a

[11]Ethnic group is not included in the model as most respondents belong to the Kinh majority. Only 65 observations in the sample do not. Nonetheless, I experimented with the model specification that includes a Kinh dummy—not much difference was found in the decomposition results whether or not it was included.

significant statistical difference between the wage structures of the rural migrants and urban residents. The test statistics are $F(k,N1 + N2 - 2 \times k) = F(11,1690) = 13.05$, which is greater than the critical value. Hence, the null hypothesis that there is no structural difference between the two groups is rejected at the 1% significance level. The column labelled 'Difference'[12] in Table 9 suggests that the differences between the locals and migrants in terms of occupation, ownership and city of destination are statistically significant. For instance, differences accrued to state employment are significant at 1%. Differences in returns to white-collar occupations and to the destination city between the two groups are significant at 5%.

I apply the Oaxaca procedure to decompose the earnings gap between urban workers and migrant workers (Table 4). Recall that the wage gap is defined as the hourly wage of urban residents minus that of rural migrants. Hence, factors that are favourable to the rural migrants would have a negative value. In other words, a negative value in the decomposition results represents an offsetting effect on the earnings differential between the two groups of workers.

The overall hourly earnings gap in log is 0.48. The average decomposition results of the urban and rural wage structures are reported in Table 4.[13] With the explained component accounting for 41% of the earnings gap, the unexplained part (discrimination) accounts for most of the earnings differential (60%). The decomposition

Table 4 Conventional decomposition of urban–migrant wage gap

	Observed earnings gap	Per cent
$\overline{lnw_u}$ 3.352		
$\overline{lnw_r}$ 2.876	0.476	
Oaxaca (1973)		
Average		
Characteristics	0.193	40.65
Returns	0.282	59.35
Neumark (1988)		
Weighted wage structure		
Skill difference	0.193	40.61
Urban advantage	0.164	34.38
Rural disadvantage	0.119	25.01

[12]The differences are derived from a pooled regression of rural migrants and urban workers. In addition to the variables in Table 9, all the variables are interacted with a dummy variable indicating whether an individual is a rural migrant. The coefficients and t-ratio for these interaction terms are reported in the column labelled 'Difference'.

[13]Using urban wage structure as the reference, the difference in characteristics (explained component) only accounts for 41%, with difference in returns (discrimination) accounting for the reminder of the gap. Using the rural wage structure as the counterfactual does not change the decomposition results much. The index number problem is clearly not serious here.

results of the Neumark (1988) method are in line with those of Oaxaca. Of the unexplained part, the urban advantage is more important than the rural disadvantage (34% versus 25%, respectively). In other words, the lower earnings of migrants are due mainly to unequal treatment, which, in turn, is attributable more to discrimination in favour of urban residents than unfavourable discrimination against rural migrants. The analysis so far relies on conventional decomposition methods. These methods do not take into consideration the effect of the distribution of occupations on earnings.

4 Occupational Distribution Difference and Decomposition

4.1 Methodology: Brown et al. (1980)

Brown et al. (1980) provide a method that gives a more detailed decomposition analysis of occupation, taking into account the difference of occupational distribution between urban residents and migrant workers. White-collar jobs (professionals and office workers) aside, I further disaggregate the blue-collar jobs into two categories: 'productive workers' and 'others'. Hence, I use the three occupation categories to carry out Brown et al. (1980) decomposition methods.

First, I estimate two separate log earning equations for the urban residents and migrants. Then I can write

$$\overline{\ln w^u} - \overline{\ln w^r} = \sum_{j=1}^{J} \left(p_j^u \overline{\ln w_j^u} - p_j^r \overline{\ln w_j^r} \right) \tag{2}$$

where the superscripts u and r denote urban residents and rural–urban migrant workers, respectively; the subscript j denotes occupation with J = 3 here. Equation (2) can be rewritten into

$$\begin{aligned} \overline{\ln w^u} - \overline{\ln w^r} = & \sum_{\mathrm{j}=1}^{\mathrm{J}} \mathrm{P}_\mathrm{j}^\mathrm{u} \widehat{\beta_j^u} \left(\overline{\mathrm{x}_\mathrm{j}^\mathrm{u}} - \overline{x_j^r} \right) + \sum_{\mathrm{j}=1}^{\mathrm{J}} \mathrm{P}_\mathrm{j}^\mathrm{r} \overline{\mathrm{x}_\mathrm{j}^\mathrm{r}} \left(\widehat{\beta_j^u} - \widehat{\beta_j^r} \right) \\ & + \sum_{\mathrm{j}=1}^{\mathrm{J}} \overline{\ln \mathrm{w}_\mathrm{j}^\mathrm{u}} \left(\mathrm{P}_\mathrm{j}^u - \widehat{p_j^r} \right) + \sum_{\mathrm{j}=1}^{\mathrm{J}} \overline{\ln w_j^u} \left(\widehat{p_j^r} - p_j^r \right) \end{aligned} \tag{3}$$

The share of urban residents and that of migrants in each occupation is denoted by p^u and p^r, respectively; $\widehat{p_j^r}$ is the proportion of rural–urban migrant workers with occupation j if they have the same occupational structure as urban residents. The first two terms (WE and WU respectively) represent the within-occupation wage differential and the second two terms (BE and BU, respectively) represent the between-occupation wage differential. The sum of WE and BE captures the wage disparity

that is explained by differences in characteristics between urban and migrant workers. The sum of WU and BU represents differences in returns to the observed characteristics and could be due to discrimination.

Multinominal logit regressions are estimated for urban residents and rural migrants separately to derive the average probability for urban and migrant workers in different occupations. Since occupational choice may not be random, I use information from the multinomial logit model to correct for endogenous selection into a particular occupation, conditioned on one's decision to work in the wage sector.[14] Following Lee (1983), in the first stage, the predicted probability P_{ij} is obtained from the multinominal logit model to compute a correction term, λ_{ij}, for occupation j for migrants and urban dwellers separately. In the second stage, the appropriate correction term is then included in the respective earnings equation as an additional regressor in the second stage.

$$\ln wage_j = x_j\beta_j + \rho_j\sigma_j\widehat{\lambda}_j + \varepsilon_j \tag{4}$$

The presence of the additional constructed selectivity correction term renders the standard errors incorrect. White's standard errors are used to give asymptotically consistent values in the empirical work (White 1980).

In the empirical work, in the first stage, a multinominal logit model with three occupation categories is estimated. Economic theory says an individual's occupational attainment is influenced by the employer's willingness to hire (labour demand) and the individual's willingness to work in a particular occupation (labour supply). Human capital affects the individual's marginal productivity, which, in turn, determines labour demand. Factors such as earnings of occupation, preference and family size determine their desire to work via their utility function, thus affecting labour supply. Following the existing literature, the explanatory variables that are included in the reduced form of the multinominal logit model are a gender dummy, marital status, years of schooling, age and its square term, ownership dummies (state sector, private sector and foreign-invested firms) and three destination city dummies (Hanoi, HCMC, and others—i.e. Binh Duong and Dong Nai). In practice, the two-step procedure as described earlier to correct selection bias requires the model to be properly identified. Achieving identification is often tenuous due to multicollinearity problems. Exclusion restriction is the most common method of identification employed in empirical studies. In the context of this chapter, exclusion

[14]Strictly speaking, there are two other sources of sample selection when the OLS focuses on wage-earners only by their occupational choice. One arises from the fact that wage-earners are only observed when they work. The second comes from the selective decision to work in the wage sector. Earnings could be higher for wage workers if those in wage employment have some unobserved characteristics that are positively related to earnings. Possible endogeneity of occupational choice also further complicates selection problems. Most individuals in the sample work and most migrants in the sample are wage workers; additionally, the present analysis focuses on whether the returns to the observable characteristics of a wage-earner differ from one job to another. Therefore, these first two sources of selection bias are ignored in the analysis for the sake of simplicity.

restriction requires one or more observed variables that affect occupational attainment but have no effect on the earnings outcome. Identification here is achieved by including an additional dummy that indicates whether any children are present in a household (children under 16 years of age equals 1 and 0 otherwise). This variable influences an individual's occupation decision as it may capture the pressure to have a more stable job or more flexible work arrangements (especially for females) that are often associated with family responsibilities (Brown et al. 1980). Yet, it does not affect earnings.[15] In the second stage, I use λ_i to augment the corresponding occupation-specific earnings functions. The inclusion of the correction term ensures that the OLS gives consistent estimates of the augmented earnings functions for the three occupation groups.

4.2 Empirical Results

The multinominal logit model shows that the factors that explain occupational attainment for urban residents and rural migrants are different (Table 5). As the coefficients obtained from a multinominal logit model only reflect probability relative to the reference group, the marginal effects of the explanatory variables are presented. However, the following analysis will only focus on the estimated coefficients instead because the relative comparison between urban local workers and migrant workers in any occupation depends only on the difference between the estimated coefficients (Greene 2010). First, education plays a significant role in increasing the likelihood of a rural migrant becoming a white-collar worker and reduces his/her chance of becoming a production worker (relative to the reference group 'Other jobs'). It also works to increase the chance of urban residents taking up professional jobs, but it does not affect the locals' odds of having production-related jobs. As shown in the last column,[16] this difference between the two groups is found to be significant at 1%. Second, for migrants, gender only plays a role in some occupations. A female migrant has a higher chance of being a professional relative to 'Other jobs'. For urban local workers, however, gender is not significant, irrespective of their occupation. Third, family characteristics such as marital status do not affect the occupational attainment of locals or migrants. Fourth, being a worker in the state sector reduces the likelihood of an individual having a

[15]The VRUMS2013 data limitations have prevented us from using the father's occupation for identification purposes. There are many missing values in the response to the question on parents' occupations. The data also do not distinguish between the occupation of the father and that of the mother of the respondents even if the information on occupation is available.

[16]The last column labelled as 'Difference' is derived from a pooled multinominal logit model of rural migrants and urban workers. In addition to the explanatory variables in this table, all the explanatory variables are interacted with a dummy variable indicating whether an individual is a rural migrant. The coefficients and t-ratio for these interaction terms are reported in the column labelled 'Difference'.

Table 5 Multinominal logit estimation of occupational attainment, by migration status

	Urban residents			Migrants			Difference		
	Coef.	Std err.	Marginal eff.	Coef.	Std err.	Marginal eff.	Coef.	Std err.	Marginal eff.
Professionals									
Age	0.014	0.1062	−0.005	−0.056	0.1308	−0.004	0.070	0.1685	0.003
Age squared	0.000	0.0013	0.000	0.000	0.0018	0.000	0.000	0.0023	0.000
Gender	−0.256	0.2919	−0.021	−0.655**	0.3023	−0.058	−0.399	0.4202	−0.033
Married	0.165	0.4056	−0.002	−0.372	0.3606	−0.019	−0.537	0.5427	−0.014
Any children	−0.616*	0.3446	0.043	0.528	0.3680	0.014	−1.144**	0.5042	−0.036
Years of schooling	0.728***	0.0626	0.075	0.352***	0.0528	0.054	0.376***	0.0819	−0.033
State	−0.883	0.6510	0.021	−0.227	0.5440	0.071	−0.656	0.8483	0.018
Private	−1.250**	0.6390	−0.047	−0.802*	0.4794	−0.025	−0.448	0.7988	0.010
HCMC	−0.719	0.4545	−0.004	−0.264	0.5485	0.041	−0.455	0.7123	0.027
Hanoi	−0.483	0.4937	0.010	−1.041*	0.5789	−0.025	0.558	0.7609	−0.052
Constant	−7.833***	2.0859		−0.240	2.2539		−7.593**	3.0710	
Productive workers									
Age	0.098	0.0779	0.013	−0.027	0.0970	0.001	0.125	0.1244	−0.012
Age squared	−0.001	0.0010	0.000	0.000	0.0013	0.000	−0.001	0.0016	0.000
Gender	−0.059	0.2448	0.008	−0.169	0.2692	0.037	0.110	0.3638	0.017
Married	0.281	0.3153	0.029	−0.244	0.3198	−0.001	0.525	0.4490	−0.032
Any children	−0.268	0.2705	−0.002	0.772**	0.3196	−0.065	−1.041**	0.4187	−0.057
Years of schooling	−0.058	0.0388	−0.056	−0.145***	0.0383	−0.055	0.087	0.0545	0.018
State	−1.642***	0.5966	−0.174	−1.013**	0.5149	−0.129	−0.629	0.7880	0.037
Private	−1.150**	0.5728	−0.080	−0.692	0.4383	−0.026	−0.458	0.7212	0.030
HCMC	−1.009***	0.3602	−0.095	−0.746	0.4713	−0.086	−0.263	0.5932	0.001
Hanoi	−0.882**	0.4293	−0.093	−0.969**	0.4905	−0.045	0.088	0.6518	0.033

(continued)

Table 5 (continued)

	Urban residents			Migrants			Difference		
	Coef.	Std err.	Marginal eff.	Coef.	Std err.	Marginal eff.	Coef.	Std err.	Marginal eff.
Constant	1.349	1.5313		6.906***	1.7547		−5.558**	2.3289	
No. of obs	724			988					
Chi(2)	576.65			378.99					
Pseudo R^2	0.3984			0.2461					

Notes: The differences are derived from a pooled multinominal logit model of rural migrants and urban workers. In addition to the explanatory variables in this table, all the explanatory variables are interacted with a dummy variable indicating whether an individual is a rural migrant. The coefficients and t-ratio for these interaction terms are reported in the column labelled 'Difference'

'***,' '**,' and '*' indicate 1, 5, and 10% significance levels, respectively

Table 6 Occupational distributions for urban residents and rural migrants: Counterfactuals (%)

	Actual	Predicted	Difference (% changes)
Rural migrants			
– Professional	21.36	31.99	10.63 (49.77)
– Production workers	70.55	51.45	−19.10 (−27.07)
– Others	8.10	16.55	8.45 (104.32)
Urban residents			
– Professional	46.27	31.80	−14.47 (−30.82)
– Production workers	39.64	57.98	18.34 (43.77)
– Others	14.09	10.21	−3.88 (−22.00)

production-related job (relative to the reference occupation, 'Other jobs'), irrespective of migration status. Working in the private sector lowers the chance of being a professional for both groups, but only reduces the odds of being a production worker for locals. In terms of the location, living in either HCMC or Hanoi relative to the reference cities reduces the chance of being a production worker (relative to 'Other jobs') for urban residents; whereas residing in Hanoi shows a similar effect on migrants' occupation attainment. As shown in the last column, none of these differences, however, is found to be statistically significant between the two groups. Fourth, the presence of children decreases urban residents' odds of being a professional (relative to 'Other'), but increases migrants' chances of working in production-related activities. The last column of Table 5 signals that this difference between the two groups is significant at 5%. Dividing the sample into males and females reveals that the results only hold for females and not for males. Finally, a Chow test rejects the null hypothesis that there is no structural difference between locals and migrant workers.[17]

I conduct two counterfactual exercises using the multinominal logit occupational attainment model to evaluate to what extent differences in returns or treatment in favour of urban residents or against rural migrants affect occupational attainment. The results of these exercises are reported in Table 6. First, I use urban residents' occupational distribution as the non-discriminatory norm to predict for rural–urban migrants' occupational distribution. In other words, using the estimated occupation attainment probability model for urban residents, migrants' characteristics replace the characteristics of the locals (urban residents) to obtain a simulated occupation distribution for migrants. Thus, the difference between the actual occupation distribution of migrants and this predicted occupational distribution of migrants if they were treated equally to urban residents indicates the differential treatment in favour of urban residents or against migrants. The top panel of Table 6 shows that if rural migrants were treated equally relative to urban residents, about 11% more migrants (32% instead of 21%) who currently have blue-collar jobs (production and other workers) would have white-collar jobs. In contrast, given migrants' characteristics,

[17]The Chi-square statistic (with a degree of freedom of 22) is equal to 107.45.

the proportion of migrants who are production workers is much lower if they face the same estimated occupation structure as urban residents (51% instead of 71%).

Second, I predict the occupational distribution of urban residents by using the estimated coefficients of the occupational attainment model for rural migrants to investigate the counterfactual of the occupational distribution of urban residents if they were treated the same as rural migrants. The stimulated result suggests that, for instance, if they were treated equally with their rural counterparts, urban residents would have held only 32% of the professional jobs. In other words, about 14% of the urban residents who currently hold a professional job would have been in blue-collar jobs as production or other workers.

These two simulation exercises suggest that, if there had been no differential treatment of different groups of workers, more rural migrants would have held higher-paying white-collar jobs. Occupation segregation seems to play a role in contributing to the earnings differential between urban residents and rural migrants in the major cities in Vietnam.

Using the multinominal logit estimation, the correction term, λ, is included in the three occupation-specific Mincerian earnings equations to account for potential selection bias (Table 10). The estimated result for migrants with 'other jobs' should be interpreted with caution as it is based on a small number of observations.

The estimated coefficient of the correction term is positive and significant for professionals irrespective of migration status. It indicates that urban residents and rural migrants who have chosen such an occupation earn relatively higher wages than the population (where occupations are assigned randomly). For 'other jobs', the sign of the correction term is negative for locals as well as migrants. That is, occupation choice lowers the earnings of workers who have chosen their type of work. Negative selection is also evident for migrant production workers.

The determinants of the hourly earnings gap for locals and migrants vary according to the particular occupation of interest. For instance, among professionals, gender is one of the key drivers for the two groups. Its estimated coefficient in the migrant equation shows a much larger gender wage gap than for urban residents. A male migrant (urban resident) earns about 58% (19%) more than a female migrant (urban resident). For production workers, gender, potential experience and ownership all have a role to play. For those with other types of jobs, years of schooling and the location of the destination city are the important earnings determinants.[18]

Table 7 reports the decomposition results of Brown et al. (1980) with selectivity correction. The overall mean log hourly earnings gap between urban residents and migrants can be decomposed into four components: WE, WU, BE and BU. Note that, like Oaxaca (1973), Brown et al.'s (1980) decomposition method is also subject to the index number problem. Therefore, I report the average of different specifications of the decomposition, as discussed in Brown's paper (1980: 26) below.

[18]The inclusion of lambda in the wage equation renders many explanatory variables insignificant. For instance, for migrants with other jobs, variables such as ownership dummies become insignificant once lambda is included in the model.

Table 7 Decomposition of log earnings difference between urban residents and rural–urban migrants (corrected for selectivity)

	Observed earnings gap	Per cent
$\overline{lnw_u}$ 3.352		
$\overline{lnw_r}$ 2.876	0.475	
Brown et al. (1980) **(average)**		
Within occupation		
Within explained (WE)	0.208	43.71
WU	0.137	28.88
Total	0.345	72.59
Between occupation		
BE	0.077	16.17
BU	0.053	11.25
Total	0.130	27.41
Explained	0.285	59.87
Unexplained	0.191	40.13

The overall average log hourly earnings gap between the two groups is 0.475. Of this, 0.345 (73%) is due to the within-job difference (WE+WU); and 0.13 (27%) is due to the between-job difference (BE + BU). Both are positive. These results suggest that first, the within-occupation earnings difference and between-occupation earnings difference both work together to increase the earnings differentials between urban residents and migrants. Second, the within-job earnings difference is more crucial in determining the gap than the between job difference. As in China, in Vietnam, unequal pay within jobs is the main contributor to the lower earnings of rural migrants in the major cities. Meng and Zhang (2001) found that 82% of the average log hourly pay gap between urban residents and rural migrants was attributable to within-occupational wage differentials in China in the mid-1990s.

Of the within-job earnings difference, about 44% can be attributed to the explained within-occupational difference, WE and the remaining 29% to the unexplained within-occupational difference, WU. In other words, the difference in characteristics between urban residents and migrants contributes more significantly to the overall earnings differential than the differential returns or treatment within job (within-job 'discrimination'). Recall that the between-occupational difference (BE+BU) only accounts for 27% of the overall earnings disparity. Of this between-occupational difference, difference in personal characteristics (explained between-occupation difference, BE) accounts for 16% of the overall gap; while the unexplained between-occupation difference, BU (between-job 'discrimination'), accounts for only 11%.

Overall, the total explained part (WE + BE) due to differences in characteristics between urban residents and rural migrants accounts for about 60% of the overall pay gap. About 40% of the overall gap is attributable to the unexplained part (WU + BU), which is often associated with the overall 'discrimination' against rural migrants or in favour of urban residents. In other words, the characteristic difference, both within- and between-job, is more important than the 'discrimination' associated with unequal treatment.

5 Conclusions

This chapter examines the earnings differential between urban residents and migrants in the destination cities using the Vietnam Rural–Urban Migration Survey 2013 and the Vietnam Household Living Standards Survey 2012. On average, migrants have less potential experience and fewer years of schooling than urban workers. Most work in the private sector and few are married. More of them are female and they tend to earn less than their male counterparts. In line with the literature, I find that rural–urban migrants receive lower hourly earnings than their urban counterparts. In addition, urban residents are overrepresented in high-paying jobs such as professionals, while rural migrants tend to concentrate in low-paying occupations. The results from the Mincerian earnings equations that account for selectivity suggest that structural differences exist between locals and rural migrants. Positive selection exists for professionals in both groups. In addition, blue-collar workers with 'other jobs' are selected negatively, irrespective of their migration status. To consider the impact of occupational distribution on an individual's earnings, I estimate the occupational choice model using a multinominal logit equation. Explanatory variables such as whether any children are present in the household and education levels turn out to be the key determinants of occupational choice. For instance, education increases the likelihood of an individual, especially an urban resident, being a professional (relative to the reference group, 'Other jobs').

This chapter goes beyond the conventional decomposition methods to further investigate the extent of the earnings gap between the two groups that can be accounted for by differences in characteristics or differences in treatment (so-called 'discrimination') within occupations—and the extent to which it can be attributed to segregation between occupations. To this end, I apply the decomposition method of Brown et al. (1980).

The decomposition results show that the within-occupation earnings differential accounts for 73% of the overall gap and the remaining gap is attributed to the between-occupation earnings difference. Of the within-occupation earnings difference, difference in within-job characteristic difference is the key contributor (44%). The within-job unexplained difference accounts for the remaining 29%. In other words, unequal pay within an occupation as experienced by rural migrants in the major cities in Vietnam is mostly explained by characteristic differences between locals and migrants. Taking the within-occupational and between-occupational difference together, the explained component remains more important than the unexplained component in the overall earnings differential between the two groups (60% versus 40%). The findings suggest that policies to improve the human capital of migrants—such as investing in access to and the quality of education in rural areas—would narrow the education gap and, hence, raise the earnings of migrants relative to urban residents. With respect to the unexplained component (40%), while it is not as large as the explained component, it is not negligible. Specifically, the unexplained within-occupation part (29%) is much larger than the unexplained between-occupation part (11%) which measures the effect of occupation segregation. In other words, unequal treatment within job is more important than unequal

access across occupations. This implies that anti-discrimination policies to ensure equal pay in a particular occupation are perhaps more important than improving rural migrants' access to higher-paid jobs. The gradual relaxation of the conditions for rural migrants to apply for *ho khau* since 2007 may have attributed to the relatively less crucial role of unequal treatment received by migrants. The Vietnamese Government has recently tightened these conditions. How this recent shift in *ho khau* policies will influence the relative contributions of the explained and unexplained components to the overall earnings gap—as well as the relative shares of the within- and between-part of each component—could be an important research agenda that would inform the ongoing debate on the *ho khau* system in Vietnam. To this end, collecting data with a special focus on rural–urban migrants is essential to understand the impact on migrants' labour outcomes of the changing migration institutions over time.

Appendix

Table 8 Definitions of the main variables used in the earnings equation

Key variables	Definitions
Log hourly earnings	Hourly earnings of the main job, which include cash, bonuses, allowances and in-kind payments, and is in thousand dongs.
Potential experience	Age minus years of schooling minus 6 years of age
Potential exp^2	Square of potential experience
Gender	Male = 1 and 0 otherwise
Married	Marital status, with married = 1; 0 otherwise
Years of schooling	Years of schooling
State	If an individual works in state sector = 1; 0 otherwise
Private	If an individual works in private (domestic) enterprise = 1; 0 otherwise
Foreign-invested firms (reference group)	If an individual works in joint venture or 100% foreign-owned enterprise = 1; 0 otherwise
HCMC	If an individual resides in HCMC = 1; 0 otherwise
Hanoi	If an individual resides in Hanoi = 1; 0 otherwise
Other (reference group)	If an individual resides in Binh Duong or Dong Nai = 1; 0 otherwise
Presence of children	If any children (under 16 years of age) are in the household = 1; 0 otherwise
Professionals and office workers	If an individual works as a professional or technician or an office worker = 1; 0 otherwise
Production workers	If an individual works in production-related activities (e.g. skilled and unskilled manual workers, machine operators) = 1; 0 otherwise
Other occupation (reference group)	If an individual works in services and sales sector, or in military = 1; 0 otherwise

Table 9 Results of earnings equations for all, urban and migrant workers

	All		Urban workers		Migrant workers		Difference	
Independent variables	Coef.	Std err.	Coef.	Std err.	Coef.	Std err.	Coef.	Std err.
Male	0.223***	0.024	0.208***	0.037	0.233***	0.031	−0.025	0.048
Potential experience	0.027***	0.004	0.021***	0.006	0.028***	0.006	−0.006	0.008
Potential exp^2	−0.000***	0.000	−0.000***	0.000	−0.001***	0.000	−0.000	0.000
Married	0.075***	0.028	0.104**	0.046	0.041	0.036	0.063	0.057
Years of schooling	0.062***	0.004	0.069***	0.007	0.056***	0.005	0.013	0.009
State	−0.144***	0.040	−0.285***	0.066	−0.012	0.052	−0.272***	0.083
Private	−0.181***	0.034	−0.245***	0.064	−0.151***	0.039	−0.094	0.073
White-collar	0.298***	0.032	0.353***	0.054	0.219***	0.041	0.134**	0.067
HCMC	0.058*	0.032	0.134***	0.052	−0.003	0.041	0.137**	0.066
Hanoi	0.020	0.038	0.090	0.059	−0.065	0.049	0.155**	0.076
Migrant	−0.280***	0.027						
Constant	2.129***	0.071	2.068***	0.107	1.948***	0.083	0.120	0.134
No. of observations	1712		724		988		1712	
Adjusted R^2	0.450		0.444		0.294		0.457	
F-statistics	128.34		58.73		42.06		69.56	

Notes: The differences are derived from a pooled regression of rural migrants and urban workers. In addition to the variables in Table 8, all the variables are interacted with a dummy variable indicating whether an individual is a rural migrant. The coefficients and t-ratio for these interaction terms are reported in the column labelled 'Difference'

'***,' '**,' and '*' indicate 1, 5, and 10% significance levels, respectively

Table 10 Results of occupation-specific earnings equations for urban and migrant workers, accounting for selectivity

	Professional				Production workers				Other			
	Urban		Migrants		Urban		Migrants		Urban		Migrants	
Independent variables	Coef.	Std err.	Coef.	Std err.	Coef.	Std err.	Coef.	Std err.	Coef.	Std err.	Coef.	Std err.
Male	0.190***	0.058	0.576***	0.230	0.257***	0.058	0.283***	0.039	−0.064	0.136	0.318*	0.190
Potential experience	0.035**	0.018	0.057**	0.025	0.019**	0.009	0.029***	0.008	0.022	0.017	0.050	0.036
Potential exp^2	−0.001	0.000	−0.001	0.001	−0.000*	0.000	−0.001***	0.000	−0.000	0.000	−0.001	0.001
Married	0.104	0.089	0.137	0.142	0.080*	0.046	0.055	0.045	−0.199*	0.118	0.052	0.214
Years of schooling	0.037	0.031	−0.216	0.185	0.053***	0.016	0.003	0.012	0.069***	0.018	0.097**	0.040
State	−0.489***	0.097	−0.472	0.315	−0.060	0.087	−0.160	0.099	0.273	0.278	0.018	0.454
Private	−0.344***	0.106	−0.091	0.172	−0.128*	0.071	−0.141***	0.046	−0.130	0.245	−0.208	0.403
HCMC	0.278***	0.086	−0.274	0.289	0.033	0.060	−0.064	0.049	0.367**	0.151	0.441	0.441
Hanoi	0.172*	0.091	0.019	0.232	−0.049	0.075	−0.096	0.059	0.424**	0.185	0.723	0.494
Lambda	0.385**	0.169	1.664*	0.971	0.041	0.190	−0.705***	0.156	−0.518**	0.223	−1.357**	0.558
Constant	3.028***	0.541	7.530**	3.612	2.251***	0.131	2.262***	0.107	1.125**	0.507	−1.864	1.973
No. of obs	335		211		287		697		102		80	
Chi2(10)	126.02***		38.46***		76.22***		232.42***		62.49***		16.32*	

'***,' '**,' and '*' indicate 1, 5, and 10% significance levels, respectively

References

Binci, M., & Giannelli, G. C. (2012, April). *Internal vs. international migration: Impacts of remittances on child well-being in Vietnam*. IZA discussion paper no. 6523, Institute for the Study of Labor.

Brown, R. S., Moon, M., & Zoloth, B. S. (1980). Incorporating occupational attainment in studies of male–female earnings differentials. *Journal of Human Resources, 15*(1), 3–28.

Business Times. (2014, January 14). Vietnam CPI rises 0.69% in January: GSO. *Business Times*. http://businesstimes.com.vn/vietnam-cpi-rises-0-69-january-gso/

Dang, N. A. (2001). Rural labor out-migration in Vietnam: A multi-level analysis. In *Migration in Vietnam: Theoretical approaches and evidence from a survey*. Hanoi: Transport Communication Publishing House.

Dang, N. A., Tacoli, C., & Hoang, X. T. (2003). *Migration in Vietnam: A review of information on current trends and patterns, and their policy implications*. In Paper presented at the Regional Conference on Migration, Development and Pro-Poor Policy Choices in Asia, Dhaka, June.

Démurger, S., Gurgand, M., Li, S., & Yue, X. (2009). Migrants as second-class workers in urban China? A decomposition analysis. *Journal of Comparative Economics, 37*, 610–628.

Deng, Q., & Li, S. (2010). Wage structures and inequality among local and migrant and urban workers. In X. Meng, C. Manning, S. Li, & T. N. Effendi (Eds.), *The great migration: Rural–urban migration in China and Indonesia*. Cheltenham: Edward Elgar.

Dong, X.-Y., & Bowles, P. (2002). Segmentation and discrimination in China's emerging industrial labour market. *Chinese Economic Review, 13*(2–3), 170–196.

Frijters, P., Lee, L., & Meng, X. (2010). Jobs, working hours, and remuneration packages for migrants and urban residents. In X. Meng, C. Manning, S. Li, & T. N. Effendi (Eds.), *The great migration: Rural–urban migration in China and Indonesia*. Cheltenham: Edward Elgar.

Frijters, P., Gregory, R. G., & Meng, X. (2011). The role of rural migrants in the Chinese urban economy. In C. Dustmann (Ed.), *Migration: Economic change, social challenge*. Oxford: Oxford University Press.

General Statistics Office (GSO). (2011). *Migration and urbanisation in Vietnam: Patterns, trends and differentials—Vietnam population and housing census 2009*. Hanoi: Ministry of Planning and Investment, General Statistics Office.

Greene, W. H. (2010). *Econometric analysis*. Upper Saddle River, NJ: Pearson.

Jones, F. L. (1983). On decomposing the wage gap: A critical comment on Blinder's method. *The Journal of Human Resources, 18*(1), 126–130.

Knight, J., & Yueh, L. (2009). Segmentation or competition in China's urban labour market. *Cambridge Journal of Economics, 33*(1), 79–94.

Le, B. D., Tran, G. L., & Nguyen, T. P. T. (2011, January). *Social protection for rural–urban migrants in Vietnam: Current situation, challenges and opportunities*. CSP research report 08, Institute for Social Development Studies, Hanoi.

Lee, L. F. (1983). Generalized econometric models with selectivity. *Econometrica, Econometric Society, 51*(2), 507–512.

Lu, Z., & Song, S. (2006). Rural–urban migration and wage determination: The case of Tianjin, China. *China Economic Review, 17*(3), 337–345.

Meng, X., & Zhang, J. (2001). Two-tier labour markets in urban China: Occupational segregation and wage differentials between urban residents and rural migrants in Shanghai. *Journal of Comparative Economics, 29*, 485–504.

Mincer, J. (1974). *Schooling, experience and earnings*. Cambridge, MA: National Bureau of Economic Research.

Neumark, D. (1988). Employers' discriminatory behavior and the estimation of wage discrimination. *Journal of Human Resources, 23*, 279–295.

Nguyen, D. V. (2001). Urban savings and remittances in Vietnam. In N. A. Dang (Ed.), *Migration in Vietnam: Theoretical approaches and evidence from a survey*. Hanoi: Transport Communication Publishing House.

Niimi, Y., Pham, T.H., & Reilly, B. (2008, April). *Determinants of remittances: Recent evidence using data on internal migrants in Vietnam*. Policy research working paper no. 4586, World Bank Development Research Group, Trade Team.

Oaxaca, R. (1973, October). Male–female wage differentials in urban labor markets. *International Economic Review, 14*(3), 693–709.

Taylor, P. (2004). Introduction: Social inequality in a social state. In P. Taylor (Ed.), *Social inequality in Vietnam and the challenges to reform. Vietnam update series*. Singapore: Institute of Southeast Asian Studies.

Taylor, W. (2011, September 28). Vietnam's migrant workers: Greatest advantage, greatest challenge. *Weekly Insight and Analysis in Asia*. The Asia Foundation. http://asiafoundation.org/in-asia/2011/09/28/vietnams-26-million-migrant-workers-greatest-advantage-greatest-challenge/

White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica, 48*(4), 817–838.

Zhang, D. D. (2009). *Assimilation or dissimilation? The labour market performance of rural migrants in Chinese cities*. PhD Dissertation, Australian National University, Canberra.

Zhu, N., & Luo, X. (2010). The impact of migration on rural poverty and inequality: A case study in China. *Agricultural Economics, 41*(2), 191–204.

Social Networks and Employment Performance: Evidence from Rural–Urban Migration in Vietnam

Duc Anh Dang

Abstract This chapter considers the effects of social networks on the income and employment dynamics of rural–urban migrants in Vietnam. Estimation of a causal effect is challenging because unobserved factors affect both employment performance and social networks. I address this endogeneity problem by using the instrumental variable method. The results suggest that social networks improve migrants' incomes and make wage-earners willing to change their jobs.

1 Introduction

Social networks are considered an important informal mechanism through which information about job opportunities is transmitted. By solving information and commitment problems in environments where markets are inefficient, social networks bridge the informational gap between the worker and the firm by providing information on both sides, therefore reducing uncertainty and improving the match (Munshi 2011). Social networks are even more important to rural–urban migrants who find it difficult to adapt to the new environment and typically lack information about the host labour market and the characteristics of the jobs offered.

The significant role of social contacts in obtaining employment has long been recognised. However, less understood are the possible effects on subsequent wages or the decision of workers to change their employment position by using such networks. While positive wage effects derived from social networks are reported by some studies, this is not universal. For instance, Delattre and Sabatier (2007) find that, after correcting for selection bias on the wage equation, the effect of social networks on wages is negative. One explanation is related to training costs (Pellizzari 2010). Firms may want to spend extra effort to fill positions using formal rather than informal means when the posts require high training costs, which can result in high wages. A second explanation is based on the argument of job-seekers'

D. A. Dang (✉)
Department for Analysis and Forecast, National Centre for Socio-Economic Information and Forecast (NCIF), Ministry of Planning and Investment, Hanoi, Vietnam
e-mail: dang.ducanh@mpi.gov.vn

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_6

impatience. Those keen to find employment quickly may use informal contacts, sacrificing potentially higher wages from better matched positions for quicker entry into work (Bentolila et al. 2010). Given the ambiguous theoretical predictions about the impact of using informal contacts on subsequent wages, it is worthwhile to test the hypothesis empirically.

Empirical analyses of the effects of social networks have also been plagued by various conceptual and data problems. Many commonly used datasets lack information on the structure and composition of individuals' social networks. Analyses are further complicated by various endogeneity issues, such as the reflection problem and selection bias. A reflection problem arises when migrants' and networked migrants' outcomes are determined simultaneously, which inherently confounds the measure of the social network. Selection bias leads to a correlated unobservable problem when people tend to associate with others based in part on some unobserved group characteristics they favour. In such cases, an observed positive association between an individual's outcome and those of their associated network members may not be causal but rather due to some unknown factors that affect both social links and an individual's own labour market outcomes (for a review, see Munshi 2011).

The literature seeks to control as much as possible for the individual characteristics and economic conditions that could be correlated with networks and individuals' labour market outcomes. However, the obvious concern is that the unobserved variables remain unaccounted for. Observed individual characteristics such as age, education, and occupational experience may not capture traits such as initiative and diligence that play a critical role in determining the individual's market outcomes. Empirical studies of the effect of networks on labour market outcomes, for example, often use the number of friends or relatives in the city to measure the strength of the individual's network. If individuals with greater ability have a larger social network and also have better labour market outcomes, the relationship between networks and labour market outcomes could be driven by the unobserved ability effects. Studies using received help or the extent of social interaction to measure the network may suffer from potential selectivity bias, since we would expect more able individuals to receive more help or to be better connected and to do well in the labour market. Using fixed effects can fully capture constant unobservable individual characteristics, which may affect both networks and labour market outcomes but may fail to account for unobserved factors that vary over time.

This study seeks to improve our knowledge about the relationship between social networks and the labour market outcomes of rural–urban migrants in Vietnam using a novel source of internal migration data. Vietnamese labour market institutions are full of uncertainty and frictions. Hence, individuals rely heavily on informal channels to get better paid jobs. As far as I am aware, this study is the first empirical analysis investigating the importance of social networks in shaping migrants' income dynamics.

To explore the research questions, I use a question from the Vietnam Rural–Urban Migration Survey (VRUMS) to derive a novel proxy for social networks: the number of phone calls migrants made during the Lunar New Year in urban areas.

The analysis is carried out using linear regression models. I find that people who made more phone calls are also getting better paid jobs. In addition, wage-earners with extensive social networks exhibit more willingness to change from being a wage-earner to being self-employed.

However, the positive correlations observed here may not be causal due to potential measurement errors or the omitted variable problems discussed above. To address these potential endogeneity problems, I use historical weather-related disasters in rural sending regions as instruments for social networks. The inherent characteristics of weather-related disasters in the rural home villages of migrants provide a basis for the instrument's exogeneity. A weather-related disaster in the rural sending region would affect the expected agricultural output of the households exposed to it, and thereby impact on the migration decisions of members of rural households. Therefore, it is unlikely that weather-related disasters could impact on migrants' income at the destination other than through the social network.

The results from the instrumental variable (IV) approach suggest that the social network helps to improve labour incomes and makes migrants willing to change their job. To confirm the findings of the IV approach, I carry out some sensitivity tests on the validity of the instrumental variable. To address the concern about whether the exclusion restriction is satisfied, I perform a falsification test that examines the reduced-form relationship between weather-related disasters and incomes. The results confirm that social networks estimated by the IV approach have positive effects on income dynamics.

I begin, in Sect. 2, by reviewing the literature on the impact of social networks on incomes and describing the labour institutions encountered by migrants in Vietnam. Section 3 documents the data used. The identification strategy employed is discussed in detail in Sect. 4, which also reports the ordinary least squares (OLS) estimates of the relationship between social networks and the dynamics of income and employment. I then turn to the issues of causality in OLS estimates that control for an extensive set of observable characteristics, as well as the IV estimates. Section 5 concludes.

2 Literature Review and Institutional Background

2.1 Literature Review

There are numerous studies of the relationship between social networks and labour market outcomes (for a comprehensive survey, see Jackson 2010). Economists have highlighted the role of social ties in transmitting information on vacancies to unemployed individuals and in producing job referrals to employers. For example, Granovetter (1995) argues that many people find their jobs through social relations and not just through formal channels. Social networks allow individuals to gather better information about the availability as well as the characteristics of jobs when looking for work.

However, there is no consensus on the possible effects of social networks on subsequent wages. While Granovetter confirms the positive effects of social networks on incomes and the quality of job matching, other studies have not found the differences in incomes between those who seek jobs through formal channels and those who use social networks (such as Lin 1999; Mouw 2003; Franzen and Hangartner 2006). In addition, one of the empirical challenges is that the network is not observed. The literature often approximates the social network by using information on particular groups that are known to be socially cohesive and clustered in certain areas (e.g., ethnic minority groups). However, studies that use regression models to estimate the relationship between labour market outcomes and a proxy for the social network are likely to capture the geographical or ethnic proximity of individuals rather than networks (Topa 2001; Clark and Drinkwater 2002; Bayer et al. 2008; Patacchini and Zenou 2012).

There are few studies that use direct measures of the network. Cappellari and Tatsiramos (2010) draw information on the employment status of one's friends from the British Household Panel Survey. They find that transitions from unemployment into employment are positively correlated with the number of employed friends. Calvò-Armengol et al. (2009) create a network variable based on schoolmates using the National Longitudinal Survey of Adolescent Health. They find that an individual's position in the network is strongly correlated with their school performance. Wahba and Zenou (2005), who use population density to capture the size of networks in Egypt, find that density is positively correlated with the probability of finding a job through social networks. This is, however, happening up to a certain threshold, beyond which congestion effects exist and hence individuals in particularly dense areas are less likely to find a job through social networks. Another study, by Goel and Lang (2019), using data on recent arrivals to Canada finds that the impact on wages of obtaining a job through social networks is decreasing on their measure of network strength. Giulietti et al. (2010) use a direct measure of social networks—the self-reported number of greetings migrants make during the Lunar New Year to urban people—to explore the effect of social ties on wages. They find that employed migrants with a larger network can get better incomes.

2.2 Institutional Background

Over the past decade, internal migration in Vietnam has increased rapidly. During the period 2004–2009, there were 6.7 million individuals, or 8.6% of the population, aged five and older in Vietnam who changed their place of residence (GSO 2011). This figure is much higher than in the previous period, when only 6.5% of people aged 5 years and above migrated (GSO and UNDP 2001).

However, Vietnam has not had any special policies focusing on internal migration, and the role of internal migration in economic development has not been considered seriously. This stems in part from the fact that the issues affecting internal migrants are not under the jurisdiction of any specific government agencies. Only a

few local provinces, such as the major cities that attract a large amount of migration, have some policies to support and manage migrant workers (United Nations in Vietnam 2010). Therefore, migrants are regarded as a vulnerable group.

A significant portion of migrant workers have unstable jobs, particularly in the informal sector. Their basic incomes often do not meet their minimum living needs. They also have to pay higher prices for basic social services (Oxfam 2015). In 2007, the Residence Law relaxed some of the conditions migrants needed to meet when applying for permanent residence in the destination city, but household registration (*ho khau*) is still a requirement to gain access to public services and benefits programs. This creates substantial inconvenience for migrants because they normally do not have permanent residence and therefore have difficulties in accessing those services (ActionAid Vietnam 2012).

3 Data Sources and Description

The data used are from the Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013). The VRUMS is conducted by the Central Institute for Economic Management of the Ministry of Planning and Investment Vietnam with technical support from the Research School of Economics at Australian National University. The objective of VRUMS is to gather sample information on rural–urban migration in Vietnam, anchoring to the 2012 Vietnam Household Living Standards Survey (VHLSS2012). The survey intends to help understand the effects of large-scale rural–urban migration in the process of economic development and to assist the Vietnamese Government in formulating the right economic and social policies to facilitate the processes of rural–urban migration and urbanisation.

The VRUMS collects information from 869 households who have migrated from rural areas of Vietnam to the urban areas of Hanoi, Ho Chi Minh City (HCMC) and surrounding areas (Binh Duong and Dong Nai) for work purposes. Households are classified as migrant households if their members have a family relationship with migrants or are relatives of migrants or live with migrants and share their incomes and expenditure at the time of interview. These households come from the rural households observed in the VHLSS2012, which is a nationally representative survey undertaken biannually by the General Statistics Office of Vietnam (GSO).

The VRUMS is carried out in four rounds, corresponding to the four rounds of the VHLSS2012. It covers migrants who are currently in Hanoi or HCMC and those who used to be members of rural households but are currently in Hanoi or HCMC. It captures both long-term (more than 6 months) and short-term (6 months or less, such as temporary and seasonal) migrants who have not been fully considered in other surveys.

Another novelty of the VRUMS is that it includes questions about incomes from both the current job and the first urban job, which allows me to investigate the income dynamics of migrants. The survey also includes comprehensive information on household and personal characteristics, detailed health status, employment,

training and education of adults and children, social networks, family and social relationships, life events, and mental health measures of the individuals.

To investigate the social networks of migrants, I follow Giulietti et al. (2010) and use the number of phone calls migrants made to people living in urban areas during the Lunar New Year as a proxy for social networks. This information is, however, only provided by the respondent who is the head of the household, and hence only these individuals are included in the sample. The exact wording of the question is: 'During the last Lunar New Year, how many people in total did you send your greetings. Among them, _____ person(s) is (are) currently living in the city.'

To investigate the impact of social networks on employment transition, I use information from the question asking about migrants who are currently wage-earners and are reported to be thinking about changing their employment to run their own business. The exact question is: 'Have you ever thought of running a business of your own?' Respondents can answer 'Never', 'Never seriously because it would be very difficult' or 'Yes, I have'. I construct a measure that takes on the binary values of 0 and 1, where 0 corresponds to the responses 'Never' and 'Never seriously' and 1 corresponds to the response 'Yes, I have'. I then estimate a linear probability model. Another strategy is to estimate a logit model. As I discuss below, the estimates are qualitatively identical if I pursue this alternative strategy.

The summary statistics for migrant household heads are presented in Table 1. On average, migrants have about 10 years of education and left home more than 8 years before the survey. The percentage of females is quite small because only the household head—who is usually male—is considered in the sample under scrutiny. The migrants' current jobs are better paid than their first jobs in the city. More than one-third of current wage-earners are willing to change their job and run their own business. Regarding the network measure, each migrant has, on average, 12 contacts

Table 1 Summary statistics

Variables	Obs	Mean	Std Dev.	Min.	Max.
Log of change in current and first job incomes	560	0.59	0.96	−4.94	6.42
Thought about running their own business	511	0.35	0.48	0	1
Switching from informal to formal job types	555	0.11	0.48	−1	1
Years of schooling	546	9.66	2.95	0	12
Age	560	29.67	8.28	16	66
Gender	560	0.69	0.46	0	1
Minority	560	0.03	0.17	0	1
Working in state sector	559	0.12	0.32	0	1
Working in foreign sector	559	0.19	0.39	0	1
Number of urban calls made	485	11.53	20.82	0	270
Duration of stay in the cities	558	7.05	5.23	0.2	35
Most people can be trusted	540	0.13	0.34	0	1
Level of risk preference	540	5.25	1.79	0	10
Health of migrants	560	0.95	0.21	0	1

in urban areas. The variable of changing job types measures whether the migrants change from formal jobs (that means working under contract) to informal jobs (working without a contract). This variable will take the value of 1 when they change from informal to formal jobs and of −1 if they change from one informal job to another. The data show that migrants tend to switch from informal to formal jobs. Migrants' duration of stay in the city is, on average, more than 7 years. This figure may be substantially higher than that in other migration surveys because the VRUMS covers both short-term and long-term migrants.

4 Estimating Equations and Empirical Results

4.1 OLS Estimates

I begin by estimating the relationship between social networks and employment dynamics using the following baseline model:

$$Y_{ic} = \alpha + \beta Social\_network_i + X_i'\Gamma + Z_i'\Pi + \varepsilon_{ic}, \quad (1)$$

where i indexes the individual and c is the original community in rural regions. Y_{ic} denotes the two outcome measures: income dynamics and wage-earners wanting to become self-employed. $Social\_network_i$ represents the number of calls made to urban people during the Lunar New Year. β is the coefficient of interest as it indicates the relationship between the social network and change in the migrants' outcomes. I expect β to be positive and statistically significant. ε_{ic} is an exogenous labour demand shock, which reflects the idea that individual migrants from a given location could be endowed with specific skills that channel them into particular segments of the labour market even when networks are absent.

The vector X_i' controls a set of individual-level covariates, which includes age, age squared, years of education, a gender indicator, a dummy variable for ethnic minorities and dummies for being employed in state or foreign sectors. The vector Z_i' consists of other variables, such as duration of stay in the city and change in job types.

Given that the main explanatory variable, $Social\_network_i$, in Eq. (1) may have similar effects on people coming from the same sending commune in rural areas, in all regressions below, I clustered the standard errors for a potentially arbitrary correlation between individuals in the same commune of origin in rural areas.

Table 2 reports OLS estimates of the impacts of social networks on differences in migrants' incomes between the current and first city job. The income from the first job is adjusted for inflation to make the figures comparable across years because migrants arrived in the cities at various points of time. In Column 1, I estimate the relationship between the number of urban calls made with migrants' income dynamics. The estimates show that the number of urban calls made has a positive

Table 2 OLS estimates: relationship between number of urban calls and income dynamics

	(1)	(2)	(3)	(4)	(5)
Variables	Log of change in current and first job incomes				
Number of calls to urban people	0.003*	0.009**	0.009**	0.009**	−0.010
	(0.002)	(0.004)	(0.004)	(0.004)	(0.008)
Years of schooling	−0.009	−0.014	−0.017	−0.016	−0.016
	(0.014)	(0.015)	(0.016)	(0.016)	(0.017)
Age	0.111***	0.106***	0.083**	0.082**	0.075**
	(0.031)	(0.031)	(0.036)	(0.036)	(0.035)
Age squared	−0.002***	−0.002***	−0.001***	−0.001***	−0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Male = 1; w/o = 0	−0.089	−0.077	−0.071	−0.054	−0.054
	(0.094)	(0.094)	(0.095)	(0.098)	(0.100)
Minority = 1; w/o = 0	−0.377***	−0.393***	−0.401***	−0.377***	−0.395***
	(0.133)	(0.134)	(0.140)	(0.140)	(0.152)
State ownership = 1; o/w = 0	−0.118	−0.114	−0.105	−0.113	−0.136
	(0.113)	(0.112)	(0.113)	(0.114)	(0.116)
Foreign ownership = 1; o/w = 0	0.124	0.135	0.135	0.115	0.135
	(0.136)	(0.137)	(0.139)	(0.142)	(0.139)
Duration of stay in the cities			0.017	0.016	0.006
			(0.021)	(0.021)	(0.026)
Switching from informal to formal job types				0.107	0.088
				(0.094)	(0.096)
Number of urban calls × less than 3 years' stay in the cities					0.019**
					(0.007)
Number of urban calls × from 3 to less than 5 years' stay in the cities					0.015
					(0.011)
Number of urban calls × from 5 to less than 8 years' stay in the cities					0.028**
					(0.012)
Number of urban calls × from 8 to less than 12 years' stay in the cities					0.023
					(0.014)
Constant	−0.994**	−0.928*	−0.584	−0.608	−0.417
	(0.478)	(0.473)	(0.544)	(0.546)	(0.515)
Observations	470	466	465	461	461
R-squared	0.047	0.053	0.060	0.061	0.074

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

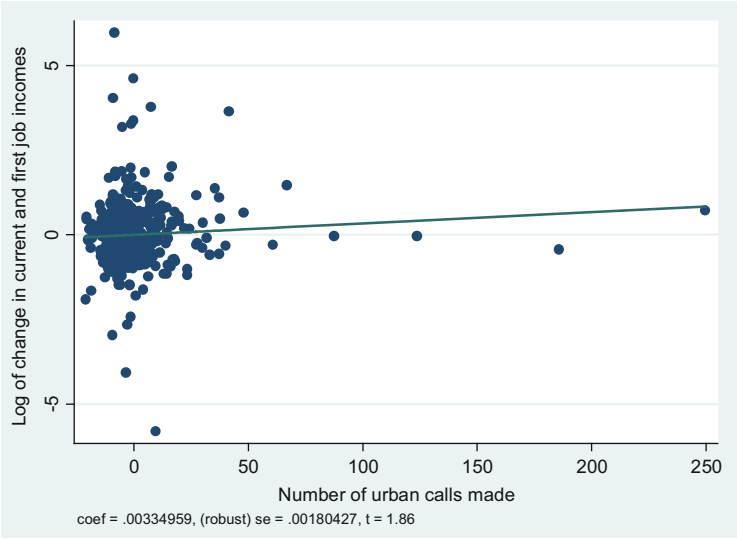


Fig. 1 Relationship between income dynamics and number of urban calls

impact on changes in migrants' incomes. This is consistent with the hypothesis that the social network positively affects an individual's income. At the same time, the coefficient is statistically significant. Realising that there are some outliers that may drive the results (see Fig. 1), in Column 2, I exclude migrants who made more than 100 calls. The effect of social networks is three times higher. The result indicates that one more contact on average is associated with a nearly 1% increase in income change.

Estimates of other variables are also consistent with the results from other studies and with expectations. People working in the foreign sector have higher increases in incomes. While the age and age squared variables both significantly influence changes in wages at the 0.05 significance level, the directions of the two effects are different. This implies a diminishing marginal effect of age.

Columns 3–5 of Table 2 report estimates of Eq. (1) with the additional controls included. In Column 3, I control for duration of migrants' stay in the cities. Network effects will depend on both their size and their duration, since migrants who have been in the city longer are more established and may have larger social networks. I also add the variables that measure the change in type of migrants' current and first jobs in the city. I classify the jobs with contracts as formal and code them as 1 and 0 otherwise. In the two last columns, I control for the interaction between the number of calls and different cohorts of duration of stay in the city. The results indicate that the number of urban calls brings more benefits to more established migrants, especially to those who stay in the city less than 3 years and from 5 to 8 years. Based on the estimates from Column 4, the point estimate for this cohort implies that one more contact on average is associated with a 0.9% increase in income changes,

which is equal to 10.6% of the sample average for the log of migrants' current incomes.[1]

OLS estimates examining the relationship between the number of urban calls and a willingness to run their own business are reported in Table 3.[2] The specification reported includes control variables similar to those in the income dynamics equation except I include the log of current incomes, which may affect the job decision of migrants. Except in the last column, the estimates indicate a positive and statistically significant relationship between social networks and the willingness of migrants who are current wage-earners to run their own business. Nonetheless, the coefficient of the number of urban calls in the last column has the same sign and magnitude as that in the first column. An increase in standard errors may reflect a loss of precision arising from significant attrition of observations when I add more control variables.

I also check for robustness to alternative estimation methods. Because the responses to the question about willingness to run their own business are binary, they may not be normally distributed. To overcome this problem, I use a logit model instead. The results from the logit model in Table 9 (refer Appendix) are qualitatively identical to our OLS estimates. The marginal effects are consistent with those estimated by OLS and statistically significant.

4.2 Identifying the Causal Relationship

To consistently estimate an OLS model, the explanatory variable of interest—the network size—should be uncorrelated with individual unobserved ability. This assumption, however, is very likely to be violated. These unobservable individual factors might be correlated with both incomes and willingness to run their own business as well as the network size, leading to biased and inconsistent estimates. The direction and magnitude of this bias depend on the partial correlation of the omitted variable with the error term. For example, if more productive individuals are more likely to have a larger network, the estimates of β will be biased upward. In addition, the wages and the network size may be mutually determined, leading to the simultaneity bias. For example, high income in the cities may provide an incentive for migrants to expand their network directly and/or may encourage more friends and relatives to migrate, hence enlarging their network indirectly. Another source of potential endogeneity to income dynamics is related to the timing of the survey. Respondents are typically required to give information on characteristics of their network that is specific to the time of the survey, but not to the period when individuals searched for or obtained their job. To the extent that the size of networks

[1]The mean of the log of migrants' current income is 8.44. The effect is calculated as 0.9/8.44 = 0.106 or 10.6% of the mean.

[2]The main reason for using OLS rather than other estimators such as logit is that the coefficients estimated by OLS are easier to interpret.

Table 3 OLS estimates: relationship between number of urban calls and employment transition

	(1)	(2)	(3)	(4)	(5)
Variables	Wage-earners wanting to run a business				
Number of calls to urban people	0.005***	0.005***	0.005**	0.004*	0.006
	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)
Years of schooling	0.098**	0.099**	0.130***	0.103**	0.100**
	(0.040)	(0.040)	(0.045)	(0.047)	(0.047)
Age	0.009	0.006	0.007	0.001	0.001
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)
Age squared	0.039***	0.025**	0.025*	0.020	0.021
	(0.012)	(0.013)	(0.014)	(0.013)	(0.014)
Male = 1; w/o = 0	−0.001***	−0.000**	−0.000**	−0.000*	−0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Minority = 1; w/o = 0	0.148	0.155	−0.013	−0.003	−0.012
	(0.123)	(0.123)	(0.127)	(0.129)	(0.127)
State ownership = 1; o/w = 0	−0.025	−0.039	−0.011	−0.041	−0.035
	(0.055)	(0.054)	(0.063)	(0.063)	(0.063)
Foreign ownership = 1; o/w = 0	−0.009	−0.015	−0.043	−0.056	−0.061
	(0.051)	(0.051)	(0.054)	(0.055)	(0.055)
Duration of stay in the cities		0.011***	0.011***	0.008**	0.007
		(0.004)	(0.004)	(0.004)	(0.005)
Switching from informal to formal job types			0.058	0.045	0.046
			(0.050)	(0.049)	(0.049)
Log of total income per month				0.159***	0.161***
				(0.055)	(0.055)
Number of urban calls × less than 3 years' stay in the cities					−0.004
					(0.006)
Number of urban calls × from 3 to less than 5 years' stay in the cities					−0.002
					(0.005)
Number of urban calls × from 5 to less than 8 years' stay in the cities					−0.004
					(0.006)
Number of urban calls × from 8 to less than 12 years' stay in the cities					−0.000
					(0.007)
Constant	−0.500**	−0.274	−0.276	−1.416***	−1.450***
	(0.196)	(0.209)	(0.230)	(0.462)	(0.469)
Observations	607	604	504	502	502
R-squared	0.052	0.070	0.081	0.095	0.096

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

is affected by labour market events, the estimated coefficient will be biased. Another problem with Eq. (1) is related to the measurement error of the network. This would affect the size of the network and has to do with imperfect recall and with the round numbers of contacts. Measurement error is expected to generate downward bias in the estimates.

In this section, I try to assess whether the correlations documented to this point are causal by using an instrument for social networks. For the regression of interest, one would need to find an instrument that is correlated with network characteristics but has no direct impact on income dynamics or willingness to run their own business. Origin characteristics that generate exogenous variation in the size of the migrant network but are uncorrelated with labour demand shocks at the destination could be valid instruments. I exploit the intensity of weather-related disasters in the migrants' origin location as an instrument. Under certain assumptions, weather-related disasters can be seen as an exogenous shock to the size of the migrant outflow from rural regions because the occurrence and destructive power of weather in a certain area are random.

There are numerous studies that find a relationship between migration behaviour and natural disasters (for a review, see Belasen and Polachek 2013). The reasoning behind this result is also intuitive. For example, weather-related disasters would decrease the expected agricultural output of the households exposed to it and thereby encourage members of these households to migrate. Consequently, being hit by a natural disaster will trigger an outflow of migration from rural regions. In other words, the higher the intensity of a natural disaster, the more rural households are likely to move to urban areas.

Rural households in Vietnam are exposed to many natural hazards that could potentially threaten their livelihoods. In addition, since the majority of households in rural areas rely on agricultural activities for income, they will experience fluctuations in agriculturally derived income from exogenous natural shocks such as drought, flood, pest infestation and livestock disease (CIEM et al. 2007). Here, I take rainfall variation as a proxy for the riskiness of the natural environment. The literature indicates that the year-to-year rainfall variations capture the effects of natural environmental hazards such as floods, typhoons and storms in Vietnam reasonably well. For example, Benson (1997) shows that typhoons are typically associated with heavy rainfall and strong winds. Each typhoon accounts for about 10–15%—and sometimes even more—of annual rainfall and causes flash flooding and landslides. Heavy rainfall causes rivers to fill and potentially results in flooding. Therefore, I expect the more typhoons, storms or natural disasters in general from which a region suffers, the more rainfall volatility it has.

The data on rainfall variability are obtained from weather stations in 87 districts collected by the Institute of Meteorology and Hydrology.[3] These stations are

[3]On average, there are 12 districts in each province. The area of each district ranges from 27.8 to 3677.4 km^2 and the mean is 660 km^2. For the period 1975–2006, the data are taken from Thomas et al. (2010).

allocated to capture the best variation of weather within regions. For the districts without stations, the conditions are assumed to be similar to those districts sharing a border that have a weather station. The reason for this strategy is that stations are expected to gauge significant weather disasters in the same geographic locations but different administrative regions. Therefore, weather data from one station can be used to measure neighbouring districts with similar conditions.

Monthly rainfall observations (from January to December) were available for each station over the 30 years from 1975 to 2006. For each month, I calculated the standard deviation over the 30 years for each station and obtained the average rainfall deviation of each station over 12 months to investigate year-to-year rainfall fluctuations. Specifically, consider rainfall variable x, station i, month m and year y, and define x_{imy} as the value of x in station i in month m in year y. For each month, m, I compute the standard deviation of x_{imy} over all years (denoted as s_{im}), which measures the month-specific variability of variable x in station i. To obtain a compound measure of year-to-year variability for station i, I average s_{im} over the 12 months.

The reason for considering weather-related disasters over a long period is two-fold: (1) the migration data cover both long-term and short-term migrants, with the longest duration of migrants in the cities being about 48 years. Therefore, the reasons for migrating may originate from historical natural shocks rather than present ones; (2) long-term rainfall variation may be closely related to other biogeographic conditions such as land quality and the ruggedness of terrain. All of these can have direct and indirect effects on agricultural incomes and living conditions for rural people that create incentives for migration.

To be even more cautious about the exogeneity, the working assumptions are set up in such a way as to make the IV estimates as reasonable as possible: (1) rainfall variation in rural regions is assumed not to affect any labour market conditions at the destination; (2) unobserved individual heterogeneity such as ability, preferences and health conditions is assumed to be uncorrelated with the intensity of natural disasters. These assumptions are important to ensure that the relationship between social networks and outcome variables is indeed causal.

Table 4 reports the results of the first-stage IV estimates. Because the distribution of weather-related disasters is highly left skewed, with a small number of observations taking large values, I report estimates using the natural log of the weather-related disasters measure. All the coefficients have the expected sign. The larger the weather-related disasters are, the higher will be the number of urban calls. All weather-related disaster coefficients are statistically significant.

The F-test for an excluded instrument is also reported. The F-statistics in Table 4 range from 5.72 to 9.47, suggesting that for some specifications there may be a potential concern about weak instruments. If a proposed instrument is not strongly correlated with the endogenous variables then the instrumental variable two-stage least squares (IV-2SLS) estimates may be somewhat biased towards OLS estimates (Bound et al. 1995; Staiger and Stock 1997). For this reason, I also use the LIML Fuller instrumental variable estimation method, which is a bias-corrected limited information maximum likelihood estimator and provides the better

Table 4 IV estimates: Impacts of number of urban calls on income dynamics (first stage)

	(1)	(2)	(3)	(4)
Variables	Number of calls to urban people			
Log of rainfall variation	7.630***	6.825***	6.078**	6.078**
	(2.479)	(2.452)	(2.537)	(2.540)
Male = 1; w/o = 0	−0.842	−0.678	−1.275	−1.264
	(1.144)	(1.212)	(1.284)	(1.288)
Age	0.652**	0.178	0.145	0.150
	(0.299)	(0.327)	(0.352)	(0.348)
Age squared	−0.009**	−0.003	−0.003	−0.003
	(0.004)	(0.004)	(0.005)	(0.005)
Minority = 1; w/o = 0	1.840	1.547	1.184	1.119
	(3.810)	(3.477)	(3.554)	(3.484)
Years of schooling	0.949***	0.863***	0.861***	0.860***
	(0.144)	(0.146)	(0.148)	(0.148)
State ownership = 1; o/w = 0		0.548	0.915	0.987
		(1.971)	(2.004)	(2.005)
Private ownership = 1; o/w = 0		−0.567	−0.835	−0.767
		(1.230)	(1.294)	(1.295)
Duration of stay in the cities		0.288**	0.263**	0.265**
		(0.111)	(0.125)	(0.125)
Level of risk preferences			0.588*	0.594*
			(0.350)	(0.352)
Most people can be trusted = 1			1.905	1.928
			(1.529)	(1.528)
Health of migrants				−0.928
				(2.236)
Constant	−55.309***	−42.789***	−40.463**	−39.690**
	(15.633)	(15.858)	(16.284)	(16.309)
Observations	467	465	447	447
F-test for excluded instrument	9.47	9.06	5.74	5.72

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

estimates for inference purposes when the instrument is potentially weak (Stock et al. 2002). The regression results in Table 10 (refer Appendix) provide similar estimates.

In the second stage, the estimated coefficients for social networks are significant and positive. The magnitude of the coefficient in the IV estimation does not change substantially if other controls are included, ranging from 0.072 to 0.089. The results in Column 4 of Table 5 show that the result is still significant when all other variables are controlled. The magnitude of the IV estimates is higher than those from the OLS estimates. One explanation for this is that the attenuation bias, resulting from measurement errors, leads OLS estimates to be biased towards zero, and IV results in an increase in the magnitude of the coefficient.

Table 5 IV estimates: Impacts of number of urban calls on income dynamics (second stage)

	(1)	(2)	(3)	(4)
Variables	Log of change in current and first job incomes			
Number of calls to urban people	0.072**	0.077**	0.089*	0.089*
	(0.035)	(0.039)	(0.047)	(0.047)
Male = 1; w/o = 0	−0.034	−0.017	0.065	0.064
	(0.120)	(0.128)	(0.151)	(0.151)
Age	0.067	0.071*	0.068	0.067
	(0.043)	(0.043)	(0.041)	(0.041)
Age squared	−0.001*	−0.001*	−0.001**	−0.001**
	(0.001)	(0.001)	(0.001)	(0.001)
Minority = 1; w/o = 0	−0.460	−0.488	−0.553	−0.543
	(0.287)	(0.305)	(0.361)	(0.355)
Years of schooling	−0.077**	−0.076**	−0.095**	−0.095**
	(0.036)	(0.037)	(0.043)	(0.043)
State ownership = 1; o/w = 0		−0.289	−0.379	−0.390*
		(0.215)	(0.232)	(0.235)
Private ownership = 1; o/w = 0		−0.098	−0.167	−0.177
		(0.164)	(0.163)	(0.164)
Duration of stay in the cities		−0.005	0.013	0.012
		(0.024)	(0.021)	(0.021)
Level of risk preferences			−0.039	−0.040
			(0.050)	(0.050)
Most people can be trusted = 1			0.007	0.004
			(0.202)	(0.203)
Health of migrants				0.133
				(0.266)
Constant	−0.273	−0.299	0.011	−0.100
	(0.678)	(0.730)	(0.748)	(0.772)
Observations	467	465	447	447

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

In addition, because the IV estimate mainly applies to the subgroup of individuals more affected by natural disasters, the IV estimate can be interpreted as a Local Average Treatment Effect (LATE) (Imbens and Angrist 1994). If the IV estimate is to be interpreted as a class of LATE, we must question the mechanism that explains how natural disasters influence migration and why network effects differ between individuals. One possible mechanism is that less able people (in terms of earning ability at the destination) are more responsive to natural disasters since they have relatively lower ability to compensate for losses due to those disasters. That is, people of lower earning ability are more likely to leave rural regions due to natural hazards. If this is the case, the IV estimate can be interpreted as a weighted average network effect and the weight for less able migrants is relatively higher.

Table 6 IV estimates: Impacts of number of urban calls on employment transition (first stage)

	(1)	(2)	(3)
Variables	Number of calls to urban people		
Log of rainfall variation	8.911***	9.162***	8.775***
	(1.994)	(2.092)	(2.100)
Years of schooling	0.775***	0.666***	0.693***
	(0.123)	(0.129)	(0.131)
Male = 1; w/o = 0	−0.569	−1.124	−1.116
	(0.979)	(0.972)	(0.970)
Age	0.592**	0.279	0.270
	(0.259)	(0.299)	(0.301)
Age squared	−0.008**	−0.005	−0.005
	(0.004)	(0.004)	(0.004)
Minority = 1; w/o = 0	−2.424	−2.247	−2.388
	(2.172)	(2.120)	(2.148)
State ownership = 1; o/w = 0	0.882	0.677	0.808
	(1.814)	(1.922)	(1.924)
Private ownership = 1; o/w = 0	−0.762	−1.029	−1.043
	(0.961)	(1.020)	(1.021)
Duration of stay in the cities		0.201**	0.207**
		(0.086)	(0.086)
Level of risk preferences		0.238	0.227
		(0.252)	(0.253)
Most people can be trusted = 1			1.679
			(1.188)
Constant	−59.772***	−56.493***	−54.509***
	(13.061)	(13.615)	(13.641)
Observations	607	568	568
F-test for excluded instrument	19.98	19.17	17.47

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

The IV results for the impacts of social networks on wage-earners' willingness to run their own business are also consistent with the expectation. The F-test for an excluded instrument reported in Table 6 is well above 10 showing that the instrument is strong. In Table 7, the result shows that one additional contact on average increases the probability of becoming self-employed by 0.04. In addition, all estimated coefficients for social networks are significant, indicating that an increase in social networks makes wage-earners more willing to run their own business.

4.3 Sensitivity Tests

The IV strategy employed in this chapter rests on the assumptions that weather-related disasters do not affect labour demand in the destination or migrants' earning

Table 7 IV estimates: Impacts of number of urban calls on employment transition (second stage)

	(1)	(2)	(3)
Variables	Wage-earners wanting to run a business		
Number of calls to urban people	0.046***	0.043***	0.041***
	(0.013)	(0.013)	(0.014)
Years of schooling	−0.022*	−0.020	−0.017
	(0.013)	(0.012)	(0.013)
Male = 1; w/o = 0	0.125**	0.146**	0.144**
	(0.057)	(0.059)	(0.058)
Age	0.015	0.012	0.012
	(0.016)	(0.017)	(0.017)
Age squared	−0.000	−0.000	−0.000
	(0.000)	(0.000)	(0.000)
Minority = 1; w/o = 0	0.249*	0.225*	0.214
	(0.131)	(0.131)	(0.131)
State ownership = 1; o/w = 0	−0.046	−0.085	−0.077
	(0.093)	(0.094)	(0.092)
Private ownership = 1; o/w = 0	0.043	0.018	0.015
	(0.060)	(0.063)	(0.062)
Duration of stay in the cities		0.007	0.007
		(0.006)	(0.006)
Level of risk preferences		0.009	0.009
		(0.015)	(0.014)
Most people can be trusted = 1			0.080
			(0.085)
Constant	−0.243	−0.227	−0.246
	(0.278)	(0.286)	(0.281)
Observations	607	568	568

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

ability and preferences. The first assumption is likely to be satisfied. I have not found any literature that documents weather-related disasters creating mass migration from rural regions that has a big impact on labour market conditions in the destination cities during the past 30 years. However, the second assumption may be violated. Some studies—such as Durante (2009), Dang (2012) and Cameron and Shah (2015)—show that natural disasters may change individual behaviours. They find that people who live in places with a higher frequency of natural disasters trust other people more. In addition, they tend to be more risk-averse. If trustworthiness and risk attitudes correlate with migrants' incomes then the IV estimates will be biased and inconsistent. Natural disasters also may affect the health of migrants. To test all of these possibilities, I control for several variables, including migrants' trust, risk preferences and health. The results are almost identical (see Columns 2 and 3, Table 5).

Table 8 Reduced form: Relationship between weather-related disasters and migrants' incomes

	(1)	(2)	(3)	(4)
Variables	Log of change in current and first job incomes			
Log of rainfall variation	0.549**	0.526**	0.540**	0.540**
	(0.261)	(0.250)	(0.266)	(0.266)
Years of schooling	−0.008	−0.009	−0.018	−0.018
	(0.014)	(0.016)	(0.015)	(0.015)
Age	0.114***	0.085**	0.081**	0.081**
	(0.031)	(0.035)	(0.031)	(0.031)
Age squared	−0.002***	−0.001***	−0.001***	−0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Male = 1; w/o = 0	−0.094	−0.070	−0.048	−0.049
	(0.091)	(0.096)	(0.094)	(0.094)
Minority = 1; w/o = 0	−0.328***	−0.369***	−0.447***	−0.444***
	(0.124)	(0.128)	(0.129)	(0.130)
State ownership = 1; o/w = 0		−0.246	−0.298*	−0.302*
		(0.161)	(0.153)	(0.155)
Private ownership = 1; o/w = 0		−0.142	−0.242**	−0.245**
		(0.139)	(0.117)	(0.119)
Duration of stay in the cities		0.018	0.036***	0.036***
		(0.021)	(0.013)	(0.013)
Level of risk preferences			0.013	0.013
			(0.025)	(0.025)
Most people can be trusted = 1			0.176	0.175
			(0.113)	(0.114)
Health of migrants				0.051
				(0.168)
Constant	−4.252***	−3.596**	−3.584**	−3.627**
	(1.621)	(1.476)	(1.581)	(1.600)
Observations	467	465	447	447
R-squared	0.048	0.060	0.108	0.108

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

Another way to test this likelihood is to estimate the reduced-form relationship between weather-related disasters and migrants' incomes. The estimation results are reported in Table 8. When I examine the reduced form, I find a strong positive and highly significant relationship between weather-related disasters and change in migrants' incomes. This correlation is consistent with the first and second stage IV estimates in Tables 4 and 5; individuals who migrate from regions with more weather-related disasters tend to have more extensive social networks and this in turn helps them find better jobs with higher incomes.

5 Conclusion

Despite the proliferation of research seeking to identify the mechanisms for and measure the magnitude of internal migration, little emphasis has been placed on probing the direct causal effects of migrant networks on labour market outcomes at the destination. This chapter explores the causal effects of the size of migrant networks on income and employment dynamics among migrants in Vietnam's major cities. It complements recent research on the effects of migrant networks on labour markets in other developing economies.

Controlling for the unobserved factors influencing the decision to migrate, identification is achieved through instrumenting the network size by the intensity of weather-related disasters occurring in the migrants' sending commune. The empirical results show that the size of the migrant network significantly improves the incomes of migrants and makes wage-earners more willing to run their own business.

The results of this chapter suggest that social networks help in overcoming some of the frictions present in the labour market. One possible channel for this is that the social network helps to reduce the asymmetric information between the employer and the employee, therefore improving job matches. The results also show that, although there is a stronger formalisation of job search channels in developing countries, for rural–urban migrants, personal contacts will still remain an important channel through which to obtain better paid jobs.

Acknowledgements I would like to thank Xin Meng, Yuk Chu (Amy) Liu and Ngoc Anh Nguyen for helpful comments on earlier versions of this chapter. I am also grateful to participants in the Study of Rural–Urban Migration in Vietnam with Insight from China and Indonesia Conference in Hanoi, Vietnam, for useful comments. This research is supported by Vietnam National Foundation for Science and Technology Development (NAFOSTED) under grant number 502.01-2015.

Appendix

Table 9 Logistic regression

	(1)	(2)	(3)	(4)
Variables	Wage-earners wanting to run a business			
Number of calls to urban people	0.017**	0.014*	0.033*	0.024
	(0.008)	(0.008)	(0.017)	(0.021)
Male = 1; w/o = 0	0.500**	0.378*	0.371	0.531**
	(0.219)	(0.227)	(0.228)	(0.249)
Years of schooling	0.034	0.003	0.004	0.009
	(0.041)	(0.040)	(0.041)	(0.041)
Age	0.206**	0.169*	0.182*	0.167*
	(0.103)	(0.099)	(0.101)	(0.099)

(continued)

Table 9 (continued)

Variables	(1)	(2)	(3)	(4)
	Wage-earners wanting to run a business			
Age squared	−0.003**	−0.003**	−0.003**	−0.003**
	(0.002)	(0.001)	(0.002)	(0.001)
Minority = 1; w/o = 0	0.716	0.795	0.742	−0.079
	(0.533)	(0.543)	(0.549)	(0.680)
State ownership = 1; o/w = 0	−0.174	−0.313	−0.260	−0.143
	(0.265)	(0.274)	(0.278)	(0.299)
Foreign ownership = 1; o/w = 0	−0.085	−0.143	−0.169	−0.297
	(0.254)	(0.257)	(0.260)	(0.273)
Duration of stay in the cities	0.055***	0.041**	0.033	0.039*
	(0.019)	(0.018)	(0.021)	(0.024)
Log of total income per month		0.779***	0.810***	0.790***
		(0.250)	(0.256)	(0.286)
Switching from informal to formal job types				0.249
				(0.229)
Number of urban calls × less than 3 years' stay in the cities			−0.009	0.005
			(0.027)	(0.030)
Number of urban calls × from 3 to less than 5 years' stay in the cities			−0.022	−0.013
			(0.025)	(0.028)
Number of urban calls × from 5 to less than 8 years' stay in the cities			−0.021	−0.017
			(0.020)	(0.023)
Number of urban calls × from 8 to less than 12 years' stay in the cities			−0.028	−0.017
			(0.020)	(0.024)
Constant	−4.89***	−10.32***	−10.74***	−10.40***
	(1.603)	(2.368)	(2.446)	(2.635)
Observations	605	601	601	503

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

Table 10 LIML Fuller IV estimates: Impacts of number of urban calls on income dynamics

Variables	(1)	(2)	(3)	(4)
	Log of change in current and first job incomes			
Number of calls to urban people	0.072**	0.074**	0.089*	0.089*
	(0.035)	(0.036)	(0.047)	(0.047)
Male = 1; w/o = 0	−0.034	−0.024	0.065	0.064
	(0.120)	(0.125)	(0.151)	(0.151)
Age	0.067	0.065	0.068	0.067
	(0.043)	(0.043)	(0.041)	(0.041)
Age squared	−0.001*	−0.001*	−0.001**	−0.001**
	(0.001)	(0.001)	(0.001)	(0.001)

(continued)

Table 10 (continued)

Variables	(1)	(2)	(3)	(4)
	Log of change in current and first job incomes			
Minority = 1; w/o = 0	−0.460	−0.482	−0.553	−0.543
	(0.287)	(0.299)	(0.361)	(0.355)
Years of schooling	−0.077**	−0.075**	−0.095**	−0.095**
	(0.036)	(0.037)	(0.043)	(0.043)
State ownership = 1; o/w = 0		−0.282	−0.379	−0.390*
		(0.213)	(0.232)	(0.235)
Private ownership = 1; o/w = 0		−0.106	−0.167	−0.177
		(0.161)	(0.163)	(0.164)
Duration of stay in the cities			0.013	0.012
			(0.021)	(0.021)
Level of risk preferences			−0.039	−0.040
			(0.050)	(0.050)
Most people can be trusted = 1			0.007	0.004
			(0.202)	(0.203)
Health of migrants				0.133
				(0.266)
Constant	−0.273	−0.191	0.011	−0.100
	(0.678)	(0.714)	(0.748)	(0.772)
Observations	467	466	447	447

Clustered standard errors are in parentheses
***, ** and * indicate significance levels of 1%, 5% and 10%, respectively, against a two-sided alternative

References

ActionAid Vietnam. (2012). *Phụ nữ di cư trong nước: Hành trình gian nan tìm kiếm cơ hội [Women's internal migration: A difficult journey to find opportunities]*. Hanoi: Luck House Graphics.

Bayer, P., Ross, S. L., & Topa, G. (2008). Place of work and place of residence: Informal hiring networks and labor market outcomes. *Journal of Political Economy, 116*(6), 1150–1196.

Belasen, A., & Polachek, S. (2013). Natural disasters and migration. In A. F. Constant & K. F. Zimmermann (Eds.), *International handbook on the economics of migration*. Edward Elgar Publishing.

Benson, C. (1997). *The economic impact of natural disasters in Vietnam*. Working paper. Overseas Development Institute.

Bentolila, S., Michelacci, C., & Suarez, J. (2010). Social contacts and occupational choice. *Economica, 77*(305), 20–45.

Bound, J., Jaeger, D. A., & Baker, R. M. (1995). Problems with instrumental variables estimation when the correlation between the instruments and the endogenous explanatory variable is weak. *Journal of the American Statistical Association, 90*(430), 443–450.

Calvò-Armengol, A., Patacchini, E., & Zenou, Y. (2009). Peer effects and social networks in education. *Review of Economic Studies, 76*(4), 1239–1267.

Cameron, L., & Shah, M. (2015). Risk-taking behavior in the wake of natural disasters. *Journal of Human Resources, 50*(2), 484–515.

Cappellari, L., & Tatsiramos, K. (2010). *Friends' networks and job finding rates*. CESifo working paper series 3243. Munich: CESifo Group.

Central Institute for Economic Management (CIEM), DOE, Institute of Labour Science and Social Affairs (ILSSA), & Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD). (2007). *Characteristics of the Vietnamese rural economy: Evidence from a 2006 rural household survey in 12 provinces of Vietnam*. Hanoi: Statistical Publishing House.

Clark, K., & Drinkwater, S. (2002). Enclaves, neighbourhood effects and employment outcomes: Ethnic minorities in England and Wales. *Journal of Population Economics, 15*(1), 5–29.

Dang, A. (2012). *Cooperation makes beliefs: Weather disasters and sources of social trust in Vietnam*. ANU College of Business and Economics working paper.

Delattre, E., & Sabatier, M. (2007). Social capital and wages: An econometric evaluation of social networking's effects. *Labour, 21*(2), 209–236.

Durante, R. (2009). *Risk, cooperation and the economic origins of social trust: An empirical investigation*. Job market paper. Brown University.

Franzen, A., & Hangartner, D. (2006). Social networks and labour market outcomes: The non-monetary benefits of social capital. *European Sociological Review, 22*(4), 355–368.

General Statistics Office (GSO). (2011). *The 2009 Vietnam population and housing census: Migration and urbanization in Vietnam—Patterns, trends and differentials*. Hanoi: Statistical Publishing House.

General Statistics Office (GSO), & United Nations Development Program (UNDP). (2001). *Census monograph on internal migration and urbanization in Vietnam*. Hanoi: Statistical Publishing House.

Giulietti, C., Guzi, M., Zhao, Z., & Zimmermann, K. (2010). *Social networks and the labour market outcomes of rural to urban migrants in China*. Working paper.

Goel, D., & Lang, K. (2019). Social ties and the job search of recent immigrants. *ILR Review, 72*(2), 355–381.

Granovetter, M. (1995). *Getting a job: A study of contacts and careers*. Chicago: University of Chicago Press.

Imbens, G., & Angrist, J. (1994). Identification and estimation of local average treatment effects. *Econometrica, 62*(2), 467–475.

Jackson, M. O. (2010). An overview of social networks and economic applications. In J. Benhabib, A. Bisin, & M. O. Jackson (Eds.), *Handbook of social economics*. Cambridge, MA: Elsevier.

Lin, N. (1999). Social networks and status attainment. *Annual Review of Sociology, 25*, 467–487.

Mouw, T. (2003). Social capital and finding a job: Do contacts matter? *American Sociological Review, 68*, 868–898.

Munshi, K. (2011). Labor and credit networks in developing economies. In J. Benhabib, A. Bissin, & M. O. Jackson (Eds.), *Handbook of social economics*. Cambridge, MA: Elsevier.

Oxfam. (2015). *Legal and practice barriers for migrant workers in the access to social protection*. Hanoi: Labor Rights Program of Oxfam in Vietnam.

Patacchini, E., & Zenou, Y. (2012). Ethnic networks and employment outcomes. *Regional Science and Urban Economics, 42*(6), 938–949.

Pellizzari, M. (2010). Do friends and relatives really help in getting a good job? *Industrial and Labor Relations Review, 63*(3), 494–510.

Staiger, D., & Stock, J. (1997). Instrumental variables regression with weak instruments. *Econometrica, 65*, 557–586.

Stock, J., Wright, J., & Yogo, M. (2002). A survey of weak instruments and weak identification in generalized method of moments. *Journal of Business and Economic Statistics, 20*, 518–529.

Thomas, T., Christiaensen, L., Do, Q. T., & Trung, L. D. (2010). *Natural disasters and household welfare: Evidence from Vietnam*. Policy research working paper no. WPS 5491. Washington, DC: The World Bank.

Topa, G. (2001). Social interactions, local spillovers and unemployment. *Review of Economic Studies, 68*(2), 261–295.

United Nations in Vietnam. (2010). *Di cư trong nước: cơ hội và thách thức đối với sự phát triển kinh tế-xã hội ở Việt Nam [Internal migration: Opportunities and challenges to socioeconomic development in Vietnam]*. Hanoi: United Nations.

Wahba, J., & Zenou, Y. (2005). Density, social networks and job search methods: Theory and application to Egypt. *Journal of Development Economics, 78*, 443–473.

Rural–Urban Migration and Remittances in Vietnam: Evidence from Migrant Tracer Data

Diep Phan and Ian Coxhead

Abstract We examine the remittance behaviour of rural–urban migrants in Vietnam using a unique dataset that links the 2012 round of the Vietnam Household Living Standards Survey (VHLSS) with a 2013 tracer study of migrants from VHLSS households. We estimate factors associated with remittances, taking migrant selection issues into account. Consistent with the altruism hypothesis for remittances, we find that remittance flows are larger when migrants have higher wages and less attachment to the destination, and when rural households have lower per capita earning capacity. We do not find support for a self-interest remittance motive. We also estimate the impacts of net remittances on per capita income in migrant-sending rural households, accounting for the endogeneity of remittances. We find that migration and remittances increase the incomes of rural households. However, the estimated direct income effects are small, and become smaller still as migrants become more established in their new place of residence. Members of ethnic minority groups gain far less than others from migration and remittances. More data and research are needed to broaden these assessments to include non-economic benefits and the costs of migration.

1 Introduction

Since the mid-1990s, most of Vietnam's new employment growth has taken place in or near a few major cities. Since a majority of the population still lives in towns and rural areas, migration for work has become increasingly common. According to census data, Vietnam's internal migration rate has approximately doubled each decade since the beginning of economic liberalisation and reform in the late

D. Phan (✉)
Department of Economics, Beloit College, Beloit, WI, USA
e-mail: phand@beloit.edu

I. Coxhead
Department of Agricultural and Applied Economics, University of Wisconsin-Madison, Madison, WI, USA

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_7

1980s, from about 2% in 1989 to 4% in 1999 and over 8% in 2009 (Phan and Coxhead 2010; GSO 2009). Over this time, farm employment has stagnated in absolute terms and, as a result, has fallen sharply as a share of the country's labour force, from over 70% in 1990 to about 50% by 2012. Migration destinations are highly concentrated: according to the 2009 Census, 63% of all interprovincial migrants over the previous 5-year period moved to or within the four-province Ho Chi Minh City (HCMC) metropolitan area, and another 20% moved to one of the other three large urban areas, Hanoi, Da Nang and Can Tho (GSO 2011).

Migration, in the Vietnamese context, serves the dual purpose of increasing the incomes of individual workers and, through the remittances they send back, spreading the gains from spatially concentrated economic growth to a broader population of non-migrants. From the perspective of a rural household, voluntary migration for employment should raise total household income (inclusive of migrants' income). Even if migration for employment reduces productive capacity at home, increased earning power on the part of the migrant in another location should more than compensate for the loss in rural income. Unforeseen shocks aside, the larger the earnings difference between destination and sending region, the more likely it is that migration will increase the incomes of origin households. The volatility of total household income may also be reduced through a broadening of the portfolio of occupations and sectors from which income is derived. The welfare of the migrant and of their origin household may, however, change by different amounts. Remittances determine the intra-household distribution of net monetary gains from migration. There are other costs to be borne as well: financial costs and risks, psychological costs when households divide and, since migrants are usually positively selected on ability, skills and entrepreneurial energy, a loss of human capital, at least temporarily, in the domicile. Remittances may also change behaviour—for example, by inducing changes in household labour supply, educational investments, or investments in other assets.

Recognising these links, modern theories of migration emphasise that migration decisions and remittances are jointly determined (see survey in Rapoport and Docquier 2006). One implication is that migrants are non-randomly selected from the population of those eligible to migrate and their motives for doing so—along with other characteristics more commonly included in empirical analyses of the migration decision—are important (McKenzie et al. 2010; Gibson et al. 2011). If the same factors that cause migrants to move also explain remittance-sending choices, there is an omitted variable problem. That is, without additional information, we cannot tell whether it is migration per se that changes outcomes for the origin family or some other underlying reason.[1] The selection issue can be addressed using instrumental variables (IV), but the set of candidate instruments—such as historical outmigration rates or job opportunities in destinations—is limited (Antman 2012). Some recent studies provide estimation strategies and results in support of a

[1]In fact, as Gibson et al. (2013) have pointed out, there are multiple selection problems: self-selection into migration; the decision of an entire household to move or to leave some members behind; migrants' decisions to return home; and the timing of migration decisions.

two-stage or integrated approach to estimation of the migration decision and the decision to send remittances (Garip 2012).

In the literature on rural–urban migration in Vietnam, there have been a number of studies examining the determinants and impacts of migration and remittances on household welfare and poverty and inequality. Some use data from migrant surveys, such as the 2004 Vietnam Migration Survey, which has detailed information on migrants and their families at the destination, but no data on the origin households (e.g. Niimi et al. 2009; Niimi and Reilly 2011). Others use data from the Vietnam Household Living Standards Survey (VHLSS), conducted by the General Statistics Office (GSO) of Vietnam in 1993, 1997, and every 2 years since 2002. These surveys provide detailed information on origin households. They also provide information on migrants and remittances, but, because it is provided by a rural household member and not by the migrants themselves, this information tends to be unreliable. Researchers using VHLSS data can exploit the panel dimensions of these surveys to identify and define migrants and then examine the impact of migration on changes in household per capita expenditure and other welfare measures. They typically find that migration and remittances help improve rural households' income or expenditure and so reduce poverty, but impacts on inequality are ambiguous.

Nguyen Viet Cuong (2009) uses the VHLSS 2002–04 and finds that both internal and international remittances increased the income and consumption expenditures of the recipients. A large portion of international remittances was used for saving and investment, while most internal remittances were used for consumption expenditure. Nguyen Viet Cuong et al. (2011) use the VHLSS 2004–06 panel and a difference-in-differences method with propensity score matching. They find that both work and non-work migration have a positive impact on the per capita expenditures of migrant-sending households and reduce the incidence, depth, and severity of poverty. Both types of migration reduce inequality, albeit very slightly. Similarly, Nguyen Duc Loc and Mont (2012) also used a difference-in-differences method with propensity score matching with data from 2008 to 2010 and found that migration contributed significantly to rural household income growth. Their data consisted of a random sample of 2200 households from three provinces, Dak Lak, Thua Thien Hue, and Ha Tinh. The survey also tracked 229 migrant household members of the surveyed rural households, who migrated to HCMC, Dong Nai, or Binh Duong. They also found that migration is more likely to be observed among households with high human and social capital endowments and among rural households that are financially better off. This suggests that migration might aggravate income disparities within villages. However, it might reduce disparities between provinces, because outmigration is more pronounced from provinces with fewer job opportunities.

De Brauw and Harigaya (2007) studied seasonal migration and household incomes in rural Vietnam between 1993 and 1997. They found that such migration added 5.2 percentage points to annualised household income growth, reducing rural poverty by 3 percentage points. Nguyen Thu Phuong et al. (2008) used VHLSS2004 data and reduced-form linear models to explore the effects of short-term and long-term migration on households, finding significant gains in household expenditure but also evidence of higher inequality in sending areas. Niimi et al. (2009) used a Tobit

model and data from the 2004 Vietnam Migration Survey to examine determinants of remittances. They found that remittances increased with migrants' earning potential and that migrants use remittances to help smooth consumption in origin households in the face of economic uncertainty. Using micro-data from a cross-sectional four-province migration survey, Phan (2012) explored links between migration and households' ability to overcome credit constraints that inhibit agricultural investments.

It is notable that none of these studies has successfully conducted a joint estimation of the determinants of migration and of remittances. As we shall see in the next section, the data requirements for an integrated analysis are formidable. In this chapter, we contribute to the literature on internal migration in Vietnam by examining the determinants of remittances, accounting for selection into migration. This is possible because we use a dataset that provides information both on migrant households and on their origin households. We also investigate the impact of remittances on per capita income in origin households, correcting for the potential endogeneity of remittance flows.

2 Data and Descriptive Statistics

Our data come from the Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013), conducted by Australian National University in coordination with the Central Institute for Economic Management (CIEM) of Vietnam. The survey collected data and information on 869 migrant households, whose heads (the migrants) were living and working in Hanoi or the HCMC cluster[2] in 2012. These migrants come from the rural household base of the large-sample VHLSS2012, which was undertaken by the GSO and covers 46,995 households, of which 33,480 were rural households. As a result, it is possible to link VRUMS2013 and VHLSS2012 to create an 844-observation dataset, in which each observation is one migrant–rural household pair.

Table 1 gives summary statistics on the net remittance variable, which is defined as the difference between remittances sent by migrants in the cities to origin households and remittances received by migrants from origin households in the 12-month period prior to the interview date. This variable takes a negative value when transfers from the origin household to the migrant exceed those received from the migrant. The table shows that a large percentage of migrant households (551 out of 762 households with reported net remittances, or 72%) have positive net remittances. Among those households, the average amount sent is VND14.1 million. This is about 16% of the average annual income of the migrant households (VND89 million) and 19% of the average annual income of the origin households (VND73.9

[2]We define the HCMC cluster as HCMC itself together with three neighbouring provinces: Binh Duong, Dong Nai and Ba Ria/Vung Tau.

Table 1 Summary statistics on net remittances

	No. of households	Average net remittance (VND million)	SD	Min	Max
Full VRUMS sample	869	9.4	19.23	−80	240
HHs with no reported value on net remittances	107	NA	NA	NA	NA
Households with negative net remittances	30	−19.2	22.63	−80	−0.2
Households with zero net remittances	181	0	0	0	0
Households with positive net remittances	551	14.1	19.72	0.2	240

Note: Net remittance is the difference between the amount sent by migrants to origin households and the amount sent by origin households to migrants; it takes a negative value if origin households send more than they receive
Source: Authors' calculations based on VRUMS2013 data

million). About 24% (181 out of 762) households have zero net remittances and 4% (30 out of 762 households) have negative net remittances. These results are similar to those obtained from the 2004 Vietnam Migration Survey by Niimi et al. (2009), who reported that 55% of migrants sent money home, and among those who remitted, the average share of remittances in migrant earnings was about 17%.

Table 2 shows net remittances by migrants' region of origin and by their current location. There is significant regional variation in average net remittances. Households in the Red River Delta receive the largest transfers from migrants (VND14.6 million, on average). This is as expected, given that the Red River Delta is in the Hanoi hinterland and migrants in Hanoi remit twice as much as migrants in HCMC, as will be discussed in more detail below. Similarly, households from the Northern Mountains region receive more than households in all other regions except the Red River Delta—again, presumably due to their proximity to Hanoi. Households from the Central Highlands receive the smallest transfers, which is also expected. It may also be the case that migrants from this region have low earning potential, so they are less able to remit.

Migrant households in Hanoi remitted about twice as much as those in the HCMC cluster (VND14.6 million versus VND7.7 million). This is in contrast with the result in Niimi et al. (2009), who reported that migrants living in HCMC remitted larger amounts than migrants in Hanoi. This suggests there might be important differences between these two groups of migrants in the VRUMS sample. Table 3 compares other characteristics of these two groups. Interestingly, there is no statistically significant difference in the monthly wages of migrants or in their annual family incomes,[3] yet the difference in net remittances is quite substantial. There are no

[3] Although migrants in Hanoi have much lower average annual family income than migrants in HCMC, the standard deviation of migrants in HCMC is very high.

Table 2 Net remittances by region of origin household and city of migrant household

	No. of HHs	Average net remittance (VND million)	SD	% of HHs with negative net remittance	% of HHs with zero net remittance	% of HHs with positive net remittance	Average net positive remittance (VND million)	SD
By region of origin household								
Red river delta	111	14.6	34.2	0	27.9	72.1	20.3	38.9
Northern mountains	80	11.5	13.3	0	21.3	78.8	14.6	13.4
Central coast	241	7.9	15.6	5	27.4	67.6	12.8	15.8
Central highlands	37	6.6	19.6	5.4	24.3	70.3	11.5	19.7
South-east	33	8.0	16.5	15.2	12.1	72.7	13.8	14.7
Mekong river delta	244	8.5	14.2	21.3	4.1	74.6	12.7	10.9
By city of migrant household								
Hanoi	183	14.9	28.7	1.1	26.2	72.7	20.6	31.8
HCMC cluster	563	7.6	14.7	4.8	23.3	71.9	12.0	13.2

Source: Authors' calculations based on VRUMS2013 data

Table 3 Hanoi and HCMC migrant samples

	Migrant households in HCMC cluster	Migrant households in Hanoi	t Statistic of mean difference
No. of households	600	269	
Average annual family income (VND million)	93	81	1.03
SD of annual income	(184)	(71.14)	
Average monthly wage of migrants (VND million)	5.4	5.3	0.24
SD of monthly wage	(7.7)	(4.5)	
Average age of migrant (also household head)	30.3	31.6	2.01
% of male migrants	0.68	0.73	1.49
% of married migrants	55%	60%	1.26
Average years of schooling	9.5	10.5	4.84
% of households with *ho khau* residence certificate	13.5%	27.8%	5.13
% of households with housing ownership in city	13.2%	21.1%	2.87
No. of years since migration to city	8.2	8.3	0.1
% of migrants with outstanding loans in origin	23%	14%	2.84
Average amount of outstanding loans (VND million)	10.8	6.8	1.04
SD of average loan amount	(52.3)	(27.03)	

Source: Authors' calculations based on VRUMS2013 and VHLSS2012 data

significant differences in terms of gender or marital status or the number of years living in the city. The migrant group in Hanoi is more educated (10.5 versus 9.5 years of schooling), which might simply reflect the national historical trend that the north of Vietnam is generally more educated than the south. Although the two migrant groups do not differ in the number of years since migrating to the city, Hanoi migrants are more likely to be permanent migrants: 27.8% of migrants in Hanoi have a local *ho khau* (residence certificate) against just 13.5% in HCMC, and 21.1% of migrants in Hanoi own a house in the city, against just 13.2% in HCMC. Finally, a higher percentage of migrants in the HCMC cluster has outstanding loans in their place of origin than in Hanoi (23% versus 14%), and the average amount of principal outstanding also seems higher (VND10.8 million versus VND6.8 million), although the difference is not statistically significant.

Table 4 compares important characteristics of the origin households of migrants in Hanoi versus those in HCMC (see Columns 1 and 2). There are no statistically significant differences in household size, number of children, or monthly per capita income. The origin households of HCMC migrants tend to have a lot more land under cultivation, reflecting the well-established fact that average farm sizes in the

Table 4 Incomes of VRUMS and non-VRUMS households in the VHLSS large sample

	Origin households of HCMC migrants	Origin households of Hanoi migrants	t Statistic of mean difference	Origin households of VRUMS migrants (Hanoi and HCMC)	Non-VRUMS rural households in VHLSS large sample	t Statistic of mean difference
Number of households	588	256		844	32,687	
Household size	3.77	3.68	0.85	3.75	3.9	2.79
Number of children	0.855	0.809	0.85	0.84	1.05	4.66
Monthly per capita income (VND million)	1.71	1.78	0.76	1.73	1.60	3.14
SD for average income	(1.23)	(1.31)		(1.3)	(1.66)	
Land (square metres)	4909	2463	4.84	4152	6344	6.18
SD for average land	(8039)	(2944)		(6968)	(10,106)	
Composition of sending regions (per cent)						
Red river delta	7.0	41.4		17.4	21.4	
Northern mountains	2.7	35.9		12.8	20.0	
Central coast	35.4	22.7		31.5	21.8	
Central highlands	6.5	0.0		4.5	6.8	
South-east	5.8	0.0		4.0	8.6	
Mekong river delta	42.7	0.0		29.7	21.4	
	100.0	100.0		100.0	100.0	

Note: There were 869 households in the VRUMS sample, but only 844 households could be matched to the VHLSS large sample
Source: Authors' calculations based on VRUMS2013 and VHLSS2012 data

south of Vietnam are larger than in the north. Given Vietnam's geography and historical migration flows, it is not surprising that all migrants in Hanoi come from the Red River Delta, the Northern Mountains, and the Central Coast regions, while

the majority of migrants in HCMC come from the Mekong River Delta and the Central Coast region.

In short, the main differences between the two migrant groups are that migrants in Hanoi send home a lot more remittances and they are also more likely to be permanent migrants with residence certificates and housing ownership. However, whether these are true differences or the result of sample selection bias during the surveying process remains unclear.

Table 4 also compares characteristics of VRUMS households and non-VRUMS rural households in the VHLSS large sample (see Columns 4 and 5). VRUMS households (i.e., households with migrants in Hanoi and HCMC) tend to be smaller in size, have fewer children, have higher monthly per capita income, and have less land than households without migrants.

3 Determinants of Remittances

3.1 Empirical Framework

Migration and remittance decisions can be modelled at either the individual or the household level. In this section, we treat them as individual decisions and use the following framework to simultaneously study the decision to migrate and the decision to remit:

$$M_i = \boldsymbol{\beta}_{\mathbf{m}}{}'\mathbf{Z}_{\mathbf{m}} + \varepsilon_m \tag{1}$$

$$R_i = \boldsymbol{\beta}_{\mathbf{r}}{}'\mathbf{Z}_{\mathbf{r}} + \varepsilon_r, \tag{2}$$

where i indexes rural residents who are *potential* migrants, M_i is an indicator for whether the rural resident migrates, and R_i is the net amount remitted by the migrant, given the migration decision. Note that R_i is observed only if the rural resident migrates. $\mathbf{Z_m}$ is a vector of all household and individual characteristics that affect the migration decision, while $\mathbf{Z_r}$ includes all migrant and household characteristics affecting the amount remitted. $\mathbf{Z_m}$ and $\mathbf{Z_r}$ can be overlapping, but some components of $\mathbf{Z_r}$ are not in $\mathbf{Z_m}$ (such as the wage or income of the migrants).

Given adequate data, the above pair of equations can be estimated using the Heckman sample selection method. However, it is common practice to estimate Eq. (2) only, due to lack of data. Migration surveys usually collect data *either* on migrants *or* on their origin households. In the former case, researchers do not have data on those who did not migrate, making estimation of (1) impossible. This has been the case in previous studies of the welfare impacts of migration in Vietnam. Unless those who migrate are randomly chosen from the population of potential migrants (which seems highly unlikely), this approach is likely to be the source of sample selection bias.

Although our linked VHLSS–VRUMS dataset has information on both migrants and origin households, we still lack the data on the relevant non-migrant cohort required to estimate Eq. (1). That is because migrants in the VRUMS sample left their origin households at various points prior to the survey year, 2012, so the relevant non-migrant cohort is not the same for all migrants. For example, migrants who left in 2008 should be compared with non-migrant individuals in the same year, 2008, but these are not the same individuals as the non-migrants found in the VHLSS2012 sample.

Furthermore, due to sampling errors, those migrants captured by the VRUMS are not necessarily a random sample from the population of migrants of VHLSS households. For now, we assume that the VRUMS team successfully identified migrants to Hanoi and HCMC from the VHLSS sample, and that migrants missed by the VRUMS team were random, so that estimating Eq. (1) is equivalent to running a probit regression on whether a VHLSS rural household is in the VRUMS.[4] If this sample is not random then all estimates could be biased. We guess that if the VRUMS team did indeed miss migrants in a systematic way, it's most likely they missed the less successful migrants (those with low-paid informal sector jobs or no job at all), so we may be able to make some informed guesses on the direction of bias in the estimates.

With these important caveats in mind, we use the Heckman selection method. For the first stage, we estimate Eq. (1), the selection equation, as a probit of whether a VHLSS rural household has a migrant in either Hanoi or the HCMC cluster in 2012—that is, whether a VHLSS rural household is in the VRUMS sample. To satisfy the exclusion restriction, the identifying instruments for the selection equation are origin households' poverty status in 2007 and an ethnic minority dummy. Both of these variables are statistically significant and have large magnitudes in the selection equation, but they are not statistically significant in Eq. (2), the outcome equation.

3.2 Explanatory Variables and Sample Size

Explanatory variables in the vector $\mathbf{Z_m}$ for the selection equation include various rural or origin household characteristics. They include an ethnic minority dummy, a dummy for being a poor household in 2007, household head age, gender, schooling years, and regional dummies. The ethnic minority dummy and household poverty status in 2007 are the identifying instruments for the selection equation because they are not statistically significant in the outcome equation but are important determinants in the selection equation.

[4]The dependent variable for this probit equals 1 if a rural VHLSS household is in the VRUMS—that is, if this household sends a migrant to either Hanoi or HCMC. It equals zero otherwise.

Table 5 Explanatory variables for estimating determinants of net remittances

Variable name	Description or definition	Expected sign	Mean (SD)
(a) Explanatory variables from VRUMS			
Hanoi dummy	= 1 if migrant is in Hanoi; 0 if migrant is in HCMC cluster	?	0.01 (0.46)
Migrant monthly wage	Measure of capacity to send remittances (VND million)	+	5.4 (6.9)
Formal job dummy	= 1 if migrant's job has unemployment insurance, injury insurance, or pension	+	0.44 (0.5)
Migrant outstanding loan amount	In VND million	+	13.3 (114)
Children in migrant household	No. children in migration household	−	0.4 (0.7)
Migrant gender	= 1 if male	+	0.7 (0.7)
Migrant age	Age of migrant in years	+	30 (9)
Migrant education years	Schooling years (0 through 12)	+	9.8 (2.8)
Migration length	Years in city since migration	−	8.2 (7.3)
Housing dummy	= 1 if migrant owns a house at destination	−	0.15 (0.36)
Ho khau dummy	= 1 if migrant has registered his/her residence at destination	−	0.18 (0.38)
Migrant no. of siblings	No. siblings in migrant's origin family	−	3.6 (2.1)
Oldest child dummy	= 1 if migrant is oldest child in family	?	0.23 (0.45)
(b) Explanatory variables from VHLSS			
Children in origin household	No. children in origin household	+	0.91 (0.95)
Per capita land	Cultivated land per person (*1000 m^2) of origin households	?	1.2 (1.8)
HH head gender dummy	= 1 if head of origin household is male	?	0.81 (0.39)
HH head age	Age of head of origin household	+	51.2 (11.8)
HH head education years	Years of schooling (0 through 12) of origin household head	+	7.4 (3.3)
Regional dummies	Northern mountains, central coast, central highlands, south-east, Mekong river delta (omitted: Red river delta)		

Source: Authors' calculations based on VRUMS2013 and VHLSS2012 data

Explanatory variables in the vectors $\mathbf{Z_r}$ for the outcome equation are listed in Table 5a, b, along with the signs of their expected impacts on net remittances and their means and standard deviations. Migrants send remittances for many reasons.

These include altruism, insurance, bequests, loan repayments, and exchange (Lucas and Stark 1985; Townsend 1994). If altruism is the motivation, remittances should be positively associated with migrant income and working conditions (monthly wage, formal employment status) or whether the migrant is the oldest child (which in Vietnamese culture implies greater family responsibility). We expect remittances should be lower if there are more children in the migrant households, and higher if there are more children in the origin households. They should be negatively associated with income and wealth (such as agricultural land per capita) in the origin household.[5]

Self-interest, rather than altruism, can also be a motivation to remit. In this case, the migrant might send remittances because they anticipate returning home in the future and need to invest or build a reputation and network linkages. They might also have an aspiration to inherit origin family assets. According to this theory, remittances should be positively associated with the origin household's assets: the wealthier the origin household, the greater is the expected value of the inheritance, so migrants would send more remittances in the hope of receiving a larger share of the inheritance. The probability of inheritance (number of siblings, oldest child dummy) is also likely to be important in the self-interest case.

Regarding sample size, we were able to link 844 VRUMS households (out of the original VRUMS sample of 869 households) to a corresponding number of VHLSS rural households (out of the original VHLSS sample size of 33,480 rural households). However, many explanatory variables in both surveys have missing values. As a result, the sample size for estimation is limited to 642 VRUMS households, linked to a reduced VHLSS sample of 33,329 rural households.

3.3 Results

Before discussing the results, we must re-emphasise two important points. First, all results derived from the VRUMS data refer to migration from rural areas of Vietnam to Hanoi and the HCMC cluster only. We cannot draw any robust inferences about the determinants or impacts of migration and remittances of rural–urban migration in Vietnam in general. That said, in the 2009 Census, migration to Hanoi and the HCMC cluster accounted for 65% of total internal migration. Second, as also discussed above, our estimates are likely to be biased if the VRUMS team was less successful in tracing migrants who have obtained low-paid informal sector jobs, or no job at all, or who have in other ways had less satisfactory migration outcomes leading to lower earnings. If this is the case, we expect that for variables with

[5] Although we have data on origin households' income, this variable is not exogenous because of simultaneity, so we do not include it as an explanatory variable.

Table 6 Determinants of net remittances: Heckman model

Dep. var.: Net remittances	Estimate	SE	t-stat	p-value
Migrant in Hanoi = 1	6.070	1.701	3.57	0
Migrant monthly wage	1.261	0.156	8.08	0
Migrant formal job = 1	2.702	1.117	2.42	0.016
Migrant outstanding loan	0.055	0.006	8.61	0
Migrant no. children in HH	−2.552	0.928	−2.75	0.006
Migrant male = 1	2.094	1.170	1.79	0.074
Migrant age	−0.032	0.079	−0.4	0.689
Migrant education years	−0.088	0.225	−0.39	0.695
Migrant minority = 1	−4.694	3.270	−1.44	0.151
Migrant years since moved	0.213	0.099	2.15	0.032
Migrant own house = 1	−6.402	1.977	−3.24	0.001
Migrant residence cert. = 1	−3.447	1.992	−1.73	0.084
Migrant no. siblings	0.260	0.288	0.9	0.367
Migrant birth order	−0.105	1.255	−0.08	0.933
Origin HH head male = 1	1.778	1.869	0.95	0.342
Origin HH head age	0.162	0.060	2.71	0.007
Origin HH head education years	0.085	0.237	0.36	0.721
Origin HH no. children	1.295	0.612	2.11	0.034
Origin HH land per capita	−0.418	0.303	−1.38	0.167
Constant	−85.150	7.452	−11.43	0
Selection equation: Dep. Var. = VRUMS dummy				
Origin HH minority = 1	−0.410	0.060	−6.81	0
Origin HH poor in 2007 = 1	0.132	0.043	3.07	0.002
Origin HH head male = 1	0.104	0.044	2.36	0.018
Origin HH head age years	0.004	0.001	2.91	0.004
Origin HH head education years	0.023	0.005	4.34	0
Constant	−2.966	0.129	−22.95	0

LR test of independent equations (rho = 0): Chi2 = 93.48; p-value = 0
censored observations: 32,687
uncensored observations: 642
Notes: Dependent variable (first equation) is measured in VND million. Region dummy variables included in both equations but not reported
Source: Authors' calculations based on VRUMS2013 and VHLSS2012 data

expected positive coefficients, the estimates obtained are biased upward, while for variables with expected negative coefficients, the bias will be downward.

Results from Heckman estimations of Eqs. (1 and 2) are given in Table 6. The likelihood ratio test rejects the null hypothesis that the two equations in Table 6 are independent (the Chi-square statistic is 93.49; its p-value is essentially zero). For comparison, we also report ordinary least squares (OLS) estimates of Eq. (2), in Table 7. Comparing Tables 6 and 7, the OLS estimates tend to be larger than the Heckman estimates. The OLS estimate of one important variable, migrants' monthly wage, is almost twice as large as in the Heckman estimate. For some variables

Table 7 Determinants of remittances: OLS regression

Dep. var.: Net remittances	Estimate	SE	t-stat	p-value
Migrant in Hanoi = 1	6.859	2.008	3.42	0.001
Migrant monthly wage	2.130	0.693	3.07	0.002
Migrant formal job = 1	2.227	1.447	1.54	0.124
Migrant outstanding loan	0.051	0.006	9.06	0
Migrant no. children in HH	−3.363	0.970	−3.47	0.001
Migrant male = 1	2.494	1.283	1.94	0.052
Migrant age	−0.075	0.083	−0.9	0.369
Migrant education years	−0.230	0.238	−0.97	0.335
Migrant minority = 1	0.954	2.646	0.36	0.719
Migrant years since moved	0.152	0.129	1.17	0.241
Migrant own house = 1	−8.556	2.654	−3.22	0.001
Migrant residence cert. = 1	−1.606	2.766	−0.58	0.562
Migrant no. siblings	0.341	0.281	1.21	0.226
Migrant birth order	0.087	1.468	0.06	0.953
Origin HH head male = 1	−0.646	1.612	−0.4	0.689
Origin HH head age years	0.072	0.050	1.44	0.152
Origin HH head education years	−0.467	0.224	−2.08	0.038
Origin HH no. children	1.461	0.663	2.2	0.028
Origin HH land per capita	−0.229	0.533	−0.43	0.668
Constant	−1.539	4.728	−0.33	0.745
No. obs: 642				
R-squared: 0.418				

Notes: Dependent variable is measured in VND million. Regional dummy variables included but not reported
Source: Authors' calculations based on VRUMS2013 and VHLSS2012 data

(residence status or having a formal job), OLS estimates are not statistically significant while Heckman estimates are. These important differences in results confirm that estimation of remittances must take sample selection issues into account. This finding accords with Garip (2012), who also uses an integrated approach to jointly estimate the migration and remittance decisions and finds that the empirical results and conclusions can be considerably different once selection into migration is considered.

The Hanoi dummy is positive, large, and statistically significant, which is not surprising given the descriptive analysis earlier. It remains a puzzle why migrants in Hanoi remit so much more than their counterparts in the HCMC cluster, even after controlling for wages and many characteristics of migrant and origin households.

Male migrants remit twice as much as female migrants, but other migrant characteristics such as age and education do not have statistically significant impacts. The influence of education is most likely felt through its effect on migrants' earning potential, which is already controlled for in this regression.

The two variables that measure a migrant's capacity to send remittances (migrant monthly wage and formal job dummy) have positive signs as expected and indicate

that the better the migrant's job or earnings, the greater are the remittances sent. A migrant employed in the formal sector sends VND2.7 million more per year than one without a formal job, other things being equal. An increase of VND1 million in the migrant's *monthly* wage increases annual remittances by about VND1.3 million, yielding a remittance–earnings elasticity of 0.73 at the sample means. This is higher than the remittance–earnings elasticity computed in Niimi et al. (2009) for Vietnamese migrants to Hanoi, HCMC, and Quang Ninh.[6] This elasticity, however, is small when compared with the remittance–earnings elasticity of Chinese migrants found in Liu and Reilly (2004) and other studies. But, as noted earlier, if the VRUMS sample is not random and misses some (or many) migrants who are less successful economically, our estimate of the impact on remittances of the migrant's monthly wage is probably biased upward. Even so, we cannot predict whether the remittance–earnings elasticity from a random sample would be larger or smaller than computed above, because if a random sample included a larger fraction of less-successful migrants, mean wages and remittances in that sample would also be lower. Without more information on earnings and remittance behaviour across the migrant income distribution, we cannot predict whether this ratio would be larger in a random sample, or smaller.

A migrant's number of siblings and the dummy for being the eldest child do not have any statistically significant impacts on remittances. These results do not lend support to the conjecture that remittances are motivated by self-interest.

Results on the numbers of children in migrant households in the city and at the origin are as expected, with the former variable taking a positive sign and the latter a negative sign; both are statistically significant.

Housing and residence dummies both measure the migrant's attachment to the destination (or their lack of attachment to the origin). Again, the results are as expected. Net remittances are smaller when the migrant has registered their residence at the destination and when the migrant owns a house at the destination. A migrant who owns a house at the destination sends VND6.4 million less per year than one without a house. A migrant who has acquired an urban *ho khau* (that is, who has registered their residence in the city) sends home VND3.5 million less per year than one who has not. This result accords with the findings of Niimi et al. (2009) for Vietnamese migrants and of Liu and Reilly (2004) for Chinese migrants. Although residence status is associated with lower remittances, the number of years living in the city is associated with a very slightly higher level of remittances. One more year in the city is associated with an increase of VND210,000 in remittances sent.

The loan coefficient is positive and statistically significant as expected, but it is very small. A VND1 million increase in the size of the migrant's outstanding loan is associated with just VND50,000 more per year in net remittances.

In the selection equation, the ethnic minority dummy is negative, suggesting that minority groups are less likely to have migrants in either Hanoi or HCMC. This result confirms the familiar finding that members of ethnic minority groups are

[6]In Niimi et al. (2009), an increase of VND1 million in migrants' monthly income raises annual remittances by VND600,000.

participating at a much lower rate in Vietnam's economic growth and transformation than their ethnic majority counterparts. Also in the selection equation, a household's poverty status in 2007 has a positive association with being in the VRUMS or with the likelihood of having a migrant in either Hanoi or HCMC. This suggests that migration and remittances may be poverty-reducing, as poor households are more likely to have migrants in Hanoi and HCMC—in the VRUMS sample, at least.

In summary, using the VRUMS–VHLSS dataset, we are able to study the determinants of remittances, controlling for the characteristics of both migrants and their origin households. We are also able to (imperfectly) control for sample selection issues. As a result, our estimates may suffer less from omitted variable biases or sample selection biases than other studies of remittances in Vietnam. Most of our estimates accord with prior expectations. One puzzling finding is the substantially higher amount remitted by migrants in Hanoi even after controlling for earnings and other important characteristics. Further research is needed to explain this interesting finding.

4 Impacts of Remittances on Origin Households

4.1 Theoretical Impacts

The expected impact of remittances on rural household income is ambiguous. This relationship should depend on the household's livelihood strategy and how remittances fit into this strategy. When households send out migrants, they lose a productive (or potentially productive) member of the family labour force and, as a result, the household enterprise may either earn less or incur extra costs by hiring labour to replace the migrant. The resulting drop in net income of the sending household may or may not be offset by remittances, depending on how large the remittances are and how they are used. If the household's strategy is to use remittance income to substitute for traditional sources of rural earnings (farming, non-agricultural businesses, etc.) to increase and/or diversify income, migration and remittances should have no impact on other income-generating activities other than through the loss of household labour. But, according to the New Economics of Labour Migration, households might also use migration as a way to overcome credit constraints and/or obtain funding to finance investments in agriculture or non-agricultural businesses. In that case, we should see a positive impact of remittances on income from other activities as well.

4.2 Empirical Framework, Explanatory Variables, and Sample Size

If migration were not merely an individual choice but also a household decision, an ideal empirical framework with which to study the determinants and impacts of migration and remittances would involve using household-level data to estimate the following system of three equations:

$$M_h = \boldsymbol{\alpha}_{\mathbf{m}}{}'\mathbf{X}_{\mathbf{m}} + \varepsilon_m \tag{3}$$

$$R_h = \boldsymbol{\alpha}_{\mathbf{r}}{}'\mathbf{X}_{\mathbf{r}} + \theta M + \varepsilon_r \tag{4}$$

$$Y_h = \boldsymbol{\alpha}_{\mathbf{y}}{}'\mathbf{X}_{\mathbf{y}} + \gamma_1 M + \gamma_2 R + \varepsilon_y, \tag{5}$$

where h indexes rural households who can potentially send out migrants. M_h is a measure of migration at the household level—either the number of migrants or a binary migration indicator. R_h is net remittances received by the origin household (and can be negative if the origin household sends money to the migrant). Y_h is some measure of welfare in the origin household—for example, income, expenditure, agricultural productivity, or investments in children's education. $\mathbf{X_m}$ is a vector of household characteristics that affect the migration decision. $\mathbf{X_r}$ is a vector of migrant and household characteristics that affect the remittance amount, and $\mathbf{X_y}$ includes household characteristics that affect the welfare measure. There can be overlaps among the three vectors $\mathbf{X_m}$, $\mathbf{X_r}$, and $\mathbf{X_y}$, and the error terms in the three equations can be correlated. Note that Eq. (4) is always observed since M can be zero—a contrast with Eq. (2), which is observed only if there is migration.

Estimating this system demands a lot from the data, because instruments are needed to identify both migration and remittances. Another disadvantage of system estimation is that misspecification in one equation can spill over to others. As a result, in this chapter, we choose to estimate the reduced form of Eq. (5) only. Specifically, we use the instrumental variable method to estimate the impact of net remittances on per capita income in origin households, correcting for potential endogeneity of remittances and using the VRUMS sample only. Instruments for remittances (variables in vector $\mathbf{X_r}$) include a number of variables from VRUMS that have been shown to be statistically significant determinants of remittances. These are the migrant's monthly wage income, dummies for whether the migrant is in Hanoi, whether the migrant has a formal sector job, whether the migrant owns a house, and whether the migrant registers his/her residence at the destination, the number of children in the migrant household, number of years living at the destination, and the amount of any outstanding loan the migrant must service in the origin household. The variables in vector $\mathbf{X_y}$ explaining rural households' per capita income include cultivated land per capita, ethnicity, characteristics of the household head (gender, age, and years of education) and regional dummy variables.

Once again, several explanatory variables (including the net remittance variable) have missing values. Therefore, the sample size for the OLS regression of rural

Table 8 IV regression: First-stage results

Dep. var.: Net remittances	Estimate	SE	t-stat	p-value
Origin HH land per capita	−0.289	0.345	−0.84	0.401
Origin HH minority = 1	1.250	3.245	0.39	0.7
Origin HH head male = 1	−0.216	1.721	−0.13	0.9
Origin HH head age	0.038	0.056	0.69	0.489
Origin HH head education years	−0.547	0.218	−2.5	0.013
Migrant in Hanoi = 1	6.694	2.019	3.32	0.001
Migrant monthly wage	2.141	0.173	12.35	0
Migrant formal job = 1	2.247	1.311	1.71	0.087
Migrant no. children in HH	−3.286	1.074	−3.06	0.002
Migrant own house = 1	−8.779	2.265	−3.88	0
Migrant residence cert. = 1	−1.584	2.261	−0.7	0.484
Migrant years since moved	0.179	0.119	1.51	0.133
Migrant outstanding loan = 1	0.050	0.005	9.53	0
Migrant male = 1	2.472	1.370	1.8	0.072
Migrant age years	−0.031	0.088	−0.35	0.724
Migrant education years	−0.325	0.266	−1.22	0.222
Constant	1.786	5.270	0.34	0.735
Adjusted R-squared: 0.330				
No. of observations: 703				

Notes: Dependent variable is measured in VND million. Regional dummy variables included but not reported
Source: Authors' calculations based on VRUMS2013 and VHLSS2012 data

household per capita income is only 746 households, and the sample size for the IV regression is 647 households.

4.3 Results

Results for the first-stage regression are presented in Table 8 and the second stage in Table 9. To test for endogeneity of net remittances, we performed Wooldridge's score test and regression-based test (Wooldridge 1995, cited in *Stata 13 Manual*). The latter rejects the null hypothesis of exogeneity at less than 5% significance level (p-value = 0.033), while the former can reject this null hypothesis at the 10 per cent significance level (p-value = 0.098). To test for the validity of instruments (i.e., to check whether they are uncorrelated with the structural error term), we perform Wooldridge's test of overidentifying restrictions. The test statistic is not significant at the 10% level (p-value = 0.3744), meaning we cannot reject the null hypothesis that our instruments are valid.

For comparison purposes, in Table 10, we present results from an OLS regression of the determinants of the per capita income of origin households. These indicate that net remittances have no statistically significant impact on per capita income. But the

Table 9 IV regression: Second-stage regression

Dep. var.: Monthly per capita income in origin household	Estimate	SE	t-stat	p-value
Net remittance receipts	0.010	0.004	2.77	0.006
Origin HH land per capita	0.157	0.029	5.34	0
Origin HH minority = 1	−0.427	0.274	−1.56	0.119
Origin HH head male = 1	−0.103	0.146	−0.7	0.482
Origin HH head age	−0.003	0.004	−0.63	0.532
Origin HH head education years	0.098	0.017	5.72	0
Constant	1.119	0.352	3.18	0.002
No. of observations				703
R-squared				0.14
Chi-squared statistic for Wooldridge score test of endogeneity				2.76
p-value				0.97
Chi-squared statistic for Wooldridge regression-based test of endogeneity				4.58
p-value				0.33
Chi-squared statistic for Kleibergen–Paap rk LM under-identification test				39.71
p-value				0.000
F statistics for Cragg–Donald test of weak identification				39.64
Critical value for 10% maximal IV relative bias				11.49
Hansen J statistic for test of over-identification				7.84
p-value				0.55

Notes: Dependent variable is measured in VND million. Regional dummy variables included but not reported
Source: Authors' calculations based on VRUMS2013 and VHLSS2012 data

Table 10 Determinants of per capita income: OLS regression

Dep. var.: Annual per capita income in origin household	Estimate	SE	t-stat	p-value
Net remittance receipts	0.004	0.003	1.32	0.187
Origin HH land per capita	0.171	0.033	5.13	0
Origin HH minority = 1	−0.433	0.252	−1.72	0.087
Origin HH head male = 1	−0.064	0.128	−0.5	0.617
Origin HH head age	−0.002	0.004	−0.46	0.648
Origin HH head education years	0.087	0.015	5.67	0
Constant	1.149	0.322	3.57	0
Adjusted R-squared				0.14
No. of observations				746

Notes: Dependent variable is measured in VND million. Regional dummy variables included but not reported
Source: Authors' calculations based on VRUMS2013 and VHLSS2012 data

IV results in Table 8 show the impacts to be positive and statistically significant, although small. A VND1 million increase in net remittances is associated in these estimates with a VND10,000 increase in monthly per capita net income in the origin household. Evaluated at the sample means, this is an elasticity of 0.06.

The average magnitude of this estimated impact seems small, given large differences in earnings capabilities between rural and urban Vietnam. But, as discussed earlier, households that send out migrants lose some productive potential at home and/or may incur additional expenses if labour must be hired in to carry out tasks previously performed by out-migrants. Moreover, there is an at least weakly positive selection of migrants on education and ability, so the average stock of human capital in the origin household is lowered by their departure and this may represent a significant loss of earning power. On average, these losses are more than compensated for by remittance flows, but they should be accounted for when considering the magnitude of the impact of remittances on origin household incomes.

The differences between OLS and IV results in this portion of the analysis once again confirm the importance of correcting for the endogeneity of remittance-sending behaviour. Thanks to the VRUMS, in this chapter, we have a merged dataset with information on rural households and migrant data. This allows us to find good instruments for the remittance variable and makes it possible to correct for endogeneity—although, as previously discussed, we can do so only for a restricted sample due to the lack of instruments for the migration equation.

5 Concluding Remarks

In this chapter, we have examined the remittance behaviour of rural–urban migrants in Vietnam, using a unique dataset that links the 2012 round of the VHLSS with a 2013 tracer study of migrants from VHLSS households. We have estimated factors associated with remittances, taking migrant selection issues into account. We have also estimated the impacts of net remittances on the per capita income of rural households, taking the endogeneity of remittances into account.

Our results are largely in accord with theoretical expectations and also with the findings of other studies in the literature. In particular, we find that remittance flows are larger when migrants have higher wages and less attachment to the destination and when rural households have a stronger need for remittances. These findings are consistent with the altruism hypothesis for remittances. By contrast, we do not find support for a self-interest motive on the part of remittance-sending migrants.

Migration and remittances seem to be poverty-reducing, since we find that rural households' lagged poverty status is a positive predictor of having migrants in Hanoi and HCMC, and there is a positive (although small) and statistically significant impact of remittances on rural household per capita income. Although this result applies to the VRUMS sample, it accords with the existing literature, which finds similar poverty-reducing impacts of migration and remittances.

Our findings suggest that policies to encourage and facilitate migration will have social benefits. The macroeconomic rationale for rural–urban migration is well understood: economic growth in Vietnam, as in most emerging economies, is highly concentrated around cities and ports and requires the wholesale movement of labour from rural areas to realise the full growth potential of increased trade, investment,

infrastructure and technology. At the microeconomic scale, rural to urban migration by active members of the labour force has the potential to reduce rural poverty through the remittance channel. Finally, our study also indicates the potential benefits of policies that promote labour market access by Vietnam's ethnic minorities, as these groups currently have a much lower likelihood of sending migrants out to cities.

It should not be forgotten, however, that our data and analysis span only the narrowly economic realm. We do not, in this study, have access to measures of some potentially important countervailing costs, such as those associated with the separation of parents from children, spouses from one another, or migrants from the communities and cultures of their domicile. Although we have exploited an unusually rich data source in this study, a more complete accounting of the costs and benefits of migration and remittances demands one that is richer still.

Acknowledgements We thank the VRUMS project for financial support, and Nguyen Phong, Nguyen Manh Hai and their staff at GSO and CIEM, respectively, for outstanding work in the design and conduct of the data-gathering survey. Xin Meng, Bob Gregory, Amy Liu and participants at a conference held in Hanoi in January 2015 provided very helpful comments on an earlier draft. Remaining errors are ours alone.

References

Antman, F. M. (2012). The impact of migration on family left behind. In A. F. Constant & K. F. Zimmerman (Eds.), *International handbook on the economics of migration*. Cheltenham: Edward Elgar.

de Brauw, A., & Harigaya, T. (2007). Seasonal migration and improving living standards in Vietnam. *American Journal of Agricultural Economics, 89*(2), 430–447.

Garip, F. (2012). An integrated analysis of migration and remittances: Modeling migration as a mechanism for selection. *Population Research & Policy Review, 31*(5), 393–433.

General Statistics Office (GSO). (2009). *Report on the 2009 population census*. Hanoi: GSO.

General Statistics Office (GSO). (2011). *Migration and urbanization in Vietnam: Patterns, trends and differentials*. Hanoi: GSO.

Gibson, J., McKenzie, D., & Stillman, S. (2011). The impacts of international migration on remaining household members: Omnibus results from a migration lottery program. *Review of Economics and Statistics, 93*(4), 1297–1318.

Gibson, J., McKenzie, D., & Stillman, S. (2013). Accounting for selection and duration-dependent heterogeneity when estimating the impact of emigration on incomes and poverty in sending areas. *Economic Development and Cultural Change, 61*(2), 247–280.

Liu, Q., & Reilly, B. (2004). Income transfers of Chinese rural migrants: Some empirical evidence from Jinan. *Applied Economics, 36*, 1295–1313.

Loc, N. L., Raabe, K., & Grote, U. (2012). Rural–urban migration, household vulnerability, and welfare in Vietnam. *World Development, 71*, 79–93.

Lucas, R. E. B., & Stark, O. (1985). Motivations to remit: Evidence from Botswana. *Journal of Political Economy, 93*(5), 901–918.

McKenzie, D., Stillman, S., & Gibson, J. (2010). How important is selection? Experimental vs. non-experimental measures of the income gains from migration. *Journal of the European Economic Association, 8*(4), 913–945.

Nguyen, C. V. (2009). The impact of international and internal remittances on household welfare: Evidence from Vietnam. *Asia-Pacific Development Journal, 16*(1), 59–92.
Nguyen, C. V., & Mont, D. (2012). Economic impacts of international migration and remittances on household welfare in Vietnam. *International Journal of Development Issues, 11*(2), 144–163.
Nguyen, C. V., van den Berg, M., & Lensink, R. (2011). The impact of work migration and non-work migration on household welfare, poverty and inequality: New evidence from Vietnam. The Economics of Transition, 19(4), 771–799.
Niimi, Y., & Reilly, B. (2011). Gender differences in remittance behavior: Evidence from Vietnam. *Singapore Economic Review, 56*(2), 215–237.
Niimi, Y., Pham, T. H., & Reilly, B. (2009). Determinants of remittances: Recent evidence using data on internal migrants in Vietnam. *Asian Economic Journal, 23*(1), 19–39.
Phan, D. (2012). Migration and credit constraints: Theory and evidence from Vietnam. *Review of Development Economics, 16*(1), 31–44.
Phan, D., & Coxhead, I. (2010). Interprovincial migration and inequality during Vietnam's transition. *Journal of Development Economics, 91*(1), 100–112.
Phuong, N. T., Tam, T. N., Nguyet N. T., & Oostendorp, R. (2008). *Determinants and impacts of migration in Vietnam*. Depocen working paper series no. 2008/01. Hanoi.
Rapoport, H., & Docquier, F. (2006). *The economics of migrants' remittances*. IZA discussion papers no. 1531.
Stata "IV Regress postestimation". Accessed June 3, 2015, from http://www.stata.com/manuals13/rivregresspostestimation.pdf
Townsend, R. M. (1994). Risk and insurance in village India. *Econometrica, 62*(3), 539–591.
Wooldridge, J. M. (1995). Score diagnostics for linear models estimated by two stage least squares. In G. S. Maddala, P. C. B. Phillips, & T. N. Srinivasan (Eds.), *Advances in econometrics and quantitative economics: Essays in honor of professor C. R. Rao*. Oxford: Blackwell.

Differences in Consumption Patterns Between Urban and Rural Migrant Households in Vietnam

Thi Huong Giang Nguyen

Abstract This chapter uses data from the Vietnam Household Living Standards Survey 2012 (VHLSS2012) and the Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013) to study migrants' consumption behaviour in the destination cities in Vietnam. Using ordinary least squares (OLS) and quantile regression, the author finds that overall consumption levels are considerably lower for migrant households without an urban household registration (*ho khau*). The gap is significantly large for non-food consumption, while it is almost negligible for food consumption. The difference in consumption behaviour between migrant and urban households is explained partly by the differences in sending remittances and precautionary saving behaviour between the two groups. Also, the existing gap at the top end of the consumption distribution implies that migrant households may not be able to fully catch up with their urban counterparts.

1 Introduction

Since market reform (*Doi Moi*) in 1986, internal migration in Vietnam has increased significantly, especially from rural to urban areas. The establishment of new industrial zones in major cities has attracted more in-migrants for work purposes. Data from Censuses show that 6.5% of the population migrated in 1999 and this number increased to 7.7% in 2009 (Dang et al. 2003). Hanoi, Ho Chi Minh City (HCMC) and surrounding areas are the most popular destinations for migrants.

It is well-documented that rural–urban migration is an important strategy for improving the livelihoods of rural households in Vietnam (de Brauw and Harigaya 2007; Phan and Coxhead 2010; Nguyen et al. 2008, 2011; Nguyen and Pham 2012; Nguyen and Winters 2011). However, migrant households face many challenges in the cities as many do not have an urban household registration (*ho khau*). Like China, Vietnam has had a household registration system since 1955. Under the

T. H. G. Nguyen (✉)
International and Development Economics, Crawford School of Public Policy, Australian National University, Canberra, ACT, Australia
e-mail: giang.nguyen@anu.edu.au

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_8

system, the *ho khau* of a person is tied to their place of residence and individuals are allowed to access social services only at the place where their *ho khau* is registered (Le et al. 2011). Despite reforms in 2007 and 2013, when restrictions on migrants' *ho khau* were significantly relaxed,[1] it is still an important institutional barrier that affects migrant households' welfare in the destination city. Le and Nguyen (2011) show that *ho khau* not only controls labour mobility across regions—especially migration from rural to urban areas—but also controls access to employment, financial loans and social services. For instance, without an urban *ho khau* at the current place of residence, migrants do not have the right to purchase land or to access public social services or financial loans. They are also unable to enrol their children in public schools or access public hospitals (Le and Nguyen 2011).[2] More importantly, migrants are less likely to have good employment opportunities in the city and they often end up with 'three D' jobs (dirty, dangerous and difficult), which are unstable, with poor working conditions, low pay and no insurance (Le and Nguyen 2011).

All these restrictions may have adverse impacts on the welfare of migrant households in the destination city. As consumption is an important measure of welfare, understanding the consumption patterns of migrant households is crucial to improving their welfare and this is the focus of this chapter. Using data from the Vietnam Household Living Standards Survey 2012 (VHLSS2012) and the Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013), this chapter aims to investigate whether there are differences in consumption between urban and migrant households in major cities in Vietnam. It then uses the ordinary least squares (OLS) method to quantify the consumption gap between the two groups and to identify potential drivers of that gap. In particular, this chapter aims to: (1) investigate food and non-food consumption differences between urban and migrant households in the destination city; (2) conduct two exercises to investigate the effect of remittances and precautionary saving on the consumption gap; and (3) use a quantile regression model to examine whether the gap remains at the top end of the consumption distribution. To check for the robustness of the results, I also conduct a robustness test by including migrants with an urban *ho khau* in the sample of migrant households to see whether the gap remains.

[1] Prior to 2005, the conditions required to obtain urban *ho khau* were very strict. They included, for instance, a requirement of 3 years' uninterrupted employment and residence at the destination and home ownership in the current city of residence. In 2006, the Law on Residence was amended, coming into effect in 2007. The revised law simplified the *ho khau* system and reduced the residence requirement from 3 years to 1 year. In addition, applicants no longer have to prove they have stable employment for the duration of their stay. However, migrants still need approval from the authorities at their location of origin before they can apply for permanent residence at their destination. To acquire this approval, they have to provide the local authorities with evidence of a job or school registration at their destination (Dinh and Pincus 2011).

[2] Migrants are allowed to access public hospitals for free in rural areas where they have registered their *ho khau*. In the city, they have to access private healthcare services with much higher costs or they may be allowed to access public hospitals in the cities but have to pay the full cost without any subsidy from a health insurance provider.

The OLS results show that the overall consumption level is considerably lower in migrant households without an urban *ho khau*. The gap is significantly large for non-food consumption, while it is almost negligible for food consumption. In addition, remittances and precautionary saving are found to have an important role in explaining the observed consumption disparity between the two groups. This finding is consistent with the case of China (Chen et al. 2012, 2015). Our results seem to suggest that the *ho khau* system may be one of the key drivers behind the consumption gap between urban and migrant households in Vietnam. Finally, the findings from quantile regression indicate that the consumption gap remains large at the top end of the household consumption distribution, suggesting that even migrant households with high levels of consumption may not be able to fully catch up with their urban counterparts.

The remainder of the chapter is organised as follows. Section 2 provides a survey of the literature. Section 3 describes the data and summary statistics. Section 4 discusses methodology, followed by empirical results in Sect. 5. Section 6 concludes.

2 Literature

Most studies of migration in the literature focus on either the determinants of migration (Winters et al. 2001; Nivalainen 2004; Dang et al. 2003; Nguyen et al. 2008) or the impact of migration on the welfare of rural households (Karamba et al. 2011; Amuedo-Dorantes and Pozo 2006; Beegle et al. 2011; Azzarri and Zezza 2011). While the first group examines the impact of rural household characteristics on migration decisions, the second mostly focuses on the impact of migration on households' welfare in rural areas. Meanwhile, studies of the impact of migration on the welfare of migrant households in the destination city are limited, especially for Vietnam. Most empirical studies on this topic cover China, such as Cao et al. (2017), Fang and Sakellariou (2016), Chen et al. (2012, 2015), Dreger et al. (2014), and Meng (2003). Using data from the Chinese Household Income Project Survey 2002 (CHIPS2002), for example, Chen et al. (2012) investigate the effects of household registration (*hukou*)[3] status on the consumption differences between migrant and urban households. They find that the consumption of migrant households without an urban *hukou* is 30.7% lower than that of their urban counterparts. This gap remains large and significant at about 15% after adjusting for remittances.

Regarding the determinants of migrants' household consumption in the destination city, precautionary saving and remittances are considered the main factors contributing to lower consumption in migrant households in China (Meng 2003; Giles and Yoo 2007; Chamon and Prasad 2010; Amuedo-Dorantes and Pozo 2006; Niimi et al. 2009). It is argued that lower income, employment uncertainty and

[3] *Hukou* is the household registration system in China, which is similar to *ho khau* in Vietnam.

higher costs of consuming social services in the cities due to the restrictions of *hukou* are the key reasons for migrants having a higher incentive for saving rather than consuming. Chen et al. (2012) show that, without an urban *hukou*, migrants are not as well covered by the social safety net as urban residents, and migrants' jobs are less secure. In addition, migrant workers tend to be in low-paying jobs because they are discriminated against in the labour market. Consequently, their experience may not be fully compensated, resulting in a lower income level for migrants compared with urban residents (Chen et al. 2012, 2015). Chen et al. argue that these difficulties may play a role in creating income uncertainty, which gives migrants stronger motivation for precautionary saving and, therefore, spending less on consumption. Chen et al. (2012) also show that a large proportion of migrants' income in the cities is remitted to their family back in the rural areas. The authors argue that the higher the remittances sent back to their home family, the lower are the consumption levels of migrant households in the cities. This argument is consistent with that of Amuedo-Dorantes and Pozo (2006) and Niimi et al. (2009), who consider migrants as 'risk-averse individuals' who 'act as risk-averse economic agents and send remittances back to the household of origin as part of an insurance exercise in the face of economic uncertainty' (Niimi et al. 2009: 19). This may result in a lower consumption level for migrants in the cities.

3 Data and Descriptive Statistics

This chapter employs data from two sources. The first is the Vietnam Household Living Standards Survey 2012 (VHLSS2012). These surveys are conducted by Vietnam's General Statistics Office (GSO) every 2 years. The survey sampling covers 64 provinces and eight regions. It is representative at the national and regional levels in both rural and urban areas. The VHLSS2012 consists of 9399 households, of which 2703 households live in urban areas. The second data source is the Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013), which is the most recent survey designed particularly for studying migration. The survey collects data from households who migrated from rural to urban areas for work purposes. It includes 869 migrant households from four cities that have high rates of migration: Hanoi, Ho Chi Minh City (HCMC), Binh Duong and Dong Nai. Both the VHLSS2012 and the VRUMS2013 provide rich information on household and individual characteristics, as well as information on the household's registration status.

In this study, the urban household sample is drawn from the VHLSS2012 and, for the purpose of comparison, it is restricted to the four destination cities covered in the VRUMS2013. Urban households are defined as those who are currently living in the city where they have registered their urban *ho khau*. By defining the urban sample this way, it may include migrant households who have already obtained an urban *ho khau* (these households are called permanent migration households hereafter). Migrant households are taken from the VRUMS2013 and are those without an urban *ho khau* in the destination city (they are referred to as temporary migrant

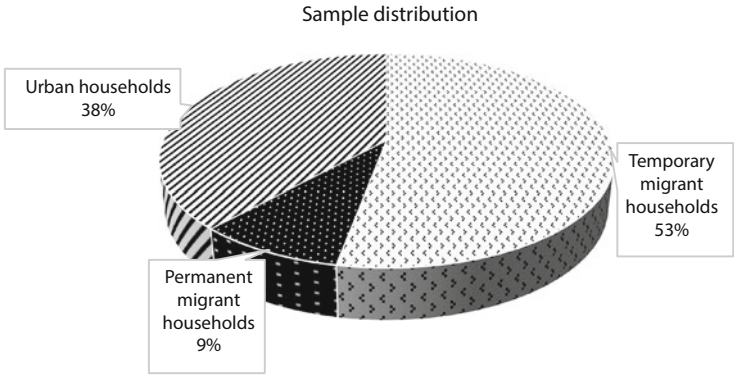


Fig. 1 Urban and migrant households. Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013

households). In addition, the VRUMS2013 identifies 123 permanent migrant households. Combining the two surveys, there are 1379 households, of which 730 are temporary migrant households (53%), 123 are permanent migrant households (9%), and 526 are urban households (38%). Figure 1 shows the distribution of these households.

However, for the core part of the empirical work, I opt to exclude 123 permanent migrant households from the final migrant household sample. The reasons being, first, it is well-documented in the literature that permanent migrant households are better off than temporary migrants after living in the city long enough to obtain an urban *ho khau* (Chen et al. 2012). This might also be true for migrants in Vietnam since the likelihood of obtaining an urban *ho khau* is positively associated with the length of their stay in the current city.[4] Therefore, if I treat these permanent migrant households as temporary migrant households, the consumption level of the whole migrant sample may be biased upward, resulting in a smaller consumption gap. Second, studies in China find that, even over the longer term, permanent migrant households may not fully catch up with urban households (Chen et al. 2012; Meng 2003). Hence, if I include those permanent migrant households in our urban sample due to their *ho khau* status, it may understate the consumption level of the urban sample and, therefore, underestimate the consumption gap between urban and temporary migrant households. In other words, the inclusion of such permanent migrant households—in either the urban household sample or the temporary migrant household sample—results in a downward bias in the consumption gap between the two groups. To avoid this bias, I exclude these 123 permanent migrant households from the urban and migrant samples. For the sake of simplicity, the term 'migrant households' in the empirical work refers to temporary migrant households. After excluding the 123 households, the final sample for analysis includes 1256 households, 58% of which are migrant households. The permanent migrant households

[4]See Footnote 1.

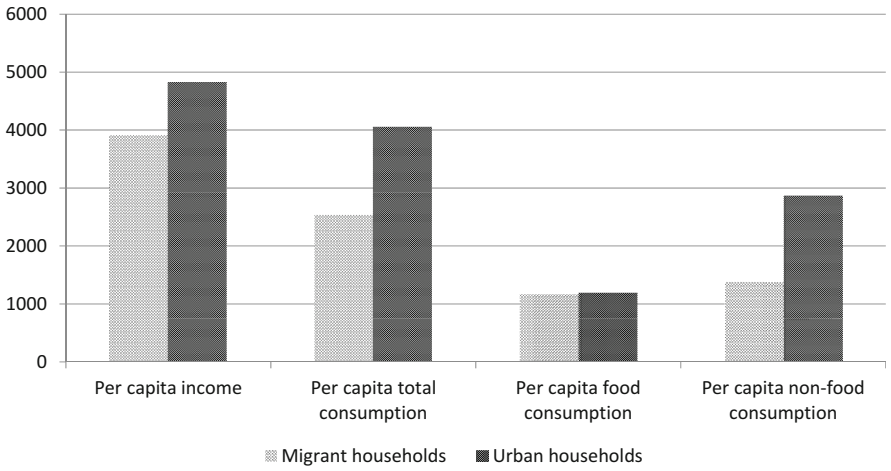


Fig. 2 Income and consumption differences between migrant and urban households. Sources: Own calculations, based on the VHLSS2012 and VRUMS2013

will be included in the sample for the robustness check. I will return to this point in Sect. 5.4.

The VHLSS2012 provides detailed information on household consumption, including expenditure on food, housing, education, health care, electricity and water, communication and cultural activities. However, the VRUMS2013 only divides household expenditure into three broad categories: food, non-food and housing expenditure,[5] where non-food expenditure covers all expenditure on education, health care, communication and cultural activities. To facilitate the comparison between the two surveys, I categorise total expenditure into two broad categories: food and non-food expenditure.[6] Per capita food and non-food expenditure are obtained by dividing household food and non-food expenditure by the household size.[7]

Figure 2 presents the per capita consumption of urban and migrant households in destination cities, as well as the difference in per capita income and consumption between the two groups. It is clear that both per capita income and per capita consumption are higher in urban households than in migrant households. The per capita income of urban households is about 23% higher than that of migrant

[5]Although housing expenditure is collected in both surveys, it consists of different components in each survey. Specifically, housing expenditure in the VRUMS2013 includes not only expenses on rent and house maintenance, as in the VHLSS2012, but also expenses on water, electricity and fuel for heating and cooking, which are separately reported in the VHLSS2012. To make the consumption expenses comparable across the two surveys, I take all these items as non-food consumption.

[6]I use the consumer price index (CPI) to inflate the expenditure in the VHLSS2012 to make it comparable with that of the VRUMS2013. The average CPI in 2013 increased by 6.6% from 2012 (GSO 2013).

[7]The size of the migrant household in the city.

Table 1 Descriptive summary of migrants and urban household characteristics

	Migrant households (1)		Urban households (2)		Mean difference test (2)–(1)	
Variables	Mean	SD	Mean	SD	Difference	p-value
Per capita income	3909	4125	4824	7062	915	0.00
Per capita expenditure	2535	2128	4054	3075	1519	0.00
Per capita food expenditure	1164	778	1191	699	27.2	0.52
Per capita non-food expenditure	1378	1613	2863	2615	1485	0.00
Age of HH head (years)	29.70	8.38	53.26	14.54	23.5	0.00
Gender of HH head (1 = male; 0 = female)	0.69	0.46	0.58	0.49	−0.11	0.00
HH head's years of schooling (years)	10.73	3.77	10.40	4.93	−0.33	0.15
HH head's occupation category						
Leader, top-level professional	0.15	0.10	0.22	0.42	0.07	0.00
Staff or skilled worker	0.15	0.34	0.21	0.41	0.06	0.01
Manual or assembly worker	0.40	0.50	0.15	0.36	−0.25	0.00
Unskilled worker	0.26	0.44	0.08	0.27	−0.18	0.00
Retired/not working	0.04	0.19	0.33	0.47	0.31	0.00
Household size	1.90	1.12	3.86	1.49	2.08	0.00
Children ratio (0–1)	0.09	0.16	0.20	0.20	0.13	0.00
Elder ratio (0–1)	0.01	0.10	0.18	0.29	0.17	0.00
Own a house in the city	0.05	0.23	0.96	0.20	0.91	0.00
Number of observations	730		526			

Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013
Note: Income and expenditure are in VND1000

households (VND4.8 million vs. VND3.9 million).[8] While there is little difference in per capita food consumption, per capita non-food consumption is almost double in urban households. The preliminary data examination seems to support the proposition that migrant households may have higher incentives to save rather than consume in the cities.

Not only do migrant households differ in terms of income and consumption, they also are very different from urban households in terms of their characteristics. Table 1 indicates that migrant household heads are younger and most are male compared with urban household heads. They are more likely to be employed in manual or assembly work. However, the difference in household heads' education attainment is not significant between the two groups.

[8]Equivalent to US$231.60 and US$187.70, respectively.

Migrant household size is smaller, with lower shares of children[9] and the elderly.[10] In addition, only 5% of migrant households own a house, while 95% of urban households have their own house in the city.

4 Methodology

4.1 OLS Regression

To estimate the gap in consumption between migrant and urban households, I first employ an OLS regression with the following specification[11]:

$$\ln C = \beta_0 + \beta_1 \text{migrant} + \beta_2 X + \beta_3 \ln Y + u, \quad (1)$$

where C is the outcome variable, including per capita total consumption and per capita food and non-food consumption. Migrant is a dummy variable taking the value of 1 for migrant households and zero otherwise. The estimated coefficient, β_1, gives the difference in the outcome variables between migrant and urban households.

The natural logarithm of per capita income (Y) is included in the model because it is a key determinant of household consumption (Charles et al. 2009; Chen et al. 2012, 2015; Thu Le and Booth 2014). Controlling for income and other selected characteristics allows us to interpret the estimated coefficient (β_1) as the consumption gap between the two groups that might be due to *ho khau* status, rather than household heterogeneity between the two groups. X denotes a set of explanatory variables representing household characteristics (household size, children ratio, elderly ratio and whether or not a household owns a house in the city) and the household head's characteristics (age, gender, education attainment and occupation category).[12] These are standard explanatory variables that have been widely used in the literature (Nguyen and Winters 2011; Chen et al. 2012; Dreger et al. 2014).[13]

[9]Children are those aged 15 or below, while the children ratio is simply the number of children in the household divided by the household size.

[10]The retirement age in Vietnam is 55 for females and 60 for males. Hence, I define elderly people as those who have reached the official retirement age. The elderly ratio is the number of elderly people in the household divided by the household size.

[11]This model specification is widely used in the literature on household consumption (Charles et al. 2009; Chen et al. 2012, 2015).

[12]The five occupation categories are: (1) leader, top/mid-level professional; (2) staff or skilled worker; (3) manual or assembly worker; (4) unskilled worker; and (5) retired/not working.

[13]Having health insurance, social insurance, and a pension or work contract are some factors that could potentially influence household consumption. However, they are highly correlated with household income, particularly wage/salary income. Thus, I exclude them from the model to avoid multicollinearity. Nonetheless, I experimented with the model specification that includes

Finally, provincial dummies including Hanoi, Ho Chi Minh City and surrounding areas (Binh Duong and Dong Nai) are included to capture location-specific effects.

4.2 Quantile Regression

OLS is commonly used in the literature to quantify a consumption gap (Chen et al. 2012; Charles et al. 2009). It focuses on the mean and conceals the potential variation along the consumption distribution. Thus, the quantile regression approach is applied to estimate the consumption gap along household consumption distribution using Eq. (1). In addition, quantile regression will shed light on whether the consumption gap between the two groups remains at the top end of the consumption distribution. If it does, it will provide support to the proposition that even migrant households at the top end of the consumption distribution may not be able to fully catch up with their urban counterparts.

5 Empirical Results

5.1 OLS Estimates

The OLS regression results are presented in Table 2. First, the migrant dummy variable is negative and significant, suggesting there is a consumption gap between migrant and urban households. Results from Column (1) of Table 2 show that the total per capita consumption of migrant households is 42.2% lower than that of their urban counterparts—which is in line with studies in China, where the consumption level of migrant households is found to be 30.7% lower than that of urban households (Chen et al. 2012).

Second, the difference in non-food consumption between migrant and urban households is significantly high (77.1%), while the difference in food consumption is almost negligible between the two groups (Columns (2) and (3) of Table 2). This result confirms that migrant households in the destination city spend less on non-food consumption than their urban counterparts.

Aside from the key variable of interest (the *migrant* dummy), the numbers in Table 2 also reveal that other explanatory variables are relevant determinants of household consumption. For instance, household income and the education of the household head increase household per capita consumption, while household size reduces it. Households located in Ho Chi Minh City consume more than those in Hanoi (the reference group).

---

these variables. I found that the consumption gaps between the two groups are smaller in all three categories compared with the case when they are excluded.

Table 2 Consumption differences for total, food and non-food consumption

	Ln per capita total expenditure	Ln per capita food expenditure	Ln per capita non-food expenditure
Variables	(1)	(2)	(3)
Migrant households	−0.422***	−0.00781	−0.771***
	(0.0827)	(0.117)	(0.0989)
Ln per capita income	0.328***	0.362***	0.353***
	(0.0234)	(0.0331)	(0.0280)
HH head's age	0.00328	0.00650	0.00246
	(0.00310)	(0.00438)	(0.00370)
HH head's gender (1 = male, 0 = female)	0.0539	0.0424	0.0178
	(0.0530)	(0.0750)	(0.0634)
HH head's years of schooling	0.0426***	0.0285***	0.0544***
	(0.00728)	(0.0103)	(0.00871)
HH head's occupation category			
Leader, top-level professional	0.316***	0.361***	0.419***
	(0.0932)	(0.132)	(0.111)
Staff or skilled worker	0.251***	0.347***	0.369***
	(0.0854)	(0.121)	(0.102)
Manual or assembly worker	0.160**	0.180*	0.235***
	(0.0726)	(0.103)	(0.0869)
Retired/not working	0.375***	0.355**	0.521***
	(0.102)	(0.145)	(0.122)
Household size	−0.0424*	−0.0105	−0.0422
	(0.0250)	(0.0354)	(0.0299)
Children ratio	0.154	0.417*	0.0694
	(0.176)	(0.249)	(0.210)
Elderly ratio	0.100	−0.165	0.183
	(0.162)	(0.229)	(0.194)
Location			
Ho Chi Minh City	0.0985*	−0.00168	0.172**
	(0.0588)	(0.0832)	(0.0704)
Binh Duong and Dong Nai	−0.110	−0.0891	−0.0702
	(0.0767)	(0.109)	(0.0918)
Constant	4.585***	3.012***	3.739***
	(0.261)	(0.369)	(0.312)
Observations	1232	1232	1232
R-squared	0.319	0.157	0.355
Adjusted R-squared	0.312	0.147	0.345

Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013
Notes: (i) Standard errors in parentheses, ***p < 0.01, **p < 0.05, *p < 0.1. (ii) Unskilled worker is the reference group for occupation categories and Hanoi is the reference group for location dummies

Table 3 Consumption gaps in different scenarios

	Consumption gap (Table 2)	Gap after adjusting remittances	Household saving ratio
Variables	(1)	(2)	(3)
Migrant households	−0.422***	−0.111**	0.126***
	(0.0827)	(0.0432)	(0.0212)
Observations	1232	993	1232
R-squared	0.319	0.645	0.240
Adjusted R-squared	0.312	0.64	0.232

Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013
Notes: Standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1

5.2 *Potential Drivers of the Consumption Gap*

The literature provides a few possible reasons for the lower consumption of migrant households in the destination city (Niimi et al. 2009; Amuedo-Dorantes and Pozo 2006; Chen et al. 2012). According to Chen et al. (2012), household registration *(hukou)* in China is a key factor that contributes to the consumption gap through precautionary saving and remittances. Hence, this chapter also examines these two channels through which the *ho khau* may have a role to play in influencing the consumption difference between migrant and urban households in Vietnam. Following Chen et al. (2012), I conduct the following exercises, based on the model specification in Eq. (1), to examine the role of *ho khau* on the consumption gap.

First, I simulate the role of remittances on the consumption gap by asking this question: suppose a migrant household had not sent money back to their family in the rural area, but instead retained the remittances for their own consumption in the city; what is their consumption level? I derive this hypothetical household total consumption (and the per capita consumption) by adding the full amount of their remittances to their reported consumption level. Second, I use the household saving ratio[14] as a dependent variable to test the proposition that the lower consumption in migrant households is due to the higher saving motivation.

As the consumption gap between the two groups is the main focus of this chapter, Table 3 presents the estimated coefficient of the migrant dummy. The full estimation is presented in Table 6 in the Appendix. The result from estimating Eq. (1) using the natural logarithm of per capita total expenditure after being adjusted for remittances as the dependent variable is reported in Column (2), and the result using the saving rate as the dependent variable is presented in Column (3) of Table 3, while Column (1) reports the gap obtained in Table 2 for comparison purposes.

[14]Following Chamon and Prasad (2010), we define the saving ratio as 1 − (household consumption/household income). This calculation results in some negative values, where the household consumption is greater than household income. I treat those values as 'no saving', or the saving rate is zero.

Table 4 Quantiles regression for consumption gap between the two groups

	Ln per capita total expenditure		Ln per capita food expenditure		Ln per capita non-food expenditure	
Quantiles	Coefficients	SE	Coefficients	SE	Coefficients	SE
q10	−0.380***	(0.104)	−0.115	(0.116)	−0.933***	(0.133)
q25	−0.258***	(0.0453)	0.0662	(0.0664)	−0.658***	(0.0975)
q50	−0.280***	(0.0463)	0.0147	(0.0407)	−0.581***	(0.0610)
q75	−0.336***	(0.0606)	0.0102	(0.0502)	−0.514***	(0.0770)
q90	−0.282***	(0.0883)	−0.0328	(0.0801)	−0.440***	(0.0903)

Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013
Notes: Robust standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1

Column (2) of Table 3 indicates that the consumption gap between the two groups after adjusting for remittances is significantly reduced, to 11.1% compared with 42.2% in Table 2. This result suggests that a large proportion of migrant household income is used to remit to rural family. Nonetheless, as shown in Table 2, even if migrant households had not remitted money back home, given the same level of income, they would still have consumed less than their urban counterparts.

Column (3) of Table 3 shows that the estimated saving ratio of migrant households is 12.6% higher than that of urban households. That is, the higher saving rate in migrant households may partly explain their lower consumption level compared with their urban counterparts. This result provides support to the conjecture that the precautionary saving motive may be a potential contributor to the lower consumption in migrant households in the destination city.

5.3 Quantiles Regression

Results from quantile estimations of Eq. (1) at the 10th, 25th, 50th, 75th and 90th percentiles of the consumption distribution are presented in Table 4. Again, only the estimated coefficient for the migrant dummy is reported and the full estimation can be found in Table 7 in the Appendix. The estimated result shows that there is a variation in the consumption gap across quantiles, with the biggest gap found at the bottom end of the consumption distribution, while the gap is smallest at the top end (See Appendix—Fig. 3). This holds for both total consumption and non-food consumption.

More importantly, except for food consumption, the gap remains large and significant at the top quantile, implying that the consumption level of migrant households remains lower, even for the richest migrant households, compared with their urban counterparts. The estimated results suggest migrant households face a persistent disadvantage in the destination city. This finding is in line with the literature on China that suggests migrant households may not fully catch up to urban households as long as they do not have urban *hukou* (Chen et al. 2012; Meng 2003).

5.4 Robustness Check

To check the robustness of the gap in consumption between migrant and urban households, this section re-estimates the consumption gap by including 123 permanent migrant households (who obtained urban *ho khau*) in the existing migrant household sample to see whether the gap remains. This exercise should also provide insights regarding the impact of *ho khau* on the consumption gap. It is expected the gap will be smaller if migrant households with an urban *ho khau* are not subject to any restrictions that are imposed on migrant households without an urban *ho khau*.

Compared with Table 2, the gaps in Table 5 are slightly lower across all consumption categories. In particular, if these 123 permanent migrant households are treated as migrant households, the gaps in total and non-food consumption reduce to 40.6% and 74% instead of 42.2 and 77.1% as reported in Table 2, respectively. This finding suggests migrant households are slightly better off in terms of the level of consumption if they obtain an urban *ho khau* compared with those without an urban *ho khau*, but the gap still exists.

6 Conclusion

In Vietnam, rural–urban migration increased significantly after the economic reform in the late 1980s. Using data from the new VRUMS2013, which is specifically designed for migration studies, and the VHLSS2012, this chapter has examined the consumption gap between migrant and urban households in the destination city. Employing OLS and quantile regressions, our findings show that migrant households have considerably lower per capita consumption compared with urban households (especially for total consumption and non-food consumption). Exploring two potential channels—namely, remittances and precautionary saving—our results indicate that the *ho khau* system has an impact on the consumption level of migrant households in the destination city. In particular, remittances and the precautionary saving motivation of migrant households contribute to the consumption gap between the two groups.

Results from quantile regressions show that the gap varies across the consumption distribution, with the highest gap found in the tenth quantile. Even for households at the 90th quantile, the gaps in total consumption and non-food consumption remain significant, at 28% and 44%, respectively. This implies that the consumption level of migrant households remains lower than urban households even for migrant households at the top end of the distribution. Finally, as a robustness check, I include permanent migrants in the migrant sample and repeat the OLS and quantile estimations. The results show a slightly smaller consumption gap, yet the gap persists. This finding suggests that, while the consumption level of the migrant households has improved after staying longer in the destination city and obtaining an urban *ho khau*, they are yet to fully catch up with their urban counterparts. This finding is in line with Chen et al.'s (2012) study in China. Hence, policies that aim to further relax the *ho khau* system would help to reduce the gap and improve the welfare of migrant families in the city.

Table 5 Consumption difference with permanent migrant households in the sample

	Ln per capita total expenditure	Ln per capita food expenditure	Ln per capita non-food expenditure
Variables	(1)	(2)	(3)
Migrant households	−0.406***	−0.0478	−0.740***
	(0.0807)	(0.111)	−0.096
Ln per capita income	0.278***	0.317***	0.305***
	(0.0224)	(0.0309)	−0.0267
HH head's age	0.00428	0.00836*	0.00338
	(0.00315)	(0.00435)	−0.00375
HH head's gender (1 = male, 0 = female)	0.0247	0.0143	0.000939
	(0.0545)	(0.0752)	−0.0648
HH head's years of schooling	0.0459***	0.0319***	0.0550***
	(0.00752)	(0.0104)	−0.00895
HH head's occupation category			
Leader, top-level professional	0.397***	0.406***	0.472***
	(0.0948)	(0.131)	−0.113
Staff or skilled worker	0.257***	0.311***	0.339***
	(0.0870)	(0.120)	−0.104
Manual or assembly worker	0.202***	0.196*	0.246***
	(0.0746)	(0.103)	−0.0888
Retired/not working	0.414***	0.337**	0.550***
	(0.105)	(0.145)	−0.125
Household size	−0.0368	−0.0283	−0.028
	(0.0255)	(0.0352)	−0.0303
Children ratio	0.151	0.477*	0.0836
	(0.180)	(0.248)	−0.214
Elderly ratio	0.0920	−0.253	0.185
	(0.169)	(0.233)	−0.201
Location			
Ho Chi Minh City	0.153**	0.0677	0.244***
	(0.0595)	(0.0821)	−0.0708
Binh Duong and Dong Nai	−0.0547	−0.0210	0.00165
	(0.0796)	(0.110)	−0.0947
Constant	4.830***	3.288***	3.970***
	(0.258)	(0.356)	−0.307
Observations	1353	1353	1353
R-squared	0.276	0.138	0.311
Adjusted R-squared	0.268	0.129	0.348

Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013
Notes: (i) Standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1. (ii) In this model, 'Unskilled worker' is the reference group for occupation categories and Hanoi is the reference group for location dummies

Appendix

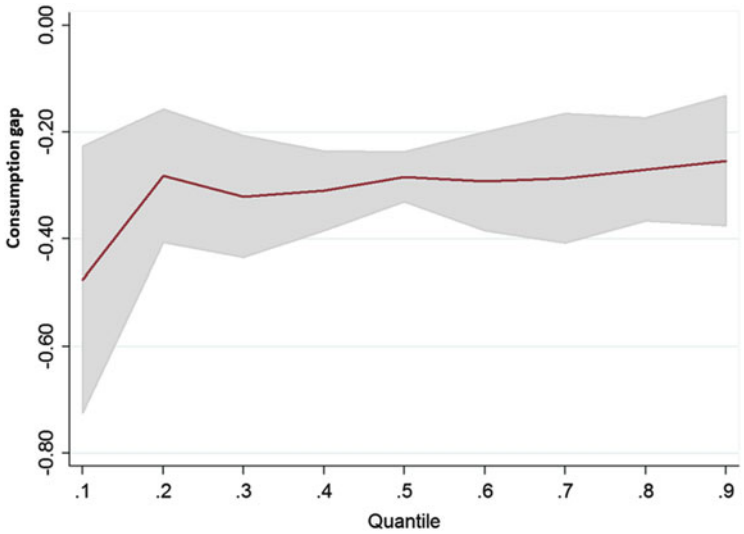


Fig. 3 Predicted consumption gap between migrant and urban households. Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013

Table 6 Potential drivers of the gap: Full estimate

	Original gap	Gap after adjusting for remittances	Household saving ratio
Variables	(1)	(2)	(3)
Migrant households	−0.422***	−0.111**	0.126***
	(0.0827)	(0.0432)	(0.0212)
Ln per capita income	0.328***	0.591***	0.0685***
	(0.0234)	(0.0207)	(0.00600)
HH head's age	0.00328	0.00346**	−0.00174**
	(0.00310)	(0.00160)	(0.000793)
HH head's gender (1 = male, 0 = female)	0.0539	0.0158	0.00974
	(0.0530)	(0.0275)	(0.0136)
HH head's years of schooling	0.0426***	0.0205***	−0.00725***
	(0.00728)	(0.00381)	(0.00187)
HH head's occupation category			
Leader, top-level professional	0.316***	0.109**	−0.0111
	(0.0932)	(0.0509)	(0.0239)
Staff or skilled worker	0.251***	0.0856*	−0.0444**
	(0.0854)	(0.0454)	(0.0219)
Manual or assembly worker	0.160**	0.0505	−0.0255
	(0.0726)	(0.0395)	(0.0186)
Retired/not working	0.375***	0.180***	−0.0464*
	(0.102)	(0.0541)	(0.0262)
Household size	−0.0424*	−0.0768***	0.00488
	(0.0250)	(0.0125)	(0.00640)
Children ratio	0.154	0.0754	−0.200***
	(0.176)	(0.0882)	(0.0451)
Elderly ratio	0.100	−0.0321	−0.0318
	(0.162)	(0.0796)	(0.0415)
Location			
Ho Chi Minh City	0.0985*	−0.109***	−0.00477
	(0.0588)	(0.0315)	(0.0151)
Binh Duong and Dong Nai	−0.110	−0.273***	0.0600***
	(0.0767)	(0.0391)	(0.0197)
Constant	4.585***	3.136***	−0.181***
	(0.261)	(0.187)	(0.0668)
Observations	1232	993	1232
R-squared	0.319	0.645	0.240
Adjusted R-squared	0.312	0.64	0.232

Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013

Notes: (i) Standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1. (ii) 'Unskilled worker' is the reference group for occupation categories and Hanoi is the reference group for location dummies

Table 7 Quantile regression: Full estimate

	Ln per capita total expenditure					Ln per capita food expenditure				
Variables	q10	q25	q50	q75	q90	q10	q25	q50	q75	q90
Migrant households	−0.380***	−0.258***	−0.280***	−0.336***	−0.282***	−0.115	0.0662	0.0147	0.0102	−0.0328
	(0.104)	(0.0453)	(0.0463)	(0.0606)	(0.0883)	(0.116)	(0.0664)	(0.0407)	(0.0502)	(0.0801)
Ln per capita income	0.720***	0.609***	0.466***	0.328***	0.212***	0.749***	0.580***	0.463***	0.274***	0.127***
	(0.0586)	(0.0554)	(0.0556)	(0.0629)	(0.0522)	(0.0813)	(0.0691)	(0.0590)	(0.0721)	(0.0476)
HH head's age	0.00385	0.00516***	0.00379***	0.00534**	0.00686*	0.00716	0.00256	0.000145	−0.000318	0.00236
	(0.00403)	(0.00174)	(0.00146)	(0.00213)	(0.00414)	(0.00438)	(0.00227)	(0.00154)	(0.00202)	(0.00240)
HH head's gender (1 = male, 0 = female)	0.0728	−0.0212	−0.00956	0.0625*	0.0836	0.0418	−0.00708	0.0224	0.0665**	0.0677
	(0.0756)	(0.0341)	(0.0330)	(0.0335)	(0.0538)	(0.0973)	(0.0443)	(0.0318)	(0.0335)	(0.0502)
HH head's years of schooling	0.0241**	0.0264***	0.0279***	0.0364***	0.0395***	0.00341	0.0107	0.0120**	0.0148**	0.0248***
	(0.00944)	(0.00457)	(0.00507)	(0.00574)	(0.00809)	(0.0117)	(0.00663)	(0.00520)	(0.00582)	(0.00574)
HH head's occupation category										
Leader, top-level professional	0.0673	0.0928	0.220***	0.273***	0.394***	0.0584	0.0204	0.108*	0.155**	0.256***
	(0.187)	(0.0793)	(0.0551)	(0.0788)	(0.115)	(0.439)	(0.0961)	(0.0565)	(0.0694)	(0.0926)
Staff or skilled worker	0.188	0.155***	0.189***	0.190***	0.0803	0.228	0.0577	0.0443	0.0924*	0.151*
	(0.188)	(0.0564)	(0.0480)	(0.0615)	(0.0772)	(0.407)	(0.0777)	(0.0590)	(0.0530)	(0.0888)
Manual or assembly worker	0.139	0.102**	0.106***	0.0971*	0.00820	0.346	0.0508	0.0444	0.0265	0.0773
	(0.178)	(0.0507)	(0.0395)	(0.0523)	(0.0619)	(0.414)	(0.0687)	(0.0458)	(0.0492)	(0.0537)
Retired/not working	0.297	0.148**	0.135**	0.264***	0.290**	0.171	0.0893	0.116**	0.110	0.103
	(0.185)	(0.0756)	(0.0552)	(0.0737)	(0.115)	(0.397)	(0.0921)	(0.0584)	(0.0698)	(0.0812)
Household size	−0.0298	−0.0400**	−0.0513***	−0.100***	−0.113***	0.0236	−0.0226*	−0.0405**	−0.0789***	−0.113***
	(0.0222)	(0.0167)	(0.0187)	(0.0194)	(0.0265)	(0.0251)	(0.0134)	(0.0161)	(0.0181)	(0.0221)
Children ratio	0.628***	0.397***	0.0537	0.122	−0.0374	0.568***	0.420***	0.181*	0.0553	0.0665
	(0.189)	(0.112)	(0.104)	(0.106)	(0.167)	(0.219)	(0.127)	(0.0989)	(0.118)	(0.131)

(continued)

Table 7 (continued)

Variables	Ln per capita total expenditure					Ln per capita food expenditure				
	q10	q25	q50	q75	q90	q10	q25	q50	q75	q90
Elderly ratio	−0.0103	0.0874	0.0465	−0.0193	−0.0512	−0.322	−0.0565	−0.0398	−0.00313	−0.0677
	(0.184)	(0.122)	(0.0996)	(0.146)	(0.167)	(0.290)	(0.154)	(0.109)	(0.114)	(0.110)
Location[1]										
Ho Chi Minh City	0.0636	0.00208	−0.0990**	−0.0738*	−0.0855	−0.0177	−0.00474	−0.0228	−0.0370	−0.0315
	(0.109)	(0.0427)	(0.0400)	(0.0411)	(0.0662)	(0.149)	(0.0492)	(0.0382)	(0.0318)	(0.0471)
Binh Duong and Dong Nai	−0.108	−0.165***	−0.268***	−0.191***	−0.241***	−0.105	−0.0991	−0.124**	−0.185***	−0.136**
	(0.113)	(0.0419)	(0.0480)	(0.0616)	(0.0800)	(0.153)	(0.0605)	(0.0502)	(0.0449)	(0.0614)
Constant	1.037*	2.303***	3.911***	5.185***	6.389***	−0.439	1.698***	3.118***	5.001***	6.309***
	(0.597)	(0.459)	(0.452)	(0.527)	(0.504)	(0.786)	(0.584)	(0.479)	(0.554)	(0.411)
Observations	1232	1232	1232	1232	1232	1232	1232	1232	1232	1232

Variables	Ln per capita non-food expenditure				
	q10	q25	q50	q75	q90
Migrant households	−0.933***	−0.658***	−0.581***	−0.514***	−0.440***
	(0.133)	(0.0975)	(0.0610)	(0.0770)	(0.0903)
Ln per capita income	0.733***	0.679***	0.468***	0.319***	0.226***
	(0.0586)	(0.0696)	(0.0726)	(0.0772)	(0.0510)
HH head's age	0.00639	0.00487	0.00504**	0.00633**	0.00760
	(0.00440)	(0.00327)	(0.00241)	(0.00254)	(0.00513)
HH head's gender (1 = male, 0 = female)	−0.0436	0.0155	0.0290	0.0553	0.0901
	(0.0782)	(0.0483)	(0.0406)	(0.0475)	(0.0612)
HH head's years of schooling	0.0406***	0.0372***	0.0381***	0.0459***	0.0496***
	(0.0133)	(0.00735)	(0.00653)	(0.00913)	(0.00992)
HH head's occupation category					
Leader, top-level professional	0.381	0.160	0.288***	0.322***	0.484***
	(0.276)	(0.133)	(0.0769)	(0.0981)	(0.156)
Staff or skilled worker	0.602**	0.298***	0.288***	0.159*	0.155*
	(0.246)	(0.0973)	(0.0578)	(0.0833)	(0.0834)
Manual or assembly worker	0.482**	0.115	0.152**	0.0995	0.109
	(0.234)	(0.0953)	(0.0695)	(0.0777)	(0.0804)
Retired/not working	0.681***	0.367***	0.304***	0.299***	0.387***
	(0.253)	(0.124)	(0.0800)	(0.0954)	(0.110)
Household size	−0.0379	−0.0727***	−0.0826***	−0.0987***	−0.116***
	(0.0286)	(0.0179)	(0.0217)	(0.0228)	(0.0354)
Children ratio	0.430*	0.366**	0.0639	−0.00432	0.0413
	(0.240)	(0.181)	(0.153)	(0.167)	(0.232)
Elderly ratio	0.151	0.00767	0.0241	0.0167	−0.0397
	(0.201)	(0.157)	(0.135)	(0.149)	(0.189)
Location					
Ho Chi Minh City	0.251	0.0317	−0.0668	−0.120*	−0.135*
	(0.197)	(0.0745)	(0.0451)	(0.0720)	(0.0819)

(continued)

Table 7 (continued)

Variables	Ln per capita non-food expenditure				
	q10	q25	q50	q75	q90
Binh Duong and Dong Nai	0.0716	−0.130	−0.232***	−0.272***	−0.394***
	(0.215)	(0.0900)	(0.0584)	(0.0817)	(0.0893)
Constant	−0.296	1.108*	3.250***	4.778***	5.773***
	(0.600)	(0.607)	(0.591)	(0.608)	(0.497)
Observations	1232	1232	1232	1232	1232

Sources: Own calculations, based on the VHLSS2012 and the VRUMS2013

(i) Standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1. (ii) 'Unskilled worker' is the reference group for occupation categories and Hanoi is the reference group for location dummies

References

Amuedo-Dorantes, C., & Pozo, S. (2006). Remittances as insurance: Evidence from Mexican immigrants. *Journal of Population Economics, 19*, 227–254.

Azzarri, C., & Zezza, A. (2011). International migration and nutritional outcomes in Tajikistan. *Food Policy, 36*(1).

Beegle, K., Weerdt, J. D., & Dercon, S. (2011). Migration and economic mobility in Tanzania: Evidence from a tracking survey. *Review of Economics and Statistics, 93*(3), 1010–1033.

Cao, G., Li, K., Wang, R., & Liu, T. (2017). Consumption structure of migrant workers' families in China. *China and World Economy, 25*(4), 1–21.

Chamon, M., & Prasad, E. (2010). Why are saving rates of urban households in China rising? *American Economic Journal—Macroeconomics, 2*(1), 93–130.

Charles, K. K., Hurst, E., & Roussanov, N. (2009). Conspicuous consumption and race. *Quarterly Journal of Economics, 124*(2), 425–467.

Chen, B., Lu, M., & Zhong, N. (2012). *Hukou* and consumption heterogeneity: Migrants' expenditure is depressed by institutional constraints in urban China. *Social Science Research Network, 71003112*, 0–42.

Chen, B., Lu, M., & Zhong, N. (2015). How urban segregation distorts Chinese migrants' consumption? *World Development, 70*, 133–146.

Dang, N. A., Tacoli, C., & Hoang, X. T. (2003, June). *Migration in Vietnam: A review of information on current trends and patterns, and their policy implications*. Paper presented at the Regional Conference on Migration, Development and Pro-Poor Policy Choices in Asia, Dhaka.

de Brauw, A., & Harigaya, T. (2007). Seasonal migration and improving living standards in Vietnam. *American Journal of Agricultural Economics, 89*(2), 430–447.

Dinh, V. T. N., & Pincus, J. (2011). *Mobility and the measurement of well-being in Hanoi and Ho Chi Minh City*.

Dreger, C., Wang, T., & Zhang, Y. (2014). *Understanding Chinese consumption: The impact of hukou*. BOFIT Discussion Papers No. 7.

Fang, Z., & Sakellariou, C. (2016). Living standards inequality between migrants and local residents in urban China: A quantile decomposition. *Contemporary Economic Policy, 34*(2), 369–386.

General Statistics Office (GSO). (2013). *Consumer price index*. http://www.gso.gov.vn/default_en.aspx?tabid=625andItemID=14768

Giles, J., & Yoo, K. (2007). Precautionary behavior, migrant networks, and household consumption decisions: An empirical analysis using household panel data from rural China. *The Review of Economics and Statistics, 89*(3), 534–551.

Karamba, W. R., Quiñones, E. J., & Winters, P. (2011). Migration and food consumption patterns in Ghana. *Food Policy, 36*(1), 41–53.

Le, B. D., & Nguyen, T. L. (2011). *From countryside to cities: Socioeconomic impacts of migration in Vietnam*. Hanoi: Workers' Publishing House.

Le, B. D., Tran, G. L., & Nguyen, T. P. T. (2011). *Social protection for rural-urban migrants in Vietnam: Current situation, challenges and opportunities*. Technical Report: CSP Research Report. https://www.ids.ac.uk/files/dmfile/ResearchReport08REVISE.pdf

Meng, X. (2003). Unemployment, consumption smoothing, and precautionary saving in urban China. *Journal of Comparative Economics, 31*(3), 465–485.

Nguyen, V. C., & Pham, M. T. (2012). *Are migrant households in large cities underpaid? Evidence from Vietnam*. Personal RePEc Archive: Munich.

Nguyen, M. C., & Winters, P. (2011). The impact of migration on food consumption patterns: The case of Vietnam. *Food Policy, 36*(1).

Nguyen, T. P., Tran, N. T. M. T., Nguyen, T. N., & Oostendorp, R. (2008). *Determinants and impacts of migration in Vietnam*. Depocen Working Paper Series No. 2008/01.

Nguyen, V. C., Van den Berg, M., & Lensink, R. (2011). The impact of work migration and non-work migration on household welfare, poverty and inequality: New evidence from Vietnam. *The Economics of Transition, 19*(4), 771–799.

Niimi, Y., Pham, T. H., & Reilly, B. (2009). Determinants of remittances: Recent evidence using data on internal migrants in Vietnam. *Asian Economic Journal, 23*(1), 19–39.

Nivalainen, S. (2004). Determinants of family migration: Short moves vs. long moves. *Journal of Population Economics, 17*(1), 157–175.

Phan, D., & Coxhead, I. (2010). Inter-provincial migration and inequality during Vietnam's transition. *Journal of Development Economics, 91*(1), 100–112.

Thu Le, H., & Booth, A. L. (2014). Inequality in Vietnamese urban–rural living standards, 1993–2006. *Review of Income and Wealth, 60*(4), 862–886.

Winters, P., de Janvry, A., & Sadoulet, E. (2001). Family and community networks in Mexico–US migration. *The Journal of Human Resources, 36*(1), 159–184.

Housing Gaps Between Rural–Urban Migrants and Local Urban Residents: The Case of Vietnam

Hai Anh La, Thi Bich Tran, and Uyen Nguyen

Abstract This chapter examines the gaps in homeownership and housing conditions between rural-to-urban migrants and local urban residents using the 2013 Vietnam Rural–Urban Migration Survey and the 2012 Vietnam Household Living Standards Survey. It employs probit and ordinary least squares (OLS) regression models and applies the Oaxaca decomposition technique to delineate the demographic and socioeconomic characteristics that shape migrant–urban local housing inequality. The results reveal that migrants are significantly less likely than local urban residents to be homeowners and that their living conditions are not as good as those of the urban locals, even after controlling for household characteristics. Our results further reveal that 45% of the homeownership and housing conditions gaps are attributable to differences in family characteristics. The remaining differences between the two groups are attributable to unexplained factors such as differences in the ability to access formal credit, commitment to establishing residence upon arrival, choice and preferences, inheritance, parental financial support and accumulated wealth. As a robustness check, we also decompose the two gaps between migrants with KT1 *ho khau* (household registration) status and those with rural *ho khau*. The results suggest that restrictions imposed by the *ho khau* system may have a role to play.

H. A. La (✉)
National Centre for Social and Economic Modelling, University of Canberra, Canberra, ACT, Australia

Centre for Analysis and Forecasting, Vietnam Academy of Social Sciences, Hanoi, Vietnam
e-mail: haianh.la@canberra.edu.au

T. B. Tran
Department of Statistics, National Economics University, Hanoi, Vietnam

U. Nguyen
Research School of Physics and Engineering, ANU College of Physical and Mathematical Sciences, Australian National University, Canberra, ACT, Australia

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_9

1 Introduction

Over the past two decades, Vietnam has witnessed a massive flow of migration due to rapid urbanisation and industrialisation. Prior to 1986, most of the jobs allocated to migrants were sponsored and organised by the government and the government helped workers to settle in the newly developing rural areas. Post 1986, however, the migration flows have mainly been spontaneous as a result of economic restructuring and the development of entrepreneurship, foreign investment, and industrial zones. According to the 2009 and 1999 Vietnam Population and Housing censuses, 7.7% of the population aged five or over (6.8 million people) migrated before 2009—up from 6.5% in 1999. Of these, 3.9 million people moved to urban areas. Among them, 2.1 million (8.9% of the urban population) came from the countryside. With the increasing regional socioeconomic disparities and the growing labour demand in the country's large cities and industrial zones, the rural-to-urban migration rates were highest in Ho Chi Minh City (25.2%) and Binh Duong (14%), and were also high in Dong Nai (12.9%) and Hanoi (7.5%). These figures, however, underestimate the flow of rural-to-urban migration as they exclude short-term, temporary and circular movements.[1]

Large streams of rural-to-urban migration have undoubtedly benefited migrants in both the sending and the receiving areas in many countries. However, migration often creates a significant shortage in temporary housing in cities and residential segregation between migrants and urban residents (Wang and Zuo 1999).[2] In the case of Vietnam, some studies (Hartley and Lam 2008; UNESCAP 2009; Waibel et al. 2007) have found that migrants were economically disadvantaged in terms of housing, living with poor physical infrastructure in badly rundown neighbourhoods; those who cannot afford to buy a house often rent rooms in crowded boarding houses without basic facilities and infrastructure. The results of the 2008 Migration Impact Survey (MIS)[3] show that 93% of migrants have to rent a dwelling. The most recent labour migration survey conducted by the Ministry of Labour, Invalids and Social Affairs (MOLISA) in 2012 and covering a sample of 7800 migrant workers in 15 provinces shows: (1) that housing was one of the major challenges facing migrant workers; and (2) that more than 86% were living in rental accommodation. They also often have to pay electricity and water fees that are two or three times higher than the

[1] In the 2009 Vietnam Population and Housing Census, migrants are defined as people whose place of residence 5 years prior to the time of the census was different from their current location. This definition, therefore, excludes worker dormitories, which are predominantly occupied by short-term, temporary and circular migrants.

[2] Wang and Zuo (1999) quote the following five gaps between migrants and urban residents for China: segregated labour market and occupations, low income and poor benefits, temporary housing and residential segregation, individual instead of familial migration, and an absence of social integration.

[3] This survey randomly sampled over 5500 migrants of all types.

state-regulated prices.[4] Thus, a significant proportion of their income (more than 20%) went towards the payment of bills.

Poor housing conditions are another important challenge that impact adversely on the wellbeing of migrants (Nguyen and White 2007). The results from a 2004 small-scale survey including 600 rural-to-urban migrants residing in Ho Chi Minh City, Long An and Binh Duong provinces indicated that 60% of migrants lived in badly built houses. Moreover, 10% lived in shelters that were not sufficiently well constructed to protect them from inclement weather (Cu 2009). The 2008 MIS also showed that 14% of migrants had to use outside toilets, and 62% relied on either rainwater or water from wells for drinking and cooking (UNESCAP 2009). Additionally, instead of using gas or electricity as their primary sources of energy for cooking, approximately 17% of all migrants utilised coal, kerosene, wood and straw, the smoke from which is harmful to health.

Although the literature on Vietnam frequently alludes to the housing disadvantages borne by migrants, little is known about the factors that contribute to the differences in rural and urban residents' housing. One could argue that migrants' plight mainly stems from an apparent institutional barrier—the country's household registration (*ho khau*) policy—which segregates migrants, both economically and socially, from their urban counterparts. The *ho khau* system was first mentioned in a Vietnamese legal document in 1957. Its purpose was to limit the movement of people from rural areas to the cities. This policy has left migrants with limited opportunities and livelihood choices (Dang 2005; Hardy 2001; Le 1998). The system was officially adopted in 1964 and, under it, only those with the permission of a competent authority were allowed to move from one place to another (Demombynes and Vu 2016).[5] Decree No. 51/CP, issued on 10 May 1997, refers to *ho khau* as 'a measure of administrative management of the State to determine the citizens' place of residence, ensure the existence of their rights and obligations, enhance social management, and maintain political stability, social order and safety'.

Prior to the 2006 Law on Residence, the *ho khau* system established four categories of households. Permanent residents were registered with KT1 status and had full entitlements, including purchasing land-use rights and accessing public schools and public medical services within their residential district. Those moving to a different district but in the same province had KT2 status and could purchase

[4] See http://vietnamnews.vn/society/244307/migrant-workers-struggle-to-survive.html

[5] Before economic renovation (*Doi moi*) in 1986, Vietnam was under a planned economic system. During that period, housing in cities was mainly provided by the state. However, the state was only able to provide housing to about one-third of civil servants due to the excess demand for low-priced housing (Drakakis-Smith and Dixon 1997). Housing reform began in 1986 with a gradual withdrawal of state housing provision and its final termination in 1992. The government also introduced a range of policies to encourage individuals and companies to engage in housing construction. As a result, for instance, between 1985 and 1997, about 70% of new accommodation in Hanoi was constructed using financial capital from private sources (Phe 2002; Quang and Kammeier 2002). Also in 1994, the government launched a scheme to privatise the existing state-owned housing stock—a scheme described as the 'socialisation of state housing'. Consequently, 68% of state-owned housing in Hanoi was privatised by 2006 (Tran and Dalholm 2005).

land-use rights but were only allowed to access public schools and other public social services in the registered district. Migrants registered in one province but residing in another were classified KT3 and were allowed to stay in the locality for 6–12 months, with the possibility of extension. Their children could access local schools only if there was excess capacity available, as priority was given to children with KT1 and KT2 status. Migrants who did not have a household registration book or who did not register (KT4) could stay in the locality for 1–3 months; however, they were not allowed to purchase a land title or access certain social services[6] (Kabeer et al. 2005). In addition, KT3 and KT4 households had to pay higher costs for electricity and water than local urban residents because they could not benefit from, for instance, the progressive electricity tariff structure for households with permanent *ho khau* (KT1) status (World Bank 2016). These families also faced another difficulty if they planned to live permanently in cities. To obtain permanent residence in a new location, migrants had to demonstrate 3 years of uninterrupted employment and residence at that location, house ownership or a land-use certificate. Yet, to own a house, migrants had to be officially registered as permanent residents (Le and Nguyen 2011). The *ho khau* system, therefore, generated significant institutional barriers for nearly all interprovincial migrants.

The new Law on Residence was enacted in 2006 and came into effect in 2007. It simplifies the *ho khau* system to only two categories—permanent and temporary[7]—and reduces the residence requirement from 3 years to 1 for households applying for permanent residence. In addition, having stable employment and homeownership for the duration of their stay are no longer required. Instead, they need only provide the necessary paperwork (e.g. a certificate from the subdistrict People's Committee) to show they are living in a 'legal house' (i.e. in their own home or in a long-term residence arrangement with individuals or an organisation who have a business permit to rent out homes that measure at least 5 m^2 per resident). It is also worth noting that since the introduction of the 2005 Housing Law (No. 56/2005/QH11), legally owning a dwelling in the city does not depend on the place of permanent residence registration (Article 9, Clause 2). However, in practice, buying a dwelling is out of reach for most migrants, especially in major cities such as Ho Chi Minh City. Those who are well-off can nonetheless purchase a dwelling through the market. While not all rural–urban migrants are poor, those without permanent *ho khau* status, in particular, often account for a disproportionate portion of the urban poor and face various challenges. For instance, they tend not to have access to a stable and high-income job, which makes it difficult given the rising house prices in the cities. In addition, social housing may not be accessible to migrants unless they are on the 'poor list'.[8]

[6]For example, they were not eligible for the National Targeted Programs for poverty reduction.

[7]However, due to the inconsistent application of the 2006 Law on Residence across the country, while local authorities in Hanoi appear to be using the new residential categories rigorously, those in Ho Chi Minh City are still applying the four previous types of KT1–KT4 (Marx and Fleischer 2010). Therefore, in our chapter, we define our variables using the old system of all four levels.

[8]A new housing law was passed and took effect on 1 July 2015 (No. 65/2014/QH13). The 2015 Housing Law sets the framework for reform in the housing sector. In addition to promoting the

However, recently, concerns about rapid urbanisation led to the Law on Amendments to the Law on Residence No. 81/2006/QH11 in 2013 (No. 36/2013/QH13) to tighten the requirements for applying for permanent *ho khau* in the central cities (migrants must stay in these cities for at least two consecutive years, instead of one). Amendments in 2013 also recognised the competence of local authorities in issuing the regulations on household registration, which may further worsen conditions for migrants. For example, the law reinstates the previous minimum residence period in Hanoi of three consecutive years required by the Law on the Capital in 2012. In addition, migrants must have a 'legal house'—without which low-income migrants cannot obtain permanent or even temporary registration status and must remain unregistered without access to public services in their district of residence. This, therefore, limits their commitment to establishing permanent residence upon arrival. In addition, without permanent or long-term temporary registration, they are also ineligible to access credit from the government's subsidised mortgage program (the VND30 trillion stimulus package),[9] making it more difficult for them to own their own dwelling. The *ho khau* system, in these cases, creates an institutional barrier to new and low-income migrants.

Some may argue that, compared with local residents, migrants from rural areas are more likely to be young, never married, and earn less and, as a result, their demographic and socioeconomic characteristics can on their own explain migrants' disadvantageous position in terms of housing ownership and conditions. Understanding to what extent these characteristics contribute to the two housing gaps is of interest to policymakers because housing is associated with migrants' wellbeing, wealth accumulation, social assimilation as well as, more broadly, housing inequality. Housing inequality is shown to be an essential element of overall social and economic inequality. Narrowing housing inequality among different socioeconomic groups is an important challenge facing many governments.

---

participation of the private sector, it attempts to 'address the shortage of affordable rental housing as well as high demand for housing from the low income groups, especially workers in industrial zones of large cities' (World Bank 2015: xi). It includes incentive policies such as preferential loans through social policy banks or appointed credit institutions for eligible individuals to build or renovate their housing (Article 50, Clause 4). Registration of permanent residence in the province where the social housing is located or registration of temporary residence in that province for at least 1 year is required to benefit from the incentive policies (Article 51, Clause 1b).

[9]Policy on social housing was initiated by the Government in 2009 and in 2011 the Prime Minister approved the Strategy of National Housing Development by 2020, with a vision to 2030 (Decision No. 2127/QD-TTg 30/11/2011). The strategy provides details of beneficiaries with housing difficulties, including low-income people in urban areas, workers in industrial zones, students, the rural poor and people living in disaster-prone areas. The government also launched a VND30 trillion stimulus package in June 2013 to stimulate the real estate market to reorient lenders and developers towards actual demand from middle and low-income consumers. Migrants who obtained permanent *ho khau* or registered for temporary residence in cities with social insurance contributions for at least 1 year are eligible to rent social housing or access credit from the stimulus package to purchase social housing. However, unregistered or short-term migrants do not benefit from these policies. The World Bank (2015: xv) comments on the overall effectiveness of the package that 'it largely benefits the formally employed middle class at high economic cost to the government'.

This study, therefore, aims to understand how large the housing gaps are after controlling for household characteristics and what are the important contributing factors to the housing gaps between migrants and local residents in the main cities of Vietnam. The chapter is organised as follows. In the next section, we briefly review two datasets used in our analysis: the Vietnam Rural–Urban Migration Survey 2013 (VRUMS2013) and the Vietnam Household Living Standards Survey 2012 (VHLSS2012). The methodology and variables constructed from these datasets are then described in Sect. 3. Also, in this section, we will discuss how to compile a housing quality index using the Multiple Correspondence Analysis (MCA) methodology. Section 4 discusses the model specifications and explores the relationship between household characteristics and the two housing gaps between rural migrants and urban locals, as well as between migrants with KT1 status and migrants with rural *ho khau* status. The decomposition results will be presented and discussed in Sect. 5. The final section concludes.

2 Data and Definitions

This study uses data from the VRUMS2013, which covered households migrating from rural to urban areas for employment purposes, mainly to Hanoi (31%) and Ho Chi Minh City (55.6%). Other urban destinations included Binh Duong (10.8%) and Dong Nai (2.7%). The sampling frame for this survey was taken from a list of rural households in the VHLSS2012[10] conducted by the General Statistics Office (GSO) of Vietnam. Of the 33,480 rural households selected from the VHLSS2012, 20,289 were successfully contacted to check whether they had a migrant member(s) in one of the four cities mentioned above. Less than 10% had migrants working in Hanoi or Ho Chi Minh City. Ultimately, only 869 migrant households (including those in Binh Duong and Dong Nai) were successfully interviewed. This low response rate was mainly due to incorrect phone numbers, resulting in a potential selection bias problem.[11]

Because the VRUMS2013 gathers information exclusively on rural migrants, to draw a comparison with local urban residents, we combine this database with the VHLSS2012, from which 3165 households living in urban areas of Hanoi, Ho Chi Minh City, Binh Duong and Dong Nai are selected. Ideally, local urban residents are identified as those who are currently living in the urban place in which they were born. However, the VHLSS2012 does not provide this information; only

[10]This survey was conducted as follows. First, a list of rural households along with their telephone numbers was taken from the VHLSS2012—the income module. Second, all listed rural households were phoned to check whether they had any members who had migrated to Hanoi, Ho Chi Minh City or other surrounding urban areas. If they had, information and contact details of migrants were collected. Third, these migrants and their families were interviewed.

[11]For example, the survey may miss rural poor households who do not have a landline or mobile phone.

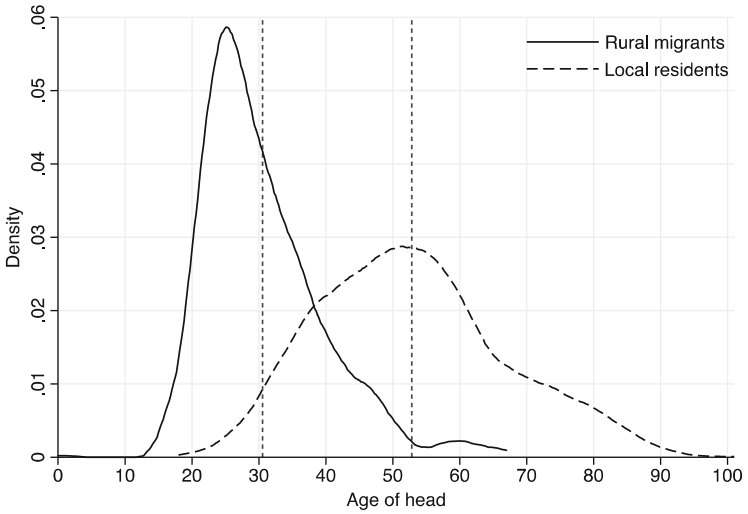


Fig. 1 Age distribution of household heads. Sources: All rural migrants from the VRUMS2013 and urban locals (those with KT1 status) from the VHLSS2012

information on household registration is available. For this reason, local residents in this study are defined as those residing in the commune where their *ho khau* (KT1 status) is registered.[12] This definition has its limitations; local residents may include both locally born residents and rural–urban migrants whose origins are in rural areas but who currently hold a local *ho khau*.

Our sample encompasses rural migrants from the VRUMS2013 and urban locals (those with KT1 registration) from the VHLSS2012. Without imposing any restrictions, the raw data reveal that the average age of household heads in the VRUMS2013 is approximately 30, with 94% aged between 20 and 59. Meanwhile, the average age of householders in the VHLSS2012 dataset is 53 and has a range from 20 to 90 (see Fig. 1). To make the two groups more comparable, we limit our sample to families with householders aged between 20 and 59.[13] Our final sample includes 2683 households (the unit of our analysis), of which 1890 come from the VHLSS2012 and 793 from the VRUMS2013.[14]

Both the VHLSS2012 and the VRUMS2013 give detailed information on homeownership and housing conditions as well as demographic and socioeconomic household characteristics. We take great care when constructing the dependent and independent variables using these two data sources to make sure they are comparable. Additionally, because the VRUMS2013 collects rich information on migrant

[12] As long as either a household head or their spouse holds a KT1 *ho khau*, they will be counted as an urban local.

[13] According to the Vietnamese Labour Law, the standard retirement age for males is 60.

[14] In the VRUMS2013 database, we drop 20 households with KT2 while combining 33 unregistered households with those holding rural *ho khau*.

characteristics—such as duration of residence in cities, future living plans, whether their children or spouse have been left behind in their hometown, how stable is their job in cities and whether they are from a poor family, etc. (see Table 4)—we also examine to what extent these characteristics explain the two housing gaps among migrants by dividing the migrant sample into two groups: those holding rural *ho khau* (661 observations) and those with KT1 registration (132 observations). This will enable us to examine more clearly whether holding different types of *ho khau* will influence the gap in housing ownership and housing conditions.

3 Methodology

To delineate the demographic and socioeconomic characteristics that shape migrant–local housing inequality, we first identify the dependent variables, which will be used in the model presented in the next subsection. They include: (1) homeownership, which is simply defined as whether or not a household is residing in their own dwelling, and (2) housing quality, which is measured by a group of variables reflecting housing conditions—the so-called housing quality index. We then present all independent variables used in the empirical work.

3.1 A Measurement of the Housing Condition Index

Construction quality, overcrowding[15] and access to essential public services are among many unidimensional measures commonly employed to appraise housing conditions. In this chapter, we construct a multidimensional housing quality index that allows us to incorporate a range of indicators to capture the multiple aspects of housing conditions. The index consists of three dimensions—dwelling structure, housing facilities, and dwelling density—to reflect the commonly used measures of housing quality in the literature. Each of these three dimensions is measured by a set of indicators. First, regarding housing structure, we use a categorical variable describing the home type: permanent, semi-permanent or temporary. According to the GSO's definition, permanent houses include villas, multi-storey houses, apartments in multi-storey buildings, multi-level buildings assembled from prefabricated components, and brick-constructed houses with flat concrete roofs. Semi-permanent houses include those with walls made of brick/wooden frames and roofs made using tile, cement-mortar or metal. Temporary houses include those with durable frames and leaf roofs and which have been used for more than 15 years. They also include simple houses with walls made using dirt/leaves/woven sheets and roofs made of

[15] According to the World Health Organisation, overcrowding refers to the situation in which more people are living within a single dwelling than the amount of space available.

Table 1 Homeownership and housing conditions

	Reside in a dormitory or a shared home	Rent a home	Own a home
Number of observations	350	434	1899
Per capita living area (m^2)	8.2	11.6	24.2
– Less than 5 m^2/person (%)	32.4	14.4	2.7
– From 25 m^2/person (%)	2.9	6.5	35.5
Residential building style			
– Temporary house (%)	50.3	12.0	0.8
– Semi-permanent house (%)	33.1	51.2	42.9
– Permanent house (%)	16.6	36.9	56.3
Private tap water for cooking (%)	34.3	43.3	75.7
Housing quality index (over 100 points)	28.4	42.2	62.3

Source: Authors' calculations based on VRUMS2013 and VHLSS2012

bamboo/leaves/oil-paper. Second, regarding housing facilities, a dummy variable that indicates whether a household has access to private tap water for cooking is used. It equals 1 if the household has a private tap (an improved source of water) and zero otherwise. Finally, for housing density, a continuous variable of floor space per person (in square metres) is used.

In the literature, Multiple Correspondence Analysis (MCA) is a well-known method developed to construct a composite poverty index that accounts for multidimensional poverty profiles. Using MCA, a weighted sum of the indicators aggregating each of the three dimensions discussed above and then across the three dimensions is calculated to build a composite housing quality index. This index is then rescaled to generate a value between 0 and 100. The system of weights generated by MCA results from an optimal strategy minimising the information loss to produce a composite index in a lower dimension space (for more details, see Greenacre 1993).

It is apparent that housing conditions are highly associated with housing tenure choice (see Table 1). There are three types of tenure choice: owning a home, renting a home and residing in a dormitory, workplace or share-house. Homeowners tend to enjoy the best housing conditions, while those staying in dormitories and workplaces or sharing a dwelling are more likely to experience the poorest housing quality. Specifically, the average living area per capita in a privately owned house is 24 m^2—double that of an independently rented house and three times larger than a dormitory or share-house. While one-third of dormitories or share-houses are

overcrowded, with a living area of less than 5 m^2 per person,[16] 36% of privately owned homes have a living area per capita of 25 m^2 or larger.[17]

In our sample, more than half of all homeowners live in permanent dwellings, with the rest mostly in semi-permanent houses. By contrast, 50% of dormitories or shared houses are temporary structures and just over 15% are permanent constructions. Rental houses have better-quality construction, with only 12% being temporary structures. Homeowners also have better access to private tap water for cooking (76%) compared with 43% of renters and 34% of those living in dormitories or share-houses. Consequently, the average housing quality score for homeowners is 62 points out of 100, which is 1.5 times higher than that for renters and more than double that for those residing in dormitories or share-houses.

3.2 Model Specification

Most studies in the literature on housing ownership or tenure focus on racial differences, especially the black–white difference in the United States. These US studies find that blacks are less likely to own a house than whites because the household heads are more likely to be younger and never married and therefore have smaller family sizes and come from lower-income families (i.e., Bourassa 2000; Chatterjee and Zahirovic-Herbert 2011; Kain and Quigley 1972; Krivo 1995; Li 1977; Lim et al. 1980; Painter et al. 2001; Tipple and Willis 1991; Ulker 2008).

One of the key demographic variables in the tenure choice models in the existing literature is the age of the household head, which equates with the household's stage in the life cycle and the degree to which it is either mobile or settled. Old respondents are considered to be less mobile than their younger counterparts and therefore more likely to own a house. Marriage is also expected to enhance homeownership prospects by allowing households to benefit from household-level economies of scale. Marriage and children tend to be positively related to individuals' propensity to save and to restrict geographic mobility (Krivo 1995; Painter et al. 2001). The gender of the household head may also be associated with the tenure choice and negatively associated with homeownership (Brisson and Usher 2007). Being female is associated with lower odds of homeownership, which supports the well-established fact that women face a disadvantage in the pursuit of economic success.

Economic characteristics are shown to have primary associations with homeownership. Because the ability of householders to purchase a house depends on their expected lifetime income, current household income and employment sector are often used as proxies. Two additional variables—educational attainment and occupational status—are also included to evaluate the householder's long-term

[16] According to the 2012 Law on the Capital, a rental house with a living area not smaller than 5 m^2/person is required for migrants to acquire permanent residence.

[17] The Vietnamese Government set a living area target of 25 m^2/person by 2020.

economic prospects (Alba and Logan 1992). Empirical studies have consistently found that these variables are positively associated with the likelihood of owning a home (Krivo 1995; Painter et al. 2001). In addition, duration of residence at their destination may affect immigrants' homeownership decision-making. Newcomers to a region may have lower homeownership expectations than longer-term residents. An immigrant household's commitment to establishing a permanent residence at the destination tends to increase with time (Alba and Logan 1992).

The probit or logit models are most commonly applied in the empirical studies of associations of homeownership. In this study, we employ a probit model incorporating all of the associations alluded to above to identify which factors statistically significantly affect the tenure choices of rural migrants and local residents. We assume that the model takes the following form:

$$Pr(Y = 1|X) = \Phi\left(X^T\beta\right), \tag{1}$$

where Pr denotes probability and Φ is the cumulative distribution function of the standard normal distribution. The parameters, β, are typically estimated by maximum likelihood. Y is a binary variable, equal to 1 if the respondent owns their home and 0 if he or she rents a home or resides in a dormitory or share-house, while X is a vector of regressors. It includes the following variables:

- ***Migrant status***: A dummy variable equal to 1 if households are migrants from rural areas (in the VRUMS2013 database) and 0 if they are urban locals (those with KT1 in the VHLSS2012 database). This dependent variable measures the homeownership gap between rural migrants and locals and is used to examine whether a homeownership gap still exists when controlling all household characteristics and spatial factors.
- ***Demographic characteristics***
  - *Age of household head*: A continuous variable ranging from 20 to 59.
  - *Gender of household head*: A dummy variable equal to 1 if female and 0 if male.
  - *Household head's marital status*: A dummy variable equal to 1 if married, divorced, separated or widowed, and 0 if single.
  - *Number of children*: A count variable ranging from 0 to 6.
  - *Educational attainment of household head*: A dummy variable equal to 1 if the household heads hold a college degree or higher, and 0 if they have secondary school education or below.
- ***Socioeconomic characteristics***
  - *Monthly household income per person*: A continuous variable, in logarithm form, to reduce the influence of outliers and account for the nonlinear relationship between income and the probability of owning a house. The VHLSS2012 data are inflated to be comparable with those in the VRUMS2013.
  - *Household head is not working*: This dummy is equal to 1 if the household head has not been working in the past 12 months and is 0 otherwise.

- *Type of work unit of the household head*: Two dummy variables: (1) a dummy is equal to 1 if the household head works in the state sector and 0 otherwise; and (2) a dummy is equal to 1 if the household head is running their own business and 0 otherwise. The reference group is those households with heads working in the private and foreign sectors.
- *Occupation of the household head*: Two dummy variables: (1) a dummy is equal to 1 if the household head works as an office staffer or skilled worker and 0 otherwise; and (2) a dummy is equal to 1 if the household head is a leader, high or mid-level professional and 0 otherwise. The reference group is the households with heads in unskilled, manual or assembly work.[18]

- ***Location***
  - *Two dummy variables are used:* (1) A dummy is equal to 1 if the family is living in Binh Duong or Dong Nai and 0 otherwise; and (2) a dummy is equal to 1 if the family is residing in Ho Chi Minh City and 0 otherwise. The reference group is those households living in Hanoi.

- ***Migrant characteristics***
  - *Accommodation support from employers*: A dummy variable is equal to 1 if a household receives accommodation support from their employers and 0 otherwise.
  - *Parental financial support*: A dummy variable is equal to 0 if the migrant's parents are poor (i.e. if a migrant responds to the VRUMS2013 question that one of his/her parents is an extremely poor peasant, a poor or intermediate peasant) and 1 if the parents are not poor (if the parent is identified as an intermediately rich or rich peasant, landlord, worker, clerk, firm owner, small business owner, government officer, solider or other).
  - *Job stability*: A dummy variable is equal to 1 if the migrant household heads have permanent or long-term contracts at the destination and 0 if they have only short-term or no contracts.
  - *Duration of residence*: A dummy variable is equal to 1 if migrants have been in the city for 10 years or more and 0 if they have resided at the destination city for less than 9 years.
  - *Commitment to establishing residence upon arrival*: Three dummy variables are used: (1) equal to 1 if the household heads wish to stay permanently in the city and 0 if they want to reside at the destination for 3 months or less or they are unsure how long they would like to stay in the city; (2) equal to 1 if

[18]We classify our occupation groups into: (1) *Unskilled workers*: Low-skilled labourers; (2) *Manual or assembly workers*: Manual labourers and related occupations, machine assembly and operations workers; (3) *Staff or skilled workers*: Office staff, service and sales staff, skilled labourers in agriculture, forestry and fisheries; and (4) *Leader, top or mid-level professional*: Members of the armed forces, leaders/managers from sectors and organisations at different levels, high-level and average-level experts in natural sciences and technology, health care, education and training, business and management, IT and communication, legal, cultural and social affairs.

migrants leave their children in their hometown and 0 if they have no children or all of their children migrate with them to the destination city; (3) equal to 1 if migrants leave their spouses behind and 0 if they migrate with their spouses or are single.

In addition, to investigate the factors that are associated with homeownership, this chapter also examines an aspect that has rarely been studied in the literature—namely, factors associated with housing conditions—and tests whether the housing quality gap remains when controlling all household characteristics and spatial factors. To this end, we run an ordinary least squares (OLS) regression:

$$Y = \beta X + \varepsilon, \tag{2}$$

where Y is the composite housing quality index constructed using the MCA method as discussed earlier, and X represents the same explanatory variables as in the homeownership model. That is, it includes a dummy variable of migration status, a vector of demographic, socioeconomic household characteristics, a vector of spatial factors, and a random term $\varepsilon \sim \mathrm{N}(0, \sigma^2)$. We estimated the standard errors using Huber–White sandwich estimators. Such robust standard errors can deal with concerns about the failure to meet assumptions such as normality, heteroscedasticity, and problems of large residuals, leverage or influence.

3.3 *Decomposition of the Housing Ownership and Housing Condition Gap*

For the sake of simplicity, this section will only briefly outline the decomposition methods used. For more details, expositions and explanations, please refer to Jann (2008).

Since the housing quality model is an OLS regression, the standard Blinder–Oaxaca method is generally used to decompose the housing quality gaps between rural migrants and urban locals. This decomposition technique, which was pioneered in labour economics by Blinder (1973) and Oaxaca (1973), has been used in numerous studies, including the field of housing economics. For instance, Wachter and Megbolugbe (1992) applied the decomposition method to study discrimination against blacks and Hispanics in the United States (Wachter and Megbolugbe 1992); Bourassa (1995) used it to investigate the significance of gender and marital status in homeownership in Australia, and applied the technique to examine the relevance of immigrant status to housing tenure choices in Australia (Bourassa 1994).

The average housing quality gap, denoted by Y, can be expressed as:

$$\bar{Y}^L - \bar{Y}^M = \left\{ \left(\bar{X}^L - \bar{X}^M \right) \hat{\beta}^{\mathrm{L}} \right\} + \left\{ \bar{X}^{\mathrm{M}} \left(\hat{\beta}^L - \hat{\beta}^M \right) \right\}, \tag{3}$$

where $\bar{X}^j$ is a vector of average values of the independent variables and $\hat{\beta}^j$ is a vector of coefficient estimates for a subgroup denoted by j, where j can be L (local urban residents) or M (rural migrants). The housing quality gaps consist of two components. The first term on the righthand side of Eq. (3) is the explained component. The second term is commonly referred to as the unexplained component.

Alternatively, Eq. (3) can be expressed as:

$$\bar{Y}^L - \bar{Y}^M = \left\{\left(\bar{X}^L - \bar{X}^M\right)\hat{\beta}^{\mathrm{M}}\right\} + \left\{\bar{X}^{\mathrm{L}}\left(\hat{\beta}^L - \hat{\beta}^M\right)\right\} \tag{4}$$

Equation (4) will yield different decomposition results, but there are no theoretical reasons to prefer one over the other. In the literature, this is referred to as the index number problem—a well-known shortcoming of the Blinder and Oaxaca decompositions.

Therefore, a generalised method is developed by Neumark (1988) and Oaxaca and Ransom (1994), which applies an alternative decomposition that overcomes the index number problem. Let β^* be a nondiscriminatory coefficient vector from a pooled sample of both groups of urban locals and rural migrants. The housing gap decomposition can, therefore, be written as:

$$\bar{Y}^L - \bar{Y}^M = \left\{\left(\bar{X}^L - \bar{X}^M\right)\hat{\beta}^*\right\} + \left\{\bar{X}^{\mathrm{L}}\left(\hat{\beta}^L - \hat{\beta}^*\right) + \bar{X}^M\left(\hat{\beta}^* - \hat{\beta}^M\right)\right\}. \tag{5}$$

The first term on the righthand side of Eq. (5) is interpreted as the explained component and the second term as the unexplained component.[19] The contribution of a particular variable to the total housing quality gap can also be derived. However, this decomposition method may face a distortion as differences in the residual group can spill over into the slope parameters in the pooled model, so Jann (2008) recommended including a group indicator in the pooled model as an additional covariate. In the STATA software, we used the '*oaxaca*' command with '*pooled*' and '*robust*' options. Similarly, for the nonlinear model of homeownership, we applied the same command combined with a '*probit*' option.[20]

[19]The unexplained component is traditionally interpreted as 'discrimination'; however, as it may capture the portion of the gap due to differences that are unmeasurable or unobserved characteristics, this chapter does not focus on this interpretation of the unexplained portion of the gap because it is difficult to interpret.

[20]The 'probit' option is available in the latest version of 'Oaxaca', which supports the nonlinear decomposition for binary dependent variables proposed by Yun (2004).

4 Housing and Household Characteristics: Differences Between Rural Migrants and Urban Locals

4.1 Housing Gap Between Rural Migrants and Urban Locals

As the decomposition method requires the same explanatory variables for both urban residents and rural migrants, while the information on migrant characteristics is only available among rural migrants in the VRUMS2013 sample, we exclude migrant characteristics in the model specification using both VHLSS2012 and VRUMS2013 datasets. Nonetheless, when looking at only the VRUMS2013 sample, the explanatory variables capturing migrant characteristics are included in the model.

The first two columns of Table 2 show the differences in housing characteristics between the two pairs (urban locals–rural migrants and KT1 migrants–rural *ho khau* migrants) using both VHLSS2012 and VRUMS2013 datasets. Generally, urban locals or migrants who become permanent residents at the destination are more likely to own a home and to have better housing conditions. Specifically, the average homeownership rate of local urban residents is 95%—much higher than the rate of 12% for rural migrants. It translates into a homeownership gap of 83 percentage points between urban locals and rural migrants.[21] This discrepancy increases to 91 percentage points for rural *ho khau* holders but reduces significantly to 45 percentage points for migrants who obtained urban registration. The latter figure refers to the fact that even among migrants with KT1 status, nearly half cannot afford to own a home. In contrast, some of the rural *ho khau* holders are keeping their rural registration even though they own a home in the destination city. They may be worried that 'switching their permanent status would threaten their land use rights in their place of origin, their ability to inherit real estate there, and their emotional ties with their relatives' (see World Bank 2016). It could also be that they are unable to meet the requirements to get a local *ho khau*. Also, they may own an affordable house but it may have been built illegally.[22]

As is also shown in Columns 1 and 2 of Table 2, among migrants who do not own a house, a majority stay in dormitories or share-houses (44%) or rent a home (44%)—all of which are associated with less comfortable housing conditions. Based on a scale from 0 to 100, the average housing quality rating for urban locals was 24—more than double that for rural migrants (11). First, one-third of urban locals have a living space of more than 24 m^2 per person[23] and only 3% live in a very

[21]Note that this figure could be an overestimation because of how we define migrants. Our definition may include in the sample of urban locals those who own a house but are long-term migrants themselves.

[22]Informal houses include those built: (1) on land that does not have a land-use-right certificate; (2) without obtaining a construction permit; and (3) without meeting local zoning ordinances. The informality of tenure is prevalent in self-built housing, which makes up approximately 75% of the total housing stock and production in Vietnam (World Bank 2015).

[23]The Vietnamese Government aims to meet a living area target of 25 m^2/person by 2020.

Table 2 Differences in housing conditions between rural migrants and urban locals

	Urban locals	Rural migrants	Migrants with KT1 status	Migrants with rural *ho khau*
	(1)	(2)	(3)	(4)
Number of observations	1890	793	132	661
Tenure choice				
– Dormitory or shared housing (%)	0.0	44.1	27.3	47.5
– Renting (%)	4.6	43.8	22.0	48.1
– Own a house (%)	95.4	12.1	50.8	4.4
Housing quality index (points)	24.0	10.6	17.0	9.4
Living area per person				
– Less than 5 m^2 (%)	3.3	20.5	9.4	22.7
– 5 to 24 m^2 (%)	61.5	73.3	74.8	73.0
– From 25 m^2 (%)	35.1	6.2	15.7	4.3
Residential building style				
– Temporary (%)	0.4	29.8	22.7	31.2
– Less permanent or semi-permanent (%)	44.1	40.2	36.4	41.0
– Permanent (%)	55.5	30.0	40.9	27.8
Private tap water for cooking (%)	77.7	34.9	51.5	31.6
Sanitation facilities				
– Shared/public sanitation facilities (%)		18.4	9.8	20.1
– Has toilet, no bathroom (%)		12.5	12.1	12.6
– Has both private bathroom and private toilet (%)		69.1	78.0	67.3
Accommodation support provided by employer				
– Not provided (%)		71.5	78.8	70.0
– Not provided but subsidised (%)		9.6	3.8	10.7
– Provided (%)		18.9	17.4	19.2
Housing satisfaction				
– Not satisfied (%)		25.3	21.2	26.2
– Unsure (%)		25.9	26.5	25.7
– Satisfied (%)		48.8	52.3	48.1

Sources: Authors' calculations based on the VRUMS2013 and the VHLSS2012

crowded space (less than 5 m^2 per capita).[24] The latter figure increases to 21% for rural migrants. Second, over half of urban locals live in permanent houses while less than 0.5% are staying in temporary accommodation. By contrast, almost one-third of rural migrants reside in temporarily constructed buildings. Finally, approximately

[24]The 2012 Law on the Capital states that to transfer permanent residence to the capital, Hanoi, requires a rental house with a living area not smaller than 5 m^2/person.

80% of urban locals have access to private tap water for cooking, while this rate is only 35% for rural migrants.

Considering the rural migrant sample only (see the last two columns of Table 2), the housing gap reduces but still exists, with a 46–percentage-point difference in the probability of owning a house and an 8-point gap in terms of the housing quality index. Notably, many migrants who hold a permanent *ho khau* are still living in temporary structures (22%), share-houses (22%) or rental houses (27.3%). The last two columns of Table 2 also describe other housing quality characteristics that are only available in the migrant sample.

For instance, the migrant group with KT1 status is more likely to have both a private bathroom and a private toilet (78%) compared with rural *ho khau* holders (67%). About one-fifth of those who hold rural *ho khau* have access to shared or public sanitation facilities. Additionally, for approximately 20% of rural *ho khau* holders (vs. 17% of KT1 migrants), their employers provide accommodation (see Columns 3 and 4 of Table 2). Meanwhile, for approximately 11% of migrants with rural *ho khau*, their workplaces do not provide accommodation but instead provide subsidised housing. However, few differences in housing support are found between the two migrant groups.

Moreover, although most of the migrants with rural registration tend to live in rental or share-houses with few facilities, nearly half feel satisfied with their current housing situation. One-quarter feel unsure, while another quarter report that they are unsatisfied with their housing (see Table 2, Columns 3 and 4).

4.2 Household Characteristics Gap Between Rural Migrants and Urban Locals

The housing gap may result from differences in demographic and socioeconomic characteristics and in spatial factors between rural migrants and urban locals, which are shown in Table 3.

First, as summarised in the first two columns of Table 3, the most striking gap discerned between rural migrants and urban locals is the age distribution of household heads. Although we select householders aged between 20 and 59 years, the average age of the household heads is approximately 31 in the migrant group, which is much younger than that of the urban locals (46). The proportion under the age of 31 accounts for nearly 60% in the migrant group but only 5% of the urban local group. In contrast, only 5% of the migrant sample are aged over 46, whereas the corresponding rate is just over 50% for local urban residents (see Fig. 2). The age gap is much smaller (5 years) between migrants with KT1 status and those migrants holding rural *ho khau* (see the final two columns of Table 3).

Second, as demonstrated in Table 3, because migrants are often younger, fewer are married. The rate of married and widowed household heads among the migrants is 60%—much lower than that of the urban locals (95%). This may explain why

Table 3 Household characteristic differences between rural migrants and urban locals

	Urban locals	Rural migrants	Migrants with KT1	Migrants with rural *ho khau*
	(1)	(2)	(3)	(4)
Number of observations	1890	793	132	661
Demographic characteristics				
Age of HH head	45.9	30.7	35.0	29.8
Female HH head (%)	37.4	28.9	35.0	29.7
HH head's marital status				
– Single (%)	5.2	40.4	12.9	45.8
– Married (%)	87.5	59	87.1	53.4
– Widowed (%)	7.3	0.6	0.0	0.8
Number of children	1.7	0.5	1.0	0.4
HH head's education level				
– No school (%)	6.2	8.4	4.5	9.2
– Primary school (%)	17.1	15.9	12.9	16.5
– Secondary or vocational school (%)	52.1	53.0	51.5	53.3
– College or higher (%)	24.5	22.7	31.1	21.0
Socioeconomic characteristics				
Monthly HH income per capita (VND1000)	7499	5105	8011	4306
HH head not working (%)	17.5	3.0	6.8	2.3
HH head's workplace ownership				
– Work in private sector (%)	29.3	60.5	48.5	62.9
– Work in foreign sector (%)	4.0	16.1	11.4	17.1
– Work in state sector (%)	20.9	10.8	20.5	8.9
– Self-employed (%)	28.4	9.5	12.9	8.8
HH head's occupation				
– Unskilled worker (%)	7.5	24.5	18.9	25.6
– Manual or assembly worker (%)	22.0	38.5	29.5	40.2
– Staff or skilled worker (%)	27.0	17.3	20.5	16.6
– Leader, top or mid-level professional (%)	26.0	16.4	24.2	14.8
Geographic characteristics				
– Hanoi (%)	30.5	31.5	50.8	27.7
– Binh Duong and Dong Nai (%)	24.3	13.4	9.1	14.2
– Ho Chi Minh City (%)	45.2	55.1	40.2	58.1

Sources: Authors' calculations based on the VRUMS2013 and the VHLSS2012

there are fewer children among the rural migrants than the urban locals (Columns 1 and 2). The same pattern is also found between migrants with KT1 status and rural *ho khau* holders (Columns 3 and 4).

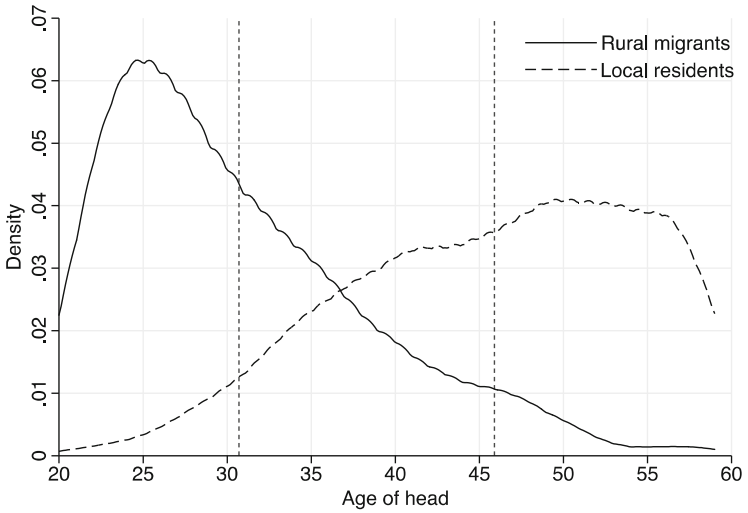


Fig. 2 Age distribution of householders: Rural migrants versus urban locals. Sources: Authors' calculations based on the VRUMS2013 and the VHLSS2012

All four groups in Table 3 are dominated by male-headed families. They also have a fairly similar distribution of educational attainment. In particular, about one-quarter of each group are college-educated and more than 50% graduated from secondary or vocational schools. For migrants with KT1 status, the share of those with college and above qualifications is slightly higher than that among urban locals—31% (Column 3) versus 24.5% (Column 1).

Third, according to socioeconomic characteristics, migrants generally have lower monthly income per capita than urban locals (VND5 million vs. VND7.5 million). This is mostly because of their lower educational attainment and fewer years of experience (due to younger age). Migrants with KT1 status (Column 3 of Table 3), however, tend to be slightly more educated and therefore earn higher incomes (VND8 million per month) than urban locals (Column 1 of Table 3).

In addition to the earnings disparities between migrants and locals, an employment gap and occupational segregation are also depicted (see the first two columns of Table 3). Compared with urban locals, rural migrants are more likely to work in the private sector (61% vs. 29%) and the foreign-owned sector (16% vs. 4%). By contrast, more urban locals work in the state sector (21%) or own their own business (28%) compared with migrants (11% and 9%, respectively). In terms of occupation, migrants mainly work as unskilled or manual workers (63%), while urban locals often hold leadership positions, top or mid-level professional jobs or work as staff or skilled labour (53%). Note that the proportions of migrants with permanent *ho khau* working in the state sector and the higher paid occupations are similar to those of the urban locals (see Columns 3 and 1 of Table 3).

In addition, it is worth noting that more urban local householders than migrants do not work (17.5% vs. 3%) (see Columns 1 and 2 of Table 3). A closer examination

Table 4 Characteristic differences between migrants with KT1 status and those holding rural *ho khau*

	All	With KT1 status	With rural *ho khau*
	(1)	(2)	(3)
Number of observations	793	132	661
Duration of residence			
– Below 5 years (%)	36.7	18.9	40.2
– 5–9 years (%)	32.9	21.2	35.2
– From 10 years (%)	30.4	59.8	24.5
Future living plan			
– Unsure (%)	59.3	38.6	63.4
– 3 years or below (%)	11.1	1.5	13.0
– Permanently (%)	29.6	59.8	23.6
Leave child behind (%)	20.1	19.2	20.1
Leave spouse behind (%)	10.1	9.2	10.1
Job stability			
– Not working (%)	3.5	7.6	2.7
– Non-contract (%)	27.9	18.9	29.7
– Short-term (%)	10.6	3.8	12.0
– Long-term (%)	32.4	30.3	32.8
– Permanent (%)	16.1	26.5	14.1
– Self-employed (%)	9.5	12.9	8.8
Parental financial support			
– Extremely poor (%)	16.6	12.1	17.4
– Poor (%)	62.6	60.7	62.9
– Non-poor (%)	20.9	27.2	19.7

Source: Authors' calculations based on the VRUMS2013

of the data reveals that many of these people are retired and receiving a pension rather than unemployed without income.[25]

Fourth, in terms of spatial characteristics, both urban locals and rural migrants are more concentrated in Ho Chi Minh City, followed by Hanoi and then Binh Duong–Dong Nai. More migrants with KT1 status (Column 3 of Table 3) are located in Hanoi than in Ho Chi Minh City (50 vs. 41%).

Fifth, regarding migrant characteristics, Table 4 shows that migrants with permanent registration tend to reside in the destination for a longer period, compared with rural *ho khau* holders. Among them, 60% have migrated for at least 10 years, 21% for 5–9 years, and the remaining 19% for less than 5 years. By contrast, the respective proportions for rural *ho khau* holders are 25, 35 and 40%. Rural migrants in the VRUMS2013 sample often commence migrating to the major cities in their

[25]The VHLSS dataset shows that 63% of non-working people are female and 44% are aged over 54. Note that 55 is the retirement age for women, according to the Vietnamese Labour Law. Moreover, we also find that the households with a non-working head tend to have higher family income (thanks to their pension) than those with a head who is working.

early 1920s (70% of the migrant sample migrated for the first time at 25 years of age). The migration period increases in tandem with migrants' ages.

It is also worth noting that although approximately 63% of all rural migrants (793) have stayed in cities for at least 5 years (Table 4), many have kept their rural household registration. In particular, of the families retaining their rural *ho khau* (accounting for 83.4% of the total sampled migrants), up to 60% migrated to cities for at least 5 years. As is also shown in Table 4, up to 60% of all rural migrants are unsure about their future plans in the destination. Even among those who become permanent residents, approximately 40% are unsure about their future living plans. This may link to the unstable nature of their jobs. Over 40% of rural *ho khau* holders and 23% of those with KT1 status are working without a contract in the informal sector or with only short-term contracts. Future living plans are also correlated with their decision about whether or not to leave their child or spouse behind. Around 10% of all migrants leave their spouses in their hometown and 20% leave their children behind (Column 1). These figures are similar between those holding permanent registration (KT1) and those with temporary registration (rural *ho khau*). In addition, migrants are unlikely to receive financial support from their parents because around 80% of both migrant groups have their origins in extremely poor or poor families.

5 Empirical Findings

5.1 Associations of Homeownership and Housing Quality

The previous section showed that a significant housing disparity exists between migrants and urban locals. In this section, we seek to determine whether the housing gap still exists after controlling for the differences in household characteristics and demographic factors using probit and OLS models. The gaps are then decomposed to ascertain the most important contributing factors.

Table 5 shows the results of the homeownership models. The first two columns of this table contain a sample of both rural migrants and local urban residents. The last two columns include the migrant sample only to explore further other associations of homeownership that are not available in the local urban sample. The baseline models (Columns 1 and 3) contain only a dummy variable of whether a householder is an urban local or holds KT1 status. Household characteristics and spatial factors are then added in the extended models (Columns 2 and 4). Marginal effects rather than coefficients were reported and discussed because they could be easily interpreted as the incremental impact of a unit increase in each explanatory variable on the probability of homeownership.

The baseline model showed that without controlling the household characteristics and spatial factors, the likelihood of homeownership for local urban residents is 83 percentage points higher than that for rural migrants (Column 1). When demographic, socioeconomic and spatial variables are added, the gap reduces to

Table 5 Homeownership: Probit regressions

	Rural migrants and urban locals		Rural migrants	
	(1)	(2)	(3)	(4)
Urban locals	0.833***	0.611***	0.474***	0.219***
	(0.000)	(0.000)	(0.000)	(0.000)
Age of HH head		0.008***		0.001
		(0.000)		(0.359)
Female HH head		0.010		−0.012
		(0.651)		(0.291)
Married or widowed HH head		0.009		−0.002
		(0.796)		(0.931)
Number of children		0.068***		0.019**
		(0.000)		(0.021)
HH head with college degree or higher		−0.030		−0.032***
		(0.427)		(0.004)
Ln(HH income per person)		0.116***		0.038***
		(0.000)		(0.001)
HH head not working		0.113***		0.231*
		(0.000)		(0.087)
HH head working in state sector		0.074***		−0.009
		(0.004)		(0.526)
HH head running own business		0.030		0.034
		(0.241)		(0.267)
HH head working as staff or skilled worker		−0.001		−0.008
		(0.970)		(0.614)
HH head working in top or mid-level professional occupation		0.041		0.007
		(0.225)		(0.714)
Binh Duong, Dong Nai		0.001		−0.006
		(0.964)		(0.711)
Ho Chi Minh City		−0.048*		−0.011
		(0.058)		(0.474)
Accommodation not supported by employer				0.026**
				(0.020)
Non-poor parents				0.019
				(0.338)
HH head with permanent/long-term contract				0.015
				(0.307)
Migrate for 10 years or more				0.019
				(0.250)
Permanent stay plan				0.051***
				(0.014)
Leave children behind				0.017
				(0.411)
Leave spouse behind				−0.021*
				(0.099)

(continued)

Table 5 (continued)

	Rural migrants and urban locals		Rural migrants	
	(1)	(2)	(3)	(4)
Observations	2683	2672	793	782
Chi^2-statistics	1951	2164	161	295
p-value	0.000	0.000	0.000	0.000
Pseudo R^2	0.602	0.673	0.276	0.507

Sources: Authors' calculations from the VRUMS2013 and the VHLSS2012
Notes: Marginal effects; *p ≤ 10%, **p ≤ 5%, ***p ≤ 1%

61 percentage points (Column 2). Furthermore, the results of the probit models in Column 2 confirm the consensus in the literature: homeownership increases with age, number of children, income, and working in the state sector. Migrating to Ho Chi Minh City, however, reduced the probability of owning a house. Non-working household heads are also associated with a higher likelihood of owning a home because, as explained earlier, they are more likely to be female-headed and retired with a pension.

Similarly, the homeownership gap between migrants with KT1 status and those retaining rural *ho khau* is 47.4 percentage points but reduces to 22 percentage points when controlling household characteristics and spatial factors. The likelihood of a rural migrant owning a home increases with a larger number of children, higher household income, non-working householders, unavailability of accommodation support, plans for a permanent stay in the city and the decision to not leave their spouse behind.

However, in both extended models (Columns 2 and 4), unexpectedly, the coefficients on the educational attainment variable become negative, although this variable is only significant in Column 4.[26]

Table 6 shows robust OLS regression estimates of factors that may affect a family's decisions vis-a-vis housing quality.

In addition to four columns corresponding to those presented in Table 5 (Columns 1, 2, 4 and 5 of Table 6), an additional variable of homeownership is included in the extended models (Columns 3 and 6 of Table 6). There exists a large housing quality gap between migrants and urban locals (a higher quality index by 27 points for urban locals shown in Column 1). After controlling the household characteristics and demographic factors, the housing gap between the rural migrants and urban locals reduces slightly, by 5 points (see Column 2), leaving the remaining gap of 22 points. A moderate proportion of this remaining gap is reflected via the homeownership

[26]We experimented with additional explanatory variables in the regression models, such as household size, number of children aged 0–5, 6–12 and 13–15, but none of the signs of coefficients on the variables changed. We also experimented with estimating a model with only the educational attainment variable. Its estimated coefficient was positive and significant; however, the sign switched once we added variables such as income and jobs into the model. This may suggest multi-correlation is present.

Table 6 Housing quality: Robust OLS regressions

	Rural migrants and urban locals			Rural migrants		
	(1)	(2)	(3)	(4)	(5)	(6)
Urban locals	26.5***	21.6***	14.7***	13.52***	8.29***	4.79**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.020)
Owning a house			10.447***			9.880***
			(0.000)			(0.000)
Age of HH head		0.122***	0.085**		−0.014	−0.042
		(0.003)	(0.040)		(0.896)	(0.687)
Female HH head		1.282*	1.220*		0.487	0.524
		(0.065)	(0.075)		(0.725)	(0.702)
Married or widowed HH head		0.373	−0.046		0.265	0.649
		(0.756)	(0.969)		(0.883)	(0.715)
Number of children		−2.898***	−3.237***		−2.460***	−3.066***
		(0.000)	(0.000)		(0.013)	(0.002)
HH head with college degree or higher		2.502**	2.576***		−0.551	−0.099
		(0.018)	(0.014)		(0.768)	(0.957)
Ln(HH income per person)		6.774***	6.275***		5.022***	4.551***
		(0.000)	(0.000)		(0.000)	(0.000)
HH head not working		4.955***	4.393***		9.099***	7.282**
		(0.000)	(0.000)		(0.006)	(0.030)
HH head working in state sector		3.634***	3.223***		0.013	0.001
		(0.000)	(0.001)		(0.995)	(1.000)
HH head running own business		2.165***	1.872**		4.195**	3.703*
		(0.013)	(0.032)		(0.046)	(0.074)
HH head working as staff or skilled worker		1.973**	1.986**		3.552**	3.725**
		(0.026)	(0.024)		(0.054)	(0.044)
HH head working in top or mid-level professional occupation		4.815***	4.566***		2.535	2.667
		(0.000)	(0.000)		(0.221)	(0.192)

Binh Duong, Dong Nai		−15.102***	−15.130***		−3.324*	−3.284*
		(0.000)	(0.000)		(0.098)	(0.097)
Ho Chi Minh City		−4.323***	−4.162***		−2.229	−2.250
		(0.000)	(0.000)		(0.162)	(0.150)
Accommodation not supported by employer					5.291***	5.006***
					(0.000)	(0.000)
Non-poor parents					2.832*	2.377
					(0.072)	(0.120)
HH head with permanent/long-term contract					6.096***	6.041***
					(0.000)	(0.000)
Migrate for 10 years or more					0.131	−0.522
					(0.932)	(0.729)
Permanent stay plan					4.227***	3.335**
					(0.005)	(0.023)
Leave children behind					−1.225	−1.444
					(0.553)	(0.474)
Leave spouse behind					2.129	2.929
					(0.460)	(0.307)
Constant	36.006***	−23.549***	−18.951***	33.874***	−15.908*	−10.895
	(0.000)	(0.000)	(0.000)	(0.000)	(0.056)	(0.197)
Observations	2683	2672	2672	793	782	782
F-statistics	1150	194	188	58	11	11
p-value	0.000	0.000	0.000	0.000	0.000	0.000
Adjusted R^2	0.297	0.472	0.485	0.071	0.215	0.233

Sources: The VRUMS2013 and the VHLSS2012
Notes: Marginal effects; *p ≤ 10%, **p ≤ 5%, ***p ≤ 1%

decision: owning a house also means residing in better housing conditions (Column 3), reducing the gap by another 7 points when adding the homeownership indicator. Similarly, the housing quality gap between two migrant groups is 14 points (Column 4), reducing to 8 points when controlling household and geographic characteristics (Column 5) and further decreasing to 5 points when adding a homeownership variable in the extended model (Column 6).

The other observable characteristics—including older household head, female-headed households, smaller number of children, higher educated householders, larger family income, non-working household heads, working in the state sector or running their own business, working in highly paid occupations—increase the need for and the affordability of better quality dwellings. Staying in Binh Duong and Dong Nai is associated with the lowest housing quality, while those residing in Hanoi enjoy the best housing conditions (see Columns 2, 3, 5 and 6). In addition, better housing quality is associated with the unavailability of accommodation support from employers, having richer parents, long-term or permanent contracts, and future plans for permanent stay (Columns 5 and 6).

5.2 Housing Gap Decomposition

This section employs the Oaxaca decomposition method (see Sect. 3) to estimate the portion of the urban local–migrant housing gap that is explained by intra-group compositional differences in observed variables. We disaggregate this explained gap into those attributable to urban local–migrant differences in characteristics: socio-economic, demographic, immigration, and spatial characteristics.

5.2.1 Homeownership Gap Decomposition

Using the probit results presented in Columns 2 and 4 of Table 5, the decomposition results of the homeownership gap are reported in Table 7. For the whole sample, mean differences in the observed characteristics between urban locals and rural migrants explain 45% of the homeownership gap (Column 1 of Table 7). If the rural migrant group had the same socioeconomic, education, demographic, and spatial characteristics as urban locals, their homeownership rates would increase by 37 percentage points.[27] Most of the urban local–migrant homeownership gap is explained by demographic characteristics (24%, of which 12% is from the age of the household head and 11% from the number of children) and socioeconomic characteristics (20%, of which 13% is from household income). Gender, education,

[27]Using Table 7, we multiplied the percentage contribution of the explained part (44.5%) with the homeownership gap (83.1 percentage points).

Table 7 Housing ownership decomposition

	Rural migrants versus urban locals	Migrants with KT1 status versus rural *ho khau* holders
	(1)	(2)
Homeownership gap (percentage points)	83.1	47.7
– From unexplained part (%)	55.5	57.7
– From explained part (%)	44.5	42.3
Demographic characteristics	23.7	7.1
+ Age of HH head (%)	12.2	1.6
+ Female HH head (%)	0.1	−0.1
+ Married or widowed HH head (%)	0.3	−0.1
+ Number of children (%)	11.2	6.5
+ HH head with college degree or higher (%)	−0.1	−0.8
Socioeconomic characteristics	19.9	9.8
+ Ln(HH income per person) (%)	13.3	6.7
+ HH head not working (%)	3.2	2.8
+ HH head working in state sector (%)	1.6	−0.3
+ HH head running own business (%)	1.0	0.7
+ HH head working as staff/skilled worker (%)	0.0	0.0
+ HH head working in top or mid-level profession (%)	0.8	−0.1
Spatial characteristics	0.9	2.4
+ Binh Duong, Dong Nai (%)	0.0	0.2
+ Ho Chi Minh City (%)	0.8	0.3
Migrant characteristics		24.9
+ Accommodation not supported by employer (%)		1.9
+ Non-poor parents (%)		1.0
+ HH head with permanent/long-term contract (%)		1.1
+ Migrate 10 years or more (%)		6.7
+ Permanent stay plan (%)		14.5
+ Leave children behind (%)		1.1
+ Leave spouse behind (%)		−1.4
Number of observations	2672	782

Sources: Authors' calculations based on the VRUMS2013 and the VHLSS2012

employment sector, occupation and spatial factors play a negligible role in explaining the homeownership gap.

The remaining 55% of the homeownership gap between migrants and urban locals is attributed to the unobservable factors such as migration duration, migrants' commitment to establishing residence upon arrival, inheritance, the ability to access formal credit, which may be related to the *ho khau* system, and choice and preference. Similarly, the decomposition results of the migrant sample (KT1 holders and rural *ho khau* holders) reported in Column 2 of Table 7 also confirm that unobservables play an important role in explaining the homeownership gap. Only about 42% of the homeownership gap between migrants with KT1 status and rural *ho khau* holders is manifested by observable characteristics—of which, 15% is from their permanent living plan at the destination and 7% from migration duration of 10 years or more. Meanwhile, parental financial support and job stability only account for a small proportion of the overall gap (2%).

5.2.2 Housing Quality Gap Decomposition

The decomposition results of the housing quality gap are reported in Table 8. This table uses the estimated coefficients from Table 6 (Columns 2, 3, 5 and 6). Column 1 of Table 8 shows that only 19% of the disparity in housing conditions between rural migrants and local urban residents can be explained by the difference in observable characteristics, which leaves 81% of the gap unexplained. In other words, migrants' unobserved attributes, such as differences in taste and the ability to access formal and informal credit, etc., may be important in the overall housing differences between the two groups.

The decomposition results based on the model specification with the homeownership dummy are reported in Columns 2 and 4 in Table 8, respectively, for urban locals and rural migrants, and for migrants with KT1 and migrants with rural *ho khau* status. It turns out that owning their own home accounts quite substantially for the unexplained gap. Taking the urban locals and rural migrants as an example, the unexplained part reduces to 55% once this dummy is added to the model. This means that migrant households can narrow their housing quality gap with urban locals by almost 30% if they can access and are able to afford housing services, and if they decide to own their own home. However, narrowing the gap is not easy for many migrants because of the restrictions imposed by the *ho khau* policy. As analysed by the World Bank (2016), temporary, low-income registrants are less likely than comparable permanent registrants to be included on the 'poor list' (see Chap. 1) and it is therefore more difficult for them to receive any form of social assistance (regardless of registration status), including, for example, accessing cheaper credit to buy a house.

Among the explained component, socioeconomic characteristics play the most important role in explaining the housing quality gap between urban locals and rural migrants. It contributes 26% of the overall housing gap, which mostly comes from family income (19%) (see Column 2 of Table 8). Other socioeconomic characteristics such as occupation and employment account for 7% of the overall difference.

Table 8 Housing quality decomposition

	Rural migrants versus urban locals		Migrants with KT1 status versus rural *ho khau* holders	
	(1)	(2)	(3)	(4)
Gap (points)	26.6	26.6	13.4	13.4
– From unexplained part (%)	81.5	55.3	61.8	35.7
– From explained part (%)	18.5	44.7	38.2	64.3
Homeownership (%)		32.7		35.1
Demographic characteristics	−5.2	−9.3	−11.4	−14.0
+ Age of HH head (%)	6.9	4.9	−0.5	−1.6
+ Female HH head (%)	0.4	0.4	−0.1	−0.1
+ Married or widowed HH head (%)	0.5	−0.1	0.6	1.5
+ Number of children (%)	−13.2	−14.7	−11.0	−13.7
+ HH head with college degree or higher (%)	0.2	0.2	−0.4	−0.1
Socioeconomic characteristics	28.3	26.0	24.6	22.5
+ Ln(HH income per capita) (%)	20.3	18.8	18.1	16.4
+ HH head not working (%)	2.6	2.3	2.5	2.0
+ HH head working in state sector (%)	1.4	1.2	0.0	0.0
+ HH head running own business (%)	1.6	1.3	1.3	1.2
+ HH head working as staff or skilled worker (%)	0.7	0.7	1.1	1.2
+ HH head working in top or mid-level profession (%)	1.7	1.7	1.6	1.7
Spatial characteristics	−4.7	−4.7	4.9	5.0
+ Binh Duong – Dong Nai (%)	−6.3	−6.3	1.5	1.5
+ Ho Chi Minh City (%)	1.6	1.6	3.4	3.5
Migrant characteristics			20.2	15.8
+ Accommodation not supported by employer (%)			3.3	3.1
+ Non-poor parents (%)			1.1	0.9
+ HH head with permanent/long-term contract (%)			3.5	3.5
+ Migrate for 10 years or over (%)			0.4	−1.4
+ Permanent stay plan (%)			11.4	9.0
+ Leave children behind (%)			−0.5	−0.6
+ Leave spouse behind (%)			1.0	1.3
Number of observations	2672	2672	782	782

Sources: Authors' calculations based on the VRUMS2013 and the VHLSS2012

Among demographic characteristics, the difference in the age of the household head explains another 5% of the gap. In contrast, having fewer children works in favour of rural migrants, contributing to the narrowing of the housing quality gap.

Recall that the characteristics of migrants with KT1 status are more similar to those of urban locals. Columns 3 and 4 of Table 8 report the decomposition results of the housing quality gap between KT1 migrants and rural *ho khau* holders. For instance, using the model that includes a homeownership dummy, the decomposition results show that 64% of the accommodation quality gap between these two migrant groups is explained by the difference in their observable characteristics (see

Column 4). Of this, 35% is attributed to their difference in homeownership. Furthermore, 16% is attributable to their difference in various attributes: permanent stay plan (9%), followed by the stability of employment (having permanent or long-term contracts) (3.5%) and the unavailability of housing support provided by employers (3%). Parental financial assistance seems to play only a small role (less than 1%) in explaining the gap.

6 Conclusion

Inequality in homeownership and housing quality are the key elements affecting an individual's wellbeing and the overall equality of any nation. This study has aimed to determine to what extent differences in socioeconomic and demographic characteristics are associated with the stratification in the housing market between local urban residents and rural migrants as well as between migrants with permanent *ho khau* and those with rural *ho khau*.

Using two databases (VRUMS2013 and VHLSS2012), we have found that housing conditions are highly associated with housing tenure choice: homeowners tend to enjoy the best housing conditions while those staying in dormitories provided by their workplace or shared accommodation are more likely to experience poor housing conditions. We have also established that the homeownership gap is enormous between local urban residents and rural migrants. Only 12% of rural migrants owned houses compared with 95% of their local urban counterparts. This translates into a gap of 83 percentage points between the two groups. The gap remains although reduces to 46 percentage points when comparing migrants with KT1 status with those holding rural *ho khau.*

Approximately 45% of the homeownership disparity between urban residents and migrants was attributable to the explained portion, which is mainly due to differences in demographic and socioeconomic characteristics. Migrants are disadvantaged, mainly because most tend to have younger household heads, have fewer children living with them in the cities and lower family income. Similarly, 42% of the homeownership gap between migrants with KT1 status and rural *ho khau* holders is explained mainly by the number of children, income, the decision to live permanently at the destination as well as the migration duration. The unexplained portion accounts for a significant share of the gap (55% for the urban local–migrant gap and 58% for the gap between migrants with KT1 status and those holding rural *ho khau*).

Regarding housing quality, we find that disparities in household characteristics can only explain 19% of the overall gap between urban residents and rural migrants in the basic model. However, this share substantially increases, to account for 45% of the gap if a homeownership indicator is included. Similarly, when comparing the two groups of migrants, by including a homeownership dummy, the contribution of the explained part to the housing gap increases to 64% from 38% when not including it. These results highlight the importance of homeownership for migrants, especially those without permanent *ho khau* status in the destination city. Being able to access

and afford, as well as desire, their own home in cities can significantly narrow the housing quality gap in their favour.

The fact that both gaps (housing quality and housing ownership) remain intact when we compare migrants not just with urban locals but also with migrants with and without a permanent *ho khau* shows that *ho khau* matters. Not having a KT1 *ho khau* can limit one's ability to receive any form of social assistance as well as accessing formal credit and more affordable social housing. These could lower migrants' prospects of owning their own home, as well as having better living conditions. Having said that, it is hard, if not impossible, to identify the influence of *ho khau* independently from migrants' own preferences.

Our findings suggest that policies aimed at reducing housing inequality should account for the differences in demographic attributes between migrants and their local urban counterparts. For instance, the policy focus should be on subsidising housing for recent and younger arrivals, as well as supporting migrants in owning their own home. In addition, improving human capital and economic opportunities (e.g. better pay and more stable jobs) among migrants with rural *ho khau* (relative to the KT1 migrants) would substantially improve their homeownership prospects and associated housing conditions. Finally, the housing gap can be narrowed further if temporary migrants could access formal credit. The right to access formal credit should be equal for all and independent of one's residence status.

References

Alba, R., & Logan, J. (1992). Assimilation and stratification in the homeownership patterns of racial and ethnic groups. *International Migration Review, 26*, 1314–1341.

Blinder, A. S. (1973). Wage discrimination: Reduced form and structural estimates. *Journal of Human Resources, 8*, 436–455.

Bourassa, S. (1994). Immigration and housing tenure choice in Australia. *Journal of Housing Research, 5*(1), 117–137.

Bourassa, S. (1995). A model of housing tenure choice in Australia. *Journal of Urban Economics, 37*(2), 161–175.

Bourassa, S. C. (2000). Ethnicity, endogeneity, and housing tenure choice. *The Journal of Real Estate Finance and Economics, 20*(3), 323–341.

Brisson, D., & Usher, C. L. (2007). The effects of informal neighborhood bonding, social capital and neighborhood context on homeownership for families living in poverty. *Journal of Urban Affairs, 29*(1), 65–75.

Chatterjee, S., & Zahirovic-Herbert, V. (2011). Homeownership and housing equity: An examination of native–immigrant differences in housing wealth. *International Advances in Economic Research, 17*(2), 211–223.

Cu, C. L. (2009). *Rural to urban migration in Vietnam*. Retrieved from http://www.ide-jetro.jp/English/Publish/Download/Asedp/pdf/071_7.pdf

Dang, N. A. (2005). *Internal migration: Opportunities and challenges for the renovations and development in Vietnam*. Hanoi: Gioi Publishers.

Demombynes, G., & Vu, L. H. (2016). *Vietnam's household registration system*. Washington, DC: World Bank Group. Retrieved from http://documents.worldbank.org/curated/en/158711468188364218/Vietnam-s-household-registration-system

Drakakis-Smith, D., & Dixon, C. (1997). Sustainable urbanization in Vietnam. *Geoforum, 28*(1), 21–38.

Greenacre, M. J. (1993). *Correspondence analysis in practice*. London: Academic.
Hardy, A. (2001). Rules and resources: Negotiating the household registration system in Vietnam under reform. *Sojourn, 16*(2), 187–212.
Hartley, L., & Lam, Q. T. (2008). *Mapping urban poverty in Ho Chi Minh City*. Banbury: Habitat for Humanity.
Jann, B. (2008). The Blinder–Oaxaca decomposition for linear regression models. *Stata Journal, 8* (4), 453–479.
Kabeer, N., Tran, T. V. A., & Vu, M. L. (2005). *Preparing for the future: Forward-looking strategies to promote gender equity in Vietnam*. United Nations/World Bank Thematic Discussion Paper. Retrieved from http://www.undp.org/content/dam/vietnam/docs/Publications/22102_5655_gp-e.pdf
Kain, J. F., & Quigley, J. M. (1972). Housing market discrimination, homeownership, and savings behavior. *American Economic Review, 62*, 263–277.
Krivo, L. J. (1995). Immigrant characteristics and Hispanic–Anglo housing inequality. *Demography, 32*, 599–615.
Le, B. D. (1998). *State, economic development, and internal migration in Vietnam*. Unpublished PhD dissertation, Binghamton University, New York.
Le, B. D., & Nguyen, T. L. (2011). *From countryside to cities: Socio-economic impacts of migration in Vietnam*. Hanoi: Workers' Publishing House.
Li, M. M. (1977). A logit model of homeownership. *Econometrica, 45*(5), 1081–1097.
Lim, G.-C., Follain, J. R., & Renaud, B. (1980). The determinants of homeownership in a developing economy. *Urban Studies, 17*, 13–23.
Marx, V., & Fleischer, K. (2010). *Internal migration: Opportunities and challenges for socio-economic development in Vietnam*. Hanoi: United Nations Vietnam.
Neumark, D. (1988). Employers' discriminatory behaviour and the estimation of wage discrimination. *Journal of Human Resources, 23*(3), 279–295.
Nguyen, L. T., & White, M. (2007). Health status of temporary migrants in urban areas in Vietnam. *International Journal of Migration, 45*(4), 101–134.
Oaxaca, R. L. (1973). Male–female wage differentials in urban labor markets. *International Economic Review, 14*, 693–709.
Oaxaca, R. L., & Ransom, M. R. (1994). On discrimination and the decomposition of wage differentials. *Journal of Econometrics, 61*, 5–21.
Painter, G., Gabriel, S. A., & Myers, D. (2001). Race, immigrant status, and housing tenure choice. *Journal of Urban Economics, 49*(1), 150–167.
Phe, H. H. (2002). Investment in residential property: Taxonomy of home improvers in central Hanoi. *Habitat International, 26*, 471–486.
Quang, N., & Kammeier, H. D. (2002). Changes in the political economy of Vietnam and their impacts on the built environment of Hanoi. *Cities, 19*(6), 373–388.
Tipple, A. G., & Willis, K. G. (1991). Tenure choice in Kumasi, Ghana. *Third World Planning Review, 13*, 27–45.
Tran, H. A., & Dalholm, E. (2005). Favoured owners, neglected tenants: Privatisation of state owned housing in Hanoi. *Housing Studies, 20*(6), 897–929.
Ulker, A. (2008). Household composition and housing expenditures in rental-occupied and owner-occupied markets. *Family and Consumer Sciences, 36*(3), 189–207.
United Nations Economic, & Social Commission for Asia and the Pacific (UNESCAP). (2009). *Regional trends, issues and practices in urban poverty reduction: Social protection in Asian cities*. ST/ESCAP/2570. Bangkok: UNESCAP. Retrieved from http://eprints.lse.ac.uk/31402/1/trends_urban.pdf
Wachter, S., & Megbolugbe, I. (1992). Racial and ethnic disparities in homeownership. *Housing Policy Debate, 3*(2), 333–370.
Waibel, M., Eckert, R., Bose, M., & Volker, M. (2007). Housing for low income groups in Ho Chi Minh City, between re-integration and fragmentation. *Asien, 103*, 59–78.

Wang, F., & Zuo, X. (1999). Association inside China's cities: Institutional barriers and opportunities for urban migrants. *American Economic Review, 89*(2), 276–280.
World Bank. (2015). *Vietnam affordable housing: A way forward*. Washington, DC: The World Bank.
World Bank. (2016). *Vietnam's household registration system*. Washington, DC: The World Bank.
Yun, M.-S. (2004). Decomposing differences in the first moment. *Economics Letters, 82*, 275–280.

The Children of Migrants and Their Schooling

Ngan Vu Trang Dinh

Abstract Many migrants coming to cities seeking better employment opportunities either leave their children behind in the home village or have very little time to care for them due to long working hours. The impact of migration on the wellbeing of families and children remains complex. Previous evidence suggests the children of migrants are not adequately cared for, with potentially negative effects on education and health outcomes, while income from migrant work is essential to finance children's education, nutrition and medical care. This chapter fills some of the gaps in our understanding of the relationship between mobility, employment and the wellbeing of children of migrants in Vietnam—in particular, their education—based on results from the Vietnam Rural–Urban Migration Survey 2013.

1 Introduction

> Family means no one gets left behind or forgotten. —Lilo and Stitch (Walt Disney Pictures, 2002)

Between 2004 and 2009, 6.6 million Vietnamese migrated internally. This is a significant increase from the 4.5 million internal migrants identified in the 1999 Census. In 2009, one-fifth of the population in Hanoi and one-third of those in Ho Chi Minh City (HCMC) were registered migrants. These numbers, recorded by Vietnam's Population and Household Census 2009, excluded most seasonal and

This chapter was originally prepared for the Vietnam Rural–Urban Migration Conference in Hanoi (January 2015). We review some of the policies and studies on migrants and children and present some descriptive results on the education of migrants' children from the Vietnam Rural–Urban Migration Survey (VRUMS), conducted by Australian National University and Central Institute for Economic Management (CIEM) in 2013. I am grateful to Tran Thi Hang (MPI), Conor Hughes (NBER) and Uyen Chau (UC Berkeley) for their helpful research assistance. All errors are mine.

N. V. T. Dinh (✉)
Fulbright University, Ho Chi Minh City, Vietnam
e-mail: ngan.dinh@fuv.edu.vn

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_10

temporary migrants, as well as unregistered movements. There is no official recorded figure, but the total number of internal migrants was expected to be much higher (UNDP 2014).

During this period, an increasing number of these migrants were young and female. Many left home before the age of 18, starting their migrant life as a single youth. Many others have small children, who are either brought along to the destination city or left behind under the care of grandparents and other relatives. Migrant parents face trade-offs between caring directly for their children or indirectly by sending home remittances so they can be cared for. Migrant men earned more and remitted a larger amount to their home village than migrant women, but men's remittances represented about 10% of their income, while women's remittances were 17% (Marx and Fleischer 2010). Despite the central importance of mobility to the survival of poor people, the relationship between migration, employment and the wellbeing of children and youth is still poorly understood.

For impoverished migrant parents, the choice of whether to leave their children behind in the home village or bring them along to the destination city depends on several factors—for instance, whether there is adequate housing in the city, a school their children can attend, or acceptable childcare arrangements while the migrant parents are at work.

Among the biggest concerns for migrant parents is their children's education. Despite considerable efforts through social programs such as the Primary Education for Disadvantaged Children (PEDC)—a World Bank project aiming to improve access to primary school and the quality of education for disadvantaged girls and boys since late 2003—inequalities in educational attainment appear to be widening (Carr-Hill 2011). Migrant children's access to education is severely restricted by the need to pay school fees and by the household registration system, which means children not registered locally are not entitled to places in state schools. To obtain a place in the school within the community of residence, they must pay higher fees, and sometimes bribes to school officials and teachers.

This chapter reviews some of the most essential policies related to migrant workers and how they affect their children's education. In comparison with selected previous studies on migration and the wellbeing of migrants' children, we present and discuss some findings focused on the education and schooling of migrants' children, based on data collected in the Vietnam Rural–Urban Migration Survey in 2013 (VRUMS2013).

2 The 2013 Law on Residence[1] and the Household Registration System in Vietnam

The household registration (*ho khau*) system was established in urban areas of the Democratic Republic of Vietnam in 1955 and extended to rural areas in 1960. The initial purpose was to control migration towards 'new economic zones' in the uplands and away from cities and border regions (Hardy 2003: 210). Every household was required to maintain a registration book listing all members of that household. Under central planning, possession of a *ho khau* was needed to access food rations and other state benefits. During the reform period, the allocation of rural and urban land-use rights was tied to household registration nationwide.

Prior to reform of the system in 2007, households fell into one of four registration categories depending on whether they lived where they had been registered. A KT1 *ho khau* meant the household lived where it was registered and was therefore entitled to buy land-use rights, register children in school and use local health clinics. KT2 registration included only households who had a KT1 registration in another district in the same province. They could buy land but could not access social services. KT3 status was for people moving between provinces. They could also buy land but could not access local schools unless space was available. KT4 registration was a temporary residence permit for individuals (Marx and Fleischer 2010: 18). Individuals who lived for 30 days or more in a location other than their registered district were required to report to the local police to obtain permission for temporary residence. To obtain permanent residence in a new location, migrants had to be able to demonstrate 3 years of uninterrupted employment and residence in that location. Home ownership at the destination was a requirement for permanent residence until 2005—a provision that effectively ruled out official transfers of residence for nearly all migrants.

In addition, there has been some consideration of revising the household registration requirements to make it easier for migrants to register their households in the destination city. For example, in 2005, Decree 108/2005/ND-CP and Circular 11/2005/BCA-C11 allowed some loosening of the requirements to move from KT3 to KT1 status, such as the removal of one requirement on house ownership. At this time, this meant a migrant renting a house or living at a relative's house had the right to register as a KT1 resident with approval from their landlord. Furthermore, after 2005, the requirement for birth registration was also revised, so that when a child was born, he or she would be eligible to register for birth at his or her birthplace, instead of its parents having to return to their hometown to register the birth there. A

[1]The Law on Residence (81/2006/QH11) was passed by the National Assembly on 29 November 2006 and went into force on 1 July 2007: 'Citizens have the right to freedom of residence under the provisions of this Law and other relevant laws. Citizens qualified for registration of permanent residence or temporary residence may request competent state agencies to register their permanent residence or temporary residence.' See further details in the Appendices.

child's household registration would now be included in his or her parents' registration book, whether in the city or in the hometown.

The new Law on Residence was enacted in 2006 and came into effect in 2007. The revised law simplified the *ho khau* system to two types of residence—permanent (*thuong tru*) and temporary (*tam tru*)—and reduced the residence requirement from 3 years to one for households applying for permanent residence. In addition, applicants no longer had to prove they had stable employment for the duration of their stay. This revision mostly helped employees in the formal sector with a written labour contract, who needed to move their residence to buy property or enrol children in school. However, the administrative obstacles to changing residence are still considerable and beyond the means of most mobile wage workers. Migrants still need approval from the authorities at their origin location to apply for residence at their destination (Pincus and Dinh 2010).

From 2007 to 2013, the number of migrants entering big cities continued to increase significantly. The 2013 Law on Residence has made some revisions to household registration in five municipalities.[2] By 1 July 2012, the total population in these five municipalities (Ho Chi Minh City, Hanoi, Hai Phong, Da Nang, Can Tho) was nearly 19 million people (over one-fifth of the country's population), in 4.6 million households—an increase from 9.8 million people in 2 million households in July 2007. The average population density in these five municipalities was 1686 people per square kilometre, or 6.5 times higher than the nation's average of 265 people per km^2. Among these, the density in Ho Chi Minh City (HCMC) was over 3500 people per km^2 (13.6 times higher than the national average) and in Hanoi it was over 2000 per km^2 (7.6 times higher than the national average).[3]

Closely related to the Law on Residence and the *ho khau* system is the Housing Law. The first Housing Law was passed in November 2005, which was revised in 2009 and again in November 2014.[4]

Compared with other laws and regulations, the Housing Law directly related to migrants working in the industrial zones and people with low incomes living in urban areas. Unfortunately, factory workers comprise a very small portion of migrants in the country. Most migrants, especially the poorest and most vulnerable, work in small businesses, such as cafes and eateries, clothing or mechanical

[2]Municipalities are the highest-level cities that are centrally administered as other provinces in Vietnam. There are five municipalities: Hanoi, Ho Chi Minh City, Can Tho, Da Nang, and Hai Phong. Provincial cities are provincially administered and are ranked as other districts within the provinces.

[3]'Tightening eligibility criteria for household registration into municipalities [Siết điều kiện nhập hộ khẩu vào thành phố trực thuộc trung ương]', *Tuoi Tre News*, 23 May 2013.

[4]The Housing Law 56/2005/QH11 was issued on 29 November 2005 and revised to 34/2009/QH12. Decree 71/2010/ND-CP was issued to provide guidance on the implementation of the Housing Law. The revised 2014 Housing Law (65/2014/QH13) passed on 25 November 2014 and continues to give priority to factory workers in industrial zones and low-income earners in urban areas. This revised law has made it possible for migrant workers with temporary household registration of at least one year to be eligible for social housing purchases.

workshops, hair and nail salons, or are self-employed in any work available, such as domestic work, selling flowers or lottery tickets, recycling, or casual construction work. They change jobs frequently, live in temporary housing, and are very difficult to track. None of these workers would be entitled to the housing or other welfare benefits that might be available to industrial workers in formal factory zones.

3 Previous Studies on Migrant Workers and Children

Many studies have been conducted to try to understand the nature of migration and the wellbeing of migrants and their families. Kong and Meng (2010) used large-scale data from three surveys conducted in China as part of the Rural–Urban Migration in China and Indonesia (RUMiCI) project to provide a general picture of how children of migrants and non-migrants perform in terms of both education and health outcomes. They find that left-behind children are less likely than non-migrant children in rural China, and migrated children are less likely than urban children, to have good schooling performance. Other measures, such as height or long-term health, of left-behind children are not as good as those of rural children, and the long-term health of migrated children is not as good as that of urban children. There is no evidence of differences in parental health between the children of migrants and non-migrants.

Murphy et al. (2015), using data collected from a cross-sectional survey in 2010 in Anhui and Jiangxi, China, examine the differences in children's subjective wellbeing and health across the full range of family structures in rural China as a result of parental labour migration. Although there is no significant difference between left-behind children and children whose parents never migrated or are returned migrants, in terms of satisfaction with life events,[5] left-behind children fare worse than children who live with both parents in behaviour at school, level of confidence in the realisation of future goals, loneliness and health. Furthermore, their study shows that which parent migrates matters for children's wellbeing. For example, children who have both parents migrate fare worse than those who have only one parent migrate, and children of lone mother migrants fare worse than all other children for some measures of wellbeing (Murphy et al. 2015). In another study on left-behind children, while being stereotyped as 'left behind' by teachers and friends might place certain limits on the development of Chinese children[6] who stay back in their rural hometown while their parents go to cities seeking work, there

[5]Children's self-reported answers are recorded as yes or no towards questions such as: 'Are events in life satisfactory?', 'Can your life goals be realised?', 'Do you often feel lonely?'

[6]For example, media, teachers, and peers negatively represent left-behind children as unruly and undisciplined, with negative fates, making 'left-behind' a negative stereotype that includes the idea of destiny or fate.

is no evidence that they disengage from school. On the contrary, these children seem to double their learning efforts (Bi and Oyserman 2015).

In Vietnam, using the first two waves of the VHLSS, Booth and Tamura (2009) investigate how a father's temporary absence affects children left behind in terms of their school attendance, household expenditures on education, and paid work, in the 1990s. They find that the father's temporary absence increases a son's, but not a daughter's, non-housework labour supply. The longer the father is away, the larger is the impact. They find no evidence that paternal temporary absence influences the children in terms of school attendance or education spending.

More recently, Nguyen and Vu (2013), using panel data from the Young Lives surveys in 2007 and 2009, examined the effect of temporary parental absence on rural households with left-behind children aged five and eight in Vietnam, and on the time use of these children. They found that per capita expenditure of households with at least one migrant parent was around 11% higher than households where no parent had migrated for work. Although children with migrant parents have a lower poverty rate than children whose parents have not migrated for work, the estimate of the effect of parental absence on poverty using fixed-effects regression is not statistically significant. The authors noted that since there can be endogeneity of the parental migration in regressions, one interpretation of these results could be a correlation instead of a relationship between parental migration and children's welfare.

Recently, many surveys focused on migrants have been conducted in Vietnam. In 2009, the General Statistics Office (GSO) of Vietnam and the United Nations Development Program (UNDP) conducted an Urban Poverty Survey (UPS) in Hanoi and HCMC, comparing the wellbeing of the children of migrants and local urban children who have residence in the cities. The UPS2009 adopted a sampling method that differed in important ways from successive rounds of the VHLSS, on which official poverty estimates in Vietnam are based. The UPS2009 is more likely to capture short-term migrants than the VHLSS because it does not impose a minimum residence requirement on respondents, and because it includes respondents who live in dormitories, shared accommodation and other non-standard dwellings. The urban poverty report based on evidence from the UPS2009 shows that most migrants in Hanoi and HCMC were aged between 15 and 39 and more than half were women (UNDP 2010).

The UPS2009 study provides some indicators on the children of migrant workers in Hanoi and HCMC. For example, the UNDP report notes that 97.3% of children aged 10 to 14 (lower-secondary education age) were literate, which means that primary education was not universalised. In terms of children's work, as shown in Table 1, 14.7% of migrant children aged 10–14 were working, compared with only 1.1% of children with permanent residence. Among those aged 15–19, 76% of migrant teenagers were reported as working, compared with 20% of resident teenagers.

In 2011, a study conducted by a research team at the Fulbright Economics Teaching Program and supported by the United Nations Children's Fund (UNICEF) in Vietnam specifically aimed to study the wellbeing of migrant children in HCMC. The Migration 2011 study was most similar to the VRUMS2013 in the sense that migrants were traced from the sending households to the city. Interviews were

Table 1 Percentage of migrant and resident children currently in school or working

	In school		Working	
Age	Residents (%)	Migrants (%)	Residents (%)	Migrants (%)
5–9	99	89	–	–
10–14	97	71	1.1	14.7
15–19	77	21	20	75.7
If in school				
Type of school				
Public	82	65		
Semi-public	3.4	5.5		
Private	8.5	14.5		
Shareholding	4.6	13.5		
Children with health insurance	85.5	53.6		

Source: Migrant children in Hanoi and Ho Chi Minh City, Urban Poverty Survey 2009 (UNDP 2010)

conducted both in the rural areas and in the destination where the migrant workers lived and worked. The main difference was that Migration 2011 applied a purposive rather than random sampling method, to learn about the most vulnerable migrants and their children. By focusing on the unregistered, informal wage-earners employed at the bottom end of the labour market, the Migration 2011 survey succeeded in capturing a large number of deprived adults and children. The Migration 2011 survey suggests that more complicated and time-consuming methods of identifying or targeting the most deprived—for instance, by reference to arbitrary and contested poverty lines—are likely to be less efficient methods of identifying the poor. This points to the urgent need for improvements to national labour force surveys that focus specifically on the working poor, their incomes and conditions of work, and that account for the labour mobility and seasonality of employment.

The Migration 2011 data also show that the conventionally defined unit of analysis in poverty surveys—the household—is a poor guide to understanding how poor people attempt to survive in Vietnam. It should no longer be assumed that the children and adults most at risk of poverty are members of large, rather than small, households. Another finding is that the children of migrants who work in the sectors sampled, as well as child workers in informal sectors, are on average much more deprived than other children in HCMC, including those captured in a recent official survey of unregistered migrants. The education, diet and living conditions of many of the children in this sample appear to be seriously inadequate.

Evidence in the Migration 2011 research shows that, while mobility is an economic necessity, it is a hardship for parents and children. This hardship is largely imposed on poor families by the government's household registration system, which forces parents to choose between educating their children or living with them. The children of poor migrants drop out of school at rates much higher than the national average, and largely because of the cost of schooling. This imposes an intergenerational burden on the working poor, since the children of parents who leave school early have a much higher propensity to drop out of school themselves (Pincus et al. 2011).

Table 2 Number of children in VRUMS2013 and their age

Age	No. obs.	Percent among children <16
0	6	1.1
1	86	16.2
2	40	7.5
3	50	9.4
4	42	7.9
5	48	9.0
6	42	7.9
7	37	7.0
8	32	6.0
9	19	3.6
10	26	4.9
11	17	3.2
12	25	4.7
13	20	3.8
14	13	2.4
15	16	3.0
Total aged 16 and below	532	

4 The Children of VRUMS2013

The VRUMS2013 questionnaire is an extensive one, collecting detailed information on the migrant's individual and household characteristics (section A), the education and training characteristics of the migrant and household members aged 16 and older (section B), and the employment situation of adult members (section C). Section D specifically asks about the education of all children below 16 years of age and those older than 16 who are still in school, including children left behind at home or living with other relatives.[7] These children are the focus of our analysis.

Of the 1789 individuals living in the households covered by the VRUMS sample, 532 or about 30% are children aged 16 and younger. Among those, most are infants less than 1 year old. More than half of these children have not reached age six. These are the children who need the most care while their parents are away for work (Table 2).

Table 3 shows that, among the children under 16, almost 60% live with their migrant parents, while most of the remaining 40% are left behind in the home village. About 57% of these children live with both parents, 3% live with their father, 22% live with their mother, 13% live with their grandparents, and about 2% live with other relatives or other people (Table 4).

[7]Sections E–K cover other household characteristics such as expenditure and income (E), information on separated spouses (F), parents of migrants (G), migrants' social networks (H), migrants' life events (I), comparisons of satisfaction and income (J), and the present housing/living conditions of the migrants (K).

Table 3 Place of residence for children under 16

Place of residence	No.	Percent
At home village	203	38
With the migrant's family in the city	305	57
In a different ward, city or province	8	1
No. obs. with information	515	97
Missing obs.	16	3

Source: VRUMS2013

Table 4 Living arrangements of children of migrants

Children living	No.	Percent
With both parents	301	57
With father only	14	3
With mother only	119	22
With grandparent(s)	70	13
With relative(s)	3	0.6
With others	5	0.9
No. obs. with information	512	96
Missing obs.	20	4

Source: VRUMS2013

Table 5 Household registration status of 305 children living with migrant parents in the cities

Household registration status	No.	Percent
With household registration	36	11
Without household registration	29	10
No. obs. with information	65	21
Missing obs.	240	79

Source: VRUMS2013

With regards to children's household registration status, among the 305 children living in the city with their migrant parents, unfortunately, only one-fifth (65 children) have recorded information, and almost 80% have missing values. Among those with recorded information, 36 children have *ho khau* in the city, while 29 do not (Table 5).

But the data do provide some information on the adults' household registration status. Almost 80% of household heads in this sample have kept their household registration in their rural hometown or never had one. Only about 15% have a household registration in their current place of residence in the city. This information indicates that most of the children whose *ho khau* information is missing most likely do not have household registration in the city.

Table 6 Number and percentage of children currently in school by age group

	UPS2009	VRUMS2013	VRUMS2013	VRUMS2013
	% in school	No. children	No. in school	% in school
5–9[a]	89	178	157	88
10–14	71	101	83	82
15–19	21	52	31	60

Sources: VRUMS2013; UPS2009

[a]For comparison purposes, we include all children aged five to nine in the first group and count school attendance in both kindergarten and elementary school

4.1 Schooling of VRUMS Children

In examining the schooling of the children in the sample, we compare the rate of school attendance in VRUMS2013 data with that of the UPS2009. This is not an ideal comparison since the data are a few years apart. On the other hand, the Migration 2011 data, although collected closer to the time of the VRUMS, do not have as representative a sample as the UPS2009. Although there have been successive rounds of the UPS, the data have not been released. The following comparisons between VRUMS2013 and UPS2009 are based on information presented in official releases of the UPS2009 by the UNDP in 2010.

Out of 532 children under 16, there were 182 children (34%) who were in kindergarten, 199 (37%) in elementary school and above, seven children out of school, and 144 (27%) had missing values. Since the UPS2009 data do not define children below 16, to make a more comparable analysis, we look at children and their schooling by age group, as seen in Table 6. In this table, VRUMS2013 percentages in school are calculated as the number of children in each age group who were reported to be in school out of the total number of children in that age group.

Most of the children between the age of five and nine were in school in both the UPS2009 and the VRUMS2013. However, school attendance rates for children aged between 10–14 and 15–19 in VRUMS2013 are much higher than those in UPS2009. Most notably, while only one-fifth of the children aged between 15 and 19 in UPS2009 were in school, 60% of those in the same age group in the VRUMS2013 were in school. The UPS2009 data certainly captured a significant number of adolescent migrant children who had left school to pursue employment activities. Overall, the children in VRUMS2013 are achieving much better rates of school attendance than the children in UPS2009 (Table 7).[8]

How likely are children to be in school if they are left behind in the home village or living with the migrants' family in the city? In Table 8, we look at the groups of

[8]Not only were more children in VRUMS2013 in school, most attended schools at the relevant age. Except for the university age group (aged 18–22), over two-thirds of migrants' children in each schooling level—from elementary to high school—were attending school. Migrants' children only seem to stop schooling as they enter the university age.

Table 7 Age patterns of migrant children

Age group	School groups	No.	In school
Aged (6–11)	Elementary school age	156	109 (70%)
Aged (11–15)	Secondary school age	75	59 (79%)
Aged (15–18)	High school age	39	28 (72%)
Aged (18–22)	University age	31	10 (32%)

Source: VRUMS2013

Table 8 Number and percentage of children currently in school, by living arrangements

	Left behind in village		In city with migrant parents	
Age group	No.	Percent	No.	Percent
6–9	34/48	71	50/57	88
10–14	58/66	88	24/33	73
15–19	22/30	73	9/18	50

children who live with their parents in the city and those who have stayed in the home village; we divide them into various age groups and examine their schooling status. The sizes of these subsamples are small, yet the limited data indicate that children who are left behind are more likely to be in school than those who have followed their parents to the city, especially at the high school age. In other words, although we do not know how many children aged 15–19 are working, those who follow their migrant parents are more likely to drop out of school to work in the city.

Are children with *ho khau* in the city more likely to be in school? Although the information on household registration is thin (only 36 children with and 29 children without *ho khau*), we nevertheless examine their schooling status by age group. There seem to be no differences between the two groups; *ho khau* did not seem to be a barrier to children's schooling in the city. However, the sizes of these subsamples are too small to make reliable inferences, because there are too many missing values on the children's household registration and only those with information on household registration carry information on schooling. Given this limitation, we use the parents' household registration information as an inference for their children's *ho khau* status.

In terms of the types of school, we do not have detailed narratives from the VRUMS2013 data to fully understand how many migrant children in VRUMS are attending public schools while most of their parents do not have *ho khau* in the cities (Table 9). In the Migration 2011 study, it was shown that household registration is required to obtain access to local public schools. The enactment of the 2007 Law on Residence was intended to make it easier for migrants to apply for permanent residence status at their destination. According to the law, anyone who maintains legal residence in a destination province for at least 1 year may apply for permanent residence status. Migrants no longer need to prove that they are in full-time, stable employment to obtain permanent residence.

Table 9 Type of schooling for migrant children

Type of school	Migrant children in UPS2009	Migrant children in VRUMS2013	
		Left behind in rural hometown	Brought along to city
Public	65%	96%	83%
Private	14.5%	4%	16%
No. obs.	n/a	139	116

Sources: VRUMS2013; UPS2009

The registration requirement means that even long-term residents of the city cannot attend school. Migration 2011 data demonstrated a typical case of a 14-year-old girl who came to HCMC with her mother from Tra Vinh province. Her mother works full-time for a state-owned company as a cook, and was paid VND1.6 million per month (approximately US$76 in 2011 values). The girl completed her fifth-grade schooling in Tra Vinh, but never attended school in HCMC in the 4 years of being in the city, because her mother does not have a household registration book in the city. She also does not have enough money to pay fees for a private school or the additional fees required at a public school for unregistered children.

4.2 Children Out of School

There are seven children aged between 6 and 16 in VRUMS2013 who were reported to be not in school.

The welfare of children is likely to be profoundly affected by the level of education achieved by the adults to whom they are economically linked. A child who is cared for by illiterate or poorly educated adults will face severe disadvantages compared with a child who can call on the support of well-educated adults.[9] In the Migration 2011 survey, about one-third of migrant children come from households that do not contain a single individual who has completed lower secondary school. The children who are members of these households risk dropping out of school at an early age. In line with Migration 2011 data, among the seven drop-out children in VRUMS2013, none of their parents finished secondary school, and three had parents who had never finished primary school (Table 10).

Other studies have found that the effects of dropping out of school are intergenerational, in that the children of today's drop-outs are less likely to stay in school. In the Migration 2011 study, among migrant children aged 8–15 years in

[9] 'It is generally understood that a literate person gets some advantages that will not accrue to an illiterate. One can extend the reasoning to state that an illiterate person in close proximity to a literate will get certain advantages that are not possible for an isolated/secluded illiterate' (Mishra and Mishra 2004: 745–749).

Table 10 Children not in school

Origin	Current city	Gender	Age	Last grade	Reason to drop out	Current job	Parents' education
Quang Ngai	Hanoi	Girl	6	1	n/a	n/a	n/a
Ca Mau	HCMC	Girl	12	5	Migrated with family	At home not doing anything	Father grade 4, mother grade 6
Hau Giang	HCMC	Boy	15	7	Financial problems	n/a	Father finished grade 4, mother never went to school
Tra Vinh	HCMC	Boy	11	5	Financial problems	At home not doing anything	Both parents finished grade 3
Binh Dinh	HCMC	Boy	15	7	Go to city to work to help family	Doing non-agricultural work	Mother finished grade 8
Binh Dinh	HCMC	Boy	14	6	Go to city to work to help family	Doing non-agricultural work	Same family
Kien Giang	HCMC	Girl	15	6	Financial problems	Doing non-agricultural work	Mother finished grade 3

Source: VRUMS2013

economically linked households in which no one has completed lower secondary school, 37% are currently not in school. This compares with only 14% of children from other households. The situation is even starker for children from economically linked households in which no member has completed primary school. Among these children, 54% are not in school, compared with only 18% for the rest of the sample. Children are much more likely to stay in school if the adults in their family have attained some educational qualifications. This has important policy implications, since it means that the children of today's drop-outs are likely to drop out themselves (Pincus et al. 2011).

4.3 Financing of Children's Education

School fees are generally much higher for unregistered migrants in the city than in their location of origin. In addition to higher school fees, parents are required to pay for extra lessons for their children to ensure progress in school. These extra lessons are also more expensive in the city and represent a serious financial burden on parents. Uniforms and other mandatory contributions to the school add to the cost of

Table 11 Spending on children's schooling by migrant parents in Hanoi and Ho Chi Minh City

(Values in 2011 US$)	Migrant parents in Hanoi	Migrant parents in HCMC
Total spending on schooling	$239	$344
Of which, tuition	$159	$145
Room and board	$72	$112
Others	$53	$25
Extra tutoring	$18	$86
No. obs.	10	111

Source: VRUMS2013
Note: The number of observations in the Hanoi sample is too small to break down into more detail

educating children. These costs are all much higher in the city. Unfortunately, this information in the VRUMS2013 data is insufficient for further analysis.

On average, as shown in Table 11, migrant parents in Hanoi spent VND5 million (US$239) in the previous year on their children's schooling, and those in HCMC spent over VND7 million (US$344). Migrant parents' spending on extra classes in HCMC was almost five times that in Hanoi. Note the substantial difference between the sample sizes: only 10 observations in Hanoi and 111 observations in HCMC had valid values.

Additional ordinary least squares (OLS) analysis on the determinants of migrant children's education, as seen in Appendix 4, shows that left-behind children are less likely to attend school, but have higher spending on education. Children of parents with *ho khau* in the cities have higher chances of being in school. Parents with household registration in the cities, and parents with more than high school education, are likely to spend more on their children's education. Binci and Giannelli (2012), using data from the 1992–1993 and 1997–1998 VHLSSs to investigate average school attendance and child labour in remittance-recipient and non-recipient households, show that remittances increase schooling and reduce child labour.

5 Conclusions

The VRUMS2013 data provide some insights about the education of migrants' children in Hanoi and HCMC. There are 532 children under the age of 16 in the sample, of whom about 60% live in the city with their migrant parents and 40% are left behind in the rural hometown. About 80% of the migrants in this sample have kept their household registration in their rural hometown. Only about 10% of the children in this sample are reported to have household registration in the city.

Overall, compared with other studies of the children of migrants in Vietnam, these data show a remarkably high school attendance rate. Over 70% of children aged three to five are attending kindergarten; nearly 90% of those aged five to nine and 80% of those aged 10–14 are in elementary and secondary school, respectively.

For adolescents aged 15–19, while other studies show much lower rates of school attendance, these data indicate a 60% school attendance rate for this age group. Most attend school at the right age. Migrants' children in this sample are more likely to attend public schools than those from previous studies.

There is no significant difference in the school attendance rate between left-behind children and those who accompany their migrant parents to the city. The biggest difference is among children in the 15–19 age group: if they are still in the rural hometown, they are much more likely to be in school than if they leave with their parents for the migration destination. Children whose parents work in HCMC are slightly more likely to be in school than those whose parents are in Hanoi.

There is a remarkably small number of migrants' children who dropped out of school: only seven reported cases, in a sample of 532 children. Most dropped out because of financial difficulties and are now working in the cities with their parents. The parents of these children also have low educational attainment; most never finished secondary or even elementary school.

Data on spending on education indicate that, on average, migrant parents in Hanoi spent about US$240, while those in HCMC spent about US$340 each year on their children's education. Migrant parents' spending on extra classes in HCMC was almost five times that in Hanoi.

The results presented in this chapter are mostly descriptive. There is a large number of missing values, especially in the Hanoi sample compared with that of HCMC. The sample also seems to capture a very small number of migrants' children who had to drop out of school to join the workforce, which is remarkably different from findings in previous studies. Perhaps more narrative accounts of these cases would be helpful in understanding how parental migration might affect their children's education prospects. Finally, further research focused on the wellbeing of migrants' children is needed, especially if collected on a smaller and more focused questionnaire.

Appendices

Appendix 1: 2013 Law on Residence—Revisions from 2007

In June 2013, the revised Law on Residence and Decree 35/2014/TT-BCA made some revisions to household registration in these municipalities.

Article 20. Conditions for permanent residence registration in municipalities. Citizens falling into one of the cases below are eligible for permanent residence registration in municipalities:

1. The citizen must have a lawful residence and have temporarily resided for *at least 1 year when registering in a district* [***huyen***] *or town* [***thi xa***] of a municipality, or for *at least 2 years when registering in a district* [***quan***] of a municipality;

Before 2013: 'Having lawful domiciles and having temporarily resided for 1 year or more *in the cities.'*

2. The citizen is accepted by a holder of the household registration book in one of the cases below:
   (a) A wife moves in with her husband; a husband moves in with his wife; a child moves in with parent; a parent moves in with children;
   (b) A person at a retirement age, a retired person or unemployed person that moves in with his or her brother or sister;
   (c) A disabled person, a person incapable of working, a person who has mental illness or other illness that causes loss of awareness or the ability to control behaviours, moves in with his or her brother, sister, aunt, uncle, or guardian;
   (d) A parentless juvenile, or a juvenile whose parents are not able to provide for them, moves in with his or her grandparent, brother, sister, aunt, uncle, or guardian;
   (e) A single adult moves in with his or her grandparent, brother, sister, aunt, or uncle;
   (f) A grandparent moves in with his or her grandchildren.
3. A citizen who is sent to or employed by an organisation that is paid by the state budget, or works under an indefinite contract, and has a lawful residence;
4. A citizen who registered a permanent residence in a municipality and returns to his or her legal residence;
5. The people who fall into the cases in Clauses 1, 3, and 4 of this Article register their legal residence that is rented or lent by another organisation or individual must satisfy the conditions below:
   (a) The average area conforms with the regulations of the People's Council of the city;
   (b) The conformity of average area is certified by the People's Committee of the commune or town;
   (c) The renter or lender makes a written agreement;
6. Permanent residence registration in Hanoi shall comply with Clause 4 Article 19 of the Law on the Capital.

   Before: There were no Clauses 5, 6 or details in Clauses 2, 3, 4.

Article 23. Change of places of permanent residence registration in case of change of lawful domiciles

Persons who have already registered their permanent residence but change their lawful domiciles shall, *within 12 months* after their movement to the new lawful domiciles, carry out procedures to change their registered places of permanent residence.

Before: Persons who have already registered their permanent residence but change their lawful domiciles shall, ***within 24 months*** *after their movement to the new lawful domiciles, carry out procedures to change their registered places of permanent residence.*

Article 30. Temporary residence registration

4. Temporary residence books granted to households or individuals having registered their temporary residence are valid *for a maximum of 24 months. Within 30 days before the expiry date, citizens shall apply for the extension at the Police Department that issued the temporary residence book.*

Before: Temporary residence books granted to households or individuals having registered their temporary residence are valid ***for an unspecified term*** *for determination of citizens' temporary residence places.*

Appendix 2: Decree 35 on the Enforcement of the 2013 Law on Residence

Following the 2013 Revised Law on Residence that went into effect on 1 January 2014, starting from 28 October 2014, Decree 35/2014/TT-BCA specified the enforcement of the revised Law on Residence and Decree 31/2014/ND-CP officially went into force to replace Circular 52/2010/TT-BCA in 2010. The changes in Decree 52 that replaced the previous Decree 34 include:

1. New requirements on the minimum floor area.

   Decree 52: For rented, borrowed houses, or shared shelter in Hanoi or Ho Chi Minh City, it must be clearly specified in the rental, borrowed, or sharing contract that the minimum floor space per person is 5 sq. m. The definition of minimum floor space must be understood and implemented according to the Law on Housing.

   Decree 35 removes the 5 m^2 per person requirement, and instead requires that 'the average living area must comply with the requirements of the municipalities'.
2. Removal of requirement to show lawful domiciles for relatives living together, or handicapped, mentally disordered persons. Instead, they must maintain lawful papers on the relationships with the People's Committee. Decree 35 specifies the kinds of acceptable papers to prove such relationships.
3. Decree 35 adds a requirement restricting the head of household from intentionally creating obstacles for people who share the same household registration book.
4. Decree 35 specifies the maximum length of a temporary household registration to be 24 months (Decree 52 did not specify the length).
5. Decree 35 specifies the procedures and necessary papers required to extend temporary registration to be undertaken within 30 days before the temporary registration expires. The local police should process the application for temporary registration within two days of submission. After 30 days, a person with an expired temporary registration will be automatically removed from the local temporary registration book. For students or workers living in dormitories, they must be on a list to apply for extension of temporary registration.

6. For those with floating registration, Decree 52 requires that this must be done before 10 pm on the day, and Decree 35 revised this to 11 pm on the day. After 11 pm, floating registration should be done the following day.

Appendix 3: The 2009 Housing Law

In the 2009 Housing Law, together with Resolution 18/NQ-CP in 2009, specific clauses were made to signify the priorities on housing for industrial factory workers. The state strongly encouraged the socialisation of housing projects for factory workers in industrial zones and supported investors with different benefits such as land-use leases and rents, value added and corporate income taxes. Corporations that provided housing for their own workers also received various benefits and subsidies. Housing projects for low-income labourers in urban areas also received various benefits.

Following this, Decision 66/2009/QD-TTg and 67/2009/QD-TTg outlined specific priorities for housing development projects for low-income earners in urban areas. These two decisions made clear priorities for the beneficiaries of low-income urban housing to be factory workers. In Decision 66, migrant factory workers were mentioned for the first time as the priority beneficiaries of the current housing policies.

Decision 66/2009/QD-TTgArticle 8. Beneficiaries and conditions for renting houses for industrial park workers

1. Managers of houses for industrial park workers shall lease houses to proper lessees who are industrial park workers; and *prioritise those from other provinces* who work under labour contracts in industrial parks with projects on houses for workers, and low-income workers without houses or with temporary lodging.
2. An industrial park worker wishing to rent a house shall make an application with certification of his/her employer being a production enterprise operating in an industrial park and sign a house lease contract with the manager of houses for industrial park workers.
3. Industrial park workers shall fully pay rents and observe rules on use of houses for workers set by managers of houses for industrial park workers; may not re-rent houses or transfer lease contracts. Violators are subject to lease contract cancellation or shall be handled under law.

Decision 67/2009/QD-TTg opened up potential opportunities to own a low-income house for migrant factory workers, as well as low-income earners in urban areas. However, Circular 36/2009/TT-BXD of the Ministry of Construction, issued in November 2009, required that potential buyers must have a permanent household registration in the urban area, which closed this opportunity for many if not most migrant factory workers.

In 2011, Decision 2127/QD-TTg approved a long-term National Housing Development Strategy toward 2020, vision of 2030, aiming to build a minimum of ten

million sq. m of social housing for low-income earners in urban areas, meeting 50% of the demand of factory workers in industrial parks. Most recently, Decision 996/QD-TTg aims to build 400,000 housing spaces for workers in industrial clusters and high-tech and manufacturing zones in all industries.

Appendix 4: Determinants of Child Welfare Analysis

In the VRUMS data, we can only identify the parents or primary carers of 338 children aged under 16 (35% of the variables identifying the parent or guardian are missing). We will have to assume that a child under 16 is economically linked with the migrant respondents in the associated households. In the following analysis, 'parents' refers to the identified parents or primary carers or a responding migrant from the household associated with the child. *City* is a dummy variable equal to 1 for Hanoi and 0 for HCMC. *Child left behind* is a dummy variable equal to 1 if the current primary residence of the child is the hometown. Parents holding state jobs or foreign direct investment (FDI) jobs (compared with private sector jobs) refers to the type of ownership of a parent's current workplace. Spending on school is measured in VND. The dependent variable *child in school* is a dummy variable equal to 1 if the child is currently in school, and the total spending on school fees in the previous year.

Table 12 OLS regression on children's school attendance and spending on schooling

	Spending on school				Child in school			
City	−1.56***	−1.61***	−1.51***	−1.50***	−0.00***	−0.00***	−0.00***	−0.00***
	(0.52)	(0.52)	(0.53)	(0.53)	(0.00)	(0.00)	(0.00)	(0.00)
Child left behind	727.98***	721.58***	717.99***	692.39***	−0.13***	−0.14***	−0.14***	−0.14***
	(171.44)	(171.54)	(171.66)	(171.88)	(0.05)	(0.05)	(0.05)	(0.05)
Parents having *ho khau* in city	636.84***	676.14***	681.67***	702.42***	−0.16***	−0.16***	−0.16***	−0.16***
	(177.93)	(185.52)	(186.47)	(188.15)	(0.04)	(0.04)	(0.04)	(0.04)
Parents holding state job		−267.10**	−273.43**	−278.77**		−0.12**	−0.11**	−0.11**
		(133.65)	(134.47)	(134.92)		(0.05)	(0.05)	(0.05)
Parents holding FDI job			−92.14	−13.65			0.26	0.27
			(93.19)	(94.93)			(0.29)	(0.30)
Migrant parent has more than high school education				243.75***				−0.91
				(40.68)				(0.14)
Constant	125.29***	132.00***	135.38***	−77.64***	1.17***	1.17***	1.17***	1.25***
	(28.35)	(29.00)	(29.58)	(29.27)	(0.04)	(0.05)	(0.05)	(0.14)
Prob. > F	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
No. obs.	111	111	111	111	243	243	243	243

Notes: *denotes significance at the 90% level, **at the 95% level, and ***at the 1% level. White's robust standard errors in parentheses

References

Bi, C., & Oyserman, D. (2015). Left behind or moving forward? Effects of possible selves and strategies to attain them among rural Chinese children. *Journal of Adolescence, 44*, 245–258.

Binci M., & Giannelli, G. C. (2012). *Internal vs. international migration: Impacts of remittances on child well-being in Vietnam*. IZA Discussion Paper No. 6523. Institute for the Study of Labor.

Booth, A. L., & Tamura, Y. (2009). *Impact of paternal temporary absence on children left behind*. SSRN Scholarly Paper No. ID 1504412. Rochester: Social Science Research Network.

Carr-Hill, R. A. (2011). A large-scale donor attempt to improve educational status of the poor and household income distribution: The experience of PEDC in Vietnam. *International Journal of Educational Development, 31*, 251–261.

Hardy, A. (2003). *Red Hills: Migrants and the state in the highlands of Vietnam* (New ed.). Honolulu: University of Hawai'i Press.

Kong, S. T., & Meng, X. (2010). The educational and health outcomes of the children of migrants. In X. Meng, C. Manning, L. Shi, & T. N. Effendi (Eds.), *The great migration: Rural–urban migration in China and Indonesia*. Cheltenham: Edward Elgar.

Marx, V., & Fleischer, K. (2010). *Internal migration: Opportunities and challenges for socio-economic development in Vietnam*. Hanoi: UNDP.

Mishra, S., & Mishra, U. S. (2004). Secluded and proximate illiterates among couples: Implications for health of women and children. *Economic and Political Weekly, 39*, 745–749.

Murphy, R., Zhou, M., & Tao, R. (2015). Parents' migration and children's subjective well-being and health: Evidence from rural China. *Population, Space and Place, 22*, 766–780.

Nguyen, V. C., Vu, H. L. (2013). *Should parents work away from or close to home? The effect of temporary parental absence on child poverty and children's time use in Vietnam*. Young Lives Working Paper No. 104. Oxford Department of International Development, Oxford University.

Pincus, J., & Dinh, N. (2010). *Mobility and the measurement of well-being in Hanoi and Ho Chi Minh City*. Fulbright Economics Teaching Program.

Pincus, J., Dinh, N., & Sender, J. (2011). *Migration, employment and child welfare in Ho Chi Minh City and the surrounding provinces*. Fulbright Economics Teaching Program.

United Nations Development Program (UNDP). (2010). *Urban poverty assessment in Hanoi and Ho Chi Minh City*. Hanoi: UNDP.

United Nations Development Program (UNDP). (2014). *Migration, resettlement and climate change in Viet Nam: Reducing exposure and vulnerabilities to climatic extremes and stresses through spontaneous and guided migration*. Hanoi: UNDP.

Public Resources on Legal Documents

Central Database for Legal Normative Documents. http://vbpl.vn/TW/Pages/vbpqen.aspx

Central Portal of the Ministry of Justice. http://www.moj.gov.vn/en/Pages/home.aspx

Conclusion

Amy Y. C. Liu

Millions of rural workers have moved to cities to work since the introduction of Vietnam's market reform, known as *Doi Moi*, in 1986. The establishment of industrial zones and the rapidly growing private sector have generated great demand for unskilled labour, which in turn has encouraged rural–urban migration. Rural–urban migration as a share of the migrant population has increased consistently over the period 1999–2014. The increasing pace of migration, together with the high concentration of migrants in a few large cities such as Hanoi and Ho Chi Minh City, has posed significant policy challenges for the Government of Vietnam in terms of how to manage the urbanisation process.

The Vietnam Rural–Urban Migration Survey (VRUMS) project was inspired by, and is a step towards understanding, these challenges. Using VRUMS and other data sources, this edited volume intends to address some of the important policy issues related to rural–urban migration in Vietnam. By gaining understanding of such issues, our aim is to inform policymakers about how to formulate new policies to manage the migration process more effectively. The main focus of the chapters in this volume includes understanding of: (1) the institutional underpinnings of rural–urban migration in Vietnam; (2) the challenges faced by migrants when competing for jobs in the urban labour market; and (3) the welfare impacts of migration on migrants and their families back in their home village as well as in the cities.

This book aims to attract a general readership from across academia and the policymaking arena. It has broad appeal to academics in the areas of migration, comparative and development studies as well as a wider audience interested in Vietnam and the Greater Mekong River region. The adoption of the sampling methodology of the Rural–Urban Migration in China and Indonesia (RUMiCI) project will be of special importance to a large number of potential data users,

A. Y. C. Liu (✉)
International and Development Economics, Crawford School of Public Policy, Australian National University, Canberra, ACT, Australia
e-mail: yukchu.liu@anu.edu.au

A. Y. C. Liu, X. Meng (eds.), *Rural-Urban Migration in Vietnam*, Population Economics, https://doi.org/10.1007/978-3-319-94574-3_11

including economists, sociologists and researchers in other disciplines. We hope this book will provide important baseline findings for future investigation for many researchers and policymakers in Vietnam and, more broadly, in (transitional) countries in the region.

This chapter summarises the main findings of the book and its contribution to bettering our understanding of rural–urban migration and the lives of migrants residing in Vietnam's cities.

Vietnam is one of a few countries that still has a household registration system, known as *ho khau*. It was established with the aim of managing and controlling population movement. Along with Vietnam's transformation into a market-oriented economy, the *ho khau* system has also undergone a number of changes. Is it still relevant to migrants' families in terms of their lives in the destination cities? Chapter "Rural–Urban Migration in Vietnam: Trend and Institutions" shows that, despite several reforms in recent years, *ho khau* remains a barrier today. Rural–urban migrants, especially temporary ones in the major cities, still face challenges in accessing a range of public services in the cities. The *ho khau* system often intertwines with other administrative requirements, putting the social safety net out of the reach of these migrants and their families. It is well-documented that migrants contribute to economic development in Vietnam via remittances. Policies to further remove institutional barriers and improve migrants' access to public services should be considered. The recent move to a single national population database and identification card linked to the data of every citizen is a step in the right direction. At this early stage, it is not clear whether this new system will ultimately facilitate equal access to public services for migrants, and whether or not the identification card is just a new form of the '*ho khau* book' remains to be seen.

The first part of chapter "Study of Rural–Urban Migration in Vietnam: The Survey" provides detailed information about the design of the VRUMS2013 and the unique features of the new survey. It also details the strategies adopted to ensure the randomness of the VRUMS2013 sample. The second part of the chapter outlines the characteristics of rural residents and their families who have migrated to the city. In line with the literature, they tend to be young and most have low-paid jobs either with no contract or with a very short contract. The temporary nature of their work makes it all the more challenging for migrants without a local *ho khau*, as they are excluded from the social safety net, including job-related and health insurance. The chapter also examines migrants' health status, household income and expenditure, social networks, and their housing and living conditions in the cities. By examining these areas, a more complete picture can be formed of the lives of migrant workers and their families in urban areas.

In chapter "Internal Migration in Vietnam, 2002–2012", factors influencing the migration decisions of all migrants and recent migrants, for work and non-work purposes, as well as their destination choices are investigated. Two rounds of the VHLSS, 2010 and 2012, are used. As the VRUMS only completed the first round, the VHLSS is more suitable for this task. The results suggest that age is an important factor in migration decisions for work and non-work purposes. 'Push' factors, such as household assets and land endowments in the home village, are found to also encourage outmigration from rural areas. Furthermore, for the recent migrant cohort,

migration from rural areas is positively selected on education levels. Finally, the persistence of a large and negative ethnic minority bias in migration rates, even after controlling for location and other variables, is evident. The implications of these results are discussed in view of whether returns to programs subsidising rural development and agricultural productivity growth to persuade rural populations to stay in the countryside should be re-evaluated, given the government itself has acknowledged such programs have had little direct impact (MOLISA 2009).

Chapter "Migration Duration and Migration Outcomes" examines other aspects of the migration decision: What are the factors associated with the decisions around migration duration? How is migration duration associated with migration outcomes between different groups of migrants? Using three migration duration measures and information on both temporary and permanent migrants collected in the VRUMS, it is found that an increase in migration duration is closely related to migrants' age, education and parental socioeconomic status. In addition, migrants who stay longer in the host city tend to have better labour market outcomes in terms of a greater probability of working or higher family incomes, but there is no statistically significance association with migrants' life satisfaction. The positive association between migration duration and better labour outcomes is an important finding. It highlights the fact that policies that make it easier for migrants to stay longer in the destination city have a role to play in improving migrants' labour outcomes. Collection of richer migration duration data, such as panel data, is crucial for future research that is necessary to directly test the hypotheses depicted by (return) migration theories to further our understanding of the nexus between migration duration and migration outcomes.

In terms of migrants' labour market outcomes, chapter "Occupational Wage Differential Between Urban Workers and Rural Migrants in Vietnam" shows that rural–urban migrants not only receive lower wages and work longer hours than their urban counterparts, but they also tend to be overrepresented in low-paying jobs. In addition, using the Brown et al. (1980) decomposition method, the results show unequal pay within jobs is the main contributing factor to migrants' relatively lower economic position. Of the intra-job earnings difference, intra-job characteristic differences are the key contributor. In other words, unequal pay within jobs between urban residents and rural–urban migrants is mostly explained by their characteristic differences. In addition, the total explained part is the key contributing factor to the overall earnings gap, rather than the total unexplained part. Note, however, that the unexplained part is not negligible in size even though it is relatively less important than the explained part. Specifically, the unexplained intra-job component accounts for a higher share than the unexplained inter-job component that reflects the effect of occupation segregation. Given these findings, a comprehensive suite of policies that improves the human capital of migrants, as well as ensures equal pay in a particular job, is crucial in narrowing the earnings gap between urban residents and rural–urban migrants.

The important role of social networks as an informal mechanism through which migrants obtain employment information has long been recognised. They serve to bridge the information gap between workers and employers and facilitate better

matches. Chapter "Social Networks and Employment Performance: Evidence from Rural–Urban Migration in Vietnam" examines the possible effects of social networks on subsequent wages or the decision of rural–urban migrants to change their employment position—an area that is less well-understood than others. As unobserved factors often affect both employment performance and social networks, the chapter tackles this endogeneity problem by using the instrumental variable (IV) method. Using the VRUMS data, the number of phone calls migrants made during the Lunar New Year in urban areas is employed as a novel proxy for social networks. The IV results suggest that the social network helps to improve labour incomes and make migrants willing to change their jobs. Sensitivity tests on the validity of instrumental variables that examine the reduced form relationship between weather-related disasters and incomes reaffirm the IV results that social networks have positive effects on income dynamics. Social networks remain an important channel for migrants to obtain better jobs.

Rest of the chapters focus on the welfare of migrants and their families. First, chapter "Rural–Urban Migration and Remittances in Vietnam: Evidence from Migrant Tracer Data" studies the determinants of migration and remittances, accounting for selection into migration. It also investigates the impact of net remittances on per capita income in origin households, correcting for potential endogeneity of remittance flows. It is found that remittance flows are larger when migrants have higher wages and less attachment to the destination, and when rural households have a stronger need for remittances. These findings are consistent with the altruism hypothesis for remittances. However, no evidence is found to support a self-interest motive on the part of remittance-sending migrants. In addition, it is evident that migration and remittances have a poverty-reducing effect on rural household per capita income. These results highlight the importance of policies in general in encouraging and facilitating migration given the social benefits it brings. More importantly, ethnic minority groups are found to gain much less from migration and remittances. Policies with a particular focus on improving their labour market access are called for. Still richer data that can more fully capture the non-economic benefits and costs of migration would provide a more complete understanding of migration and remittances in future research in this area.

How do migrant families in the cities fare in terms of their food and non-food consumption in comparison with urban residents? What are the factors that may influence their consumption patterns? Chapter "Differences in Consumption Patterns Between Urban and Rural Migrant Households in Vietnam" investigates these questions using both the VHLSS2012 and the VRUMS2013. The results show that the overall consumption level is considerably lower in migrant households without urban *ho khau*. The gap is significantly large for non-food consumption, but almost negligible for food consumption. In addition, remittances and precautionary saving appear to have a role to play in explaining the observed consumption disparity between the two groups. Further, the quantile regression results suggest that even migrant households with high levels of consumption may not be able to fully catch up with their urban counterparts. Consumption is an important indicator of welfare. The disparities in consumption between migrants and urban residents

highlight the importance of policies such as those that aim to further relax the *ho khau* system to improve the welfare of migrant families in the cities.

Do migrants have equal access to housing and living conditions relative to urban residents? Chapter "Housing Gaps Between Rural–Urban Migrants and Local Urban Residents: The Case of Vietnam" examines the gaps in homeownership and housing conditions between migrants and urban residents using the VRUMS2013 and the VHLSS2012. The results show that migrants are less likely than their urban counterparts to own their home and are more likely to have poorer living conditions. The Oaxaca decomposition results indicate that most of the differences are attributable to unexplained factors such as differences in the ability to access formal credit, commitment to establishing residence upon arrival, etc., highlighting the fact that restrictions imposed by *ho khau* might have a role to play. Policies improving migrants' access to housing in the cities where they live and work will bring a significant welfare improvement for migrants and their families.

Regarding migrants' children, most studies tend to focus on children who are left behind in the home village. Little is known about those children who migrate to the destination cities with their families. Chapter "The Children of Migrants and Their Schooling" sheds some light on this particular group of migrants' children and examines their schooling situation in the cities. Using mostly descriptive analysis, the chapter finds a higher rate of school attendance for children in the VRUMS2013 sample relative to other survey data. An extensive rather than more focused questionnaire on children's welfare, such as the VRUMS2013, may contribute to missing values and small sample size. These data limitations have made reconciling conflicting findings in the literature difficult, highlighting the importance of tackling the data limitations for future research on the welfare of migrants' children.

References

Brown, R. S., Moon, M., & Zoloth, B. S. (1980). Incorporating occupational attainment in studies of male–female earnings differentials. *Journal of Human Resources, 15*(1)(Winter), 3–28.

MOLISA. (2009). *Dê án he thông an sinh xã hoi v_i dân c nông thôn giai đoan 2011–2020*. Draft report. Hanoi: Ministry of Labour, Invalids and Social Affairs.