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ADBI Working Paper Series

**UNDERSTANDING URBAN MIGRATION
IN VIET NAM: EVIDENCE FROM
A MICRO–MACRO LINK**

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Abstract

This paper focuses on the demographic transition from rural to urban areas in Viet Nam. An empirical framework is developed to measure the relative impact of location characteristics versus individual characteristics in determining the destination choices of migrants. Assuming that locational data on potential destinations are freely available to migrants, the model seeks to explain how different types of migrants process this information and how their destination choice is accordingly influenced. The results provide strong evidence that most location-specific factors, such as employment-related factors and infrastructure, are found to be significant for all types of migrants; however, the intensity of significance varies depending on migrants' gender, migration purpose, and social capital. Furthermore, a random-effects (RE) net migration rate model for the period 2011–2018 was estimated for 63 provinces and it was found that migrants considerably favor big cities over other locations, which poses a great challenge in managing the overurbanization issues in metropolitan areas of Viet Nam. Policy recommendations are proposed based on the findings.

Keywords: internal migration, labor market, overurbanization, Viet Nam, cities

JEL Classification: J61, O15, R28, R29

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1. INTRODUCTION

1.1 Rural–Urban Migration in Viet Nam

Since the Doi Moi policy in 1986, Viet Nam has witnessed rapid industrialization. Complementing the industrial development process, the policy reform has allowed Vietnamese citizens to relocate to urban areas for the first time since Doi Moi. These favorable conditions have facilitated the rural–urban migration flow in Viet Nam, which has shown an unbroken upward trend. The 2015 National Internal Migration Survey found that almost half of the migrants (49.8%) moved from rural to urban areas. In contrast, the opposite direction (urban-rural) accounted for only a humble 2.9% of the total internal migration flow (GSO and UNFPA 2016).

The consistent rise in the number of incoming migrants in urban areas results from the better economic performances and higher living standards in large cities (GSO and UNFPA 2016). The study also indicates that “pull factors” of destinations play a predominant role in rural–urban migration decisions in Viet Nam, while “push factors” of sending places are less influential. This phenomenon was also captured by another study based on a different data set: the Viet Nam Rural–Urban Migration Survey conducted in 2013. Nguyen, Dang, and Liu (2019) found that despite being pushed away from their rural homes as a defensive attempt to reduce expenditure, workers’ ultimate purpose in deciding to migrate is to improve their quality of life. Cities like Ho Chi Minh City, Ha Noi, Da Nang, and some emerging regions such as the southeast provinces (Binh Duong, Dong Nai) have become a magnet and have been attracting people from rural areas (Thanh and Sakata 2005; Nguyen-Hoang and McPeak 2010; Coxhead, Nguyen, and Vu 2015).

1.2 Rural–Urban Migration, Urbanization, and Their Consequences

According to the most recent Housing and Population Census in 2019, the urban population was 34.4% of the total population, and the annual population growth rate in urban areas from 2009 to 2019 was the fastest with 2.64% on average (UNFPA 2019). This growth rate is double the national average population growth rate and almost six times higher than the figure in rural areas over the same period. Dyson (2011), in his study on the role of the demographic transition and urbanization, argued that the pattern of rural to urban migration typically raises the urban population growth rate and reduces the rural growth rate. Eventually, it will lead to urbanization. This phenomenon is well observed in the urbanization process in Viet Nam, and causes issues such as overurbanization and demographic imbalance between rural and urban areas.

1.2.1 Overurbanization in Big Cities

Managing human mobility is one of the most significant challenges for receiving regions, especially in emerging economies such as Viet Nam. The causes and flows of migration flow for different types of migrants are difficult to understand and forecast, posing difficulties for national and local governments, particularly in already crowded cities like Ha Noi and Ho Chi Minh City. A high volume of migrants arrive in these cities is associated with the increasing pressure on the provision of essential urban infrastructure and services to meet the needs of the growing population.

According to the People's Committee of Ho Chi Minh City, in recent years, the city has received at least 200,000 to 400,000 people that have migrated from other provinces annually (VOV-TPHCM 2018). It is also projected that urbanization will intensify, requiring the government to come up with a timely response to some of the challenges of integration. For example, a study from the Viet Nam General Statistics Office in 2011 reported that there was a high proportion of households sharing a cramped dwelling in the most developed urban areas (GSO 2011).

1.2.2 Demographic Imbalance between Rural and Urban Areas

There is a gender imbalance between rural and urban areas. In 2015, female migrants made up 52.4% of all migrants, described as the “feminization of migration” in the 2004 Viet Nam Migration Survey (GSO and UNFPA 2016). This phenomenon was also observed by the 2019 Housing and Population Census, given that the sex ratio in urban and rural areas was 96.5 males per 100 females and 100.4 males per 100 females, respectively (UNFPA 2019). Industrialization in Viet Nam is fueled by the export of labor-intensive manufactured goods from key sectors such as the apparel, footwear, electronics industries, and seafood processing, which tend to employ more females than males. For example, approximately 80% of garment and electronics manufacturing workers are women (ILO 2018; IPEN and CGFED 2017). Moreover, as most people migrate for employment, older adults are left behind. UNFPA (2019) shows that 72.5% of the elderly population live in rural and mountainous areas.

The demographic imbalance between rural and urban areas leads to social inequality and intensifies regional disparity in Viet Nam. However, research has shown that economic gains and remittances from urban migration play an essential role in improving living standards and reducing the poverty of the family members left behind (Duong 2010; Nguyen 2013; Pfau and Giang 2010). A more pressing issue of rural–urban migration is the issue of overurbanization.

1.3 Motivation of the Study

This paper seeks to produce some insights into the problem of overurbanization via studying the determinants of rural–urban migration and proposing some policy recommendations.

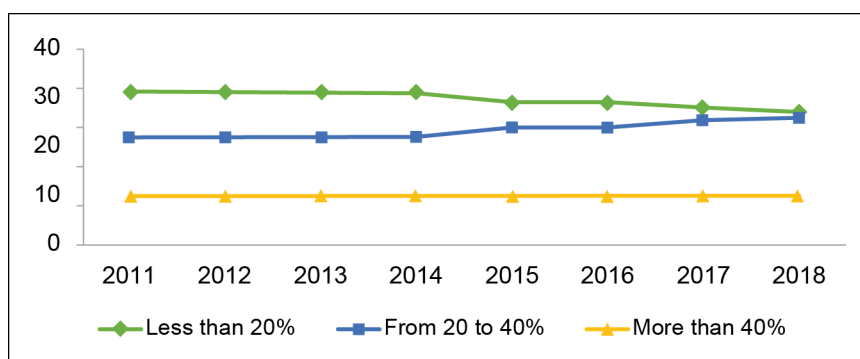
In migration determinant studies, macro-level research is interested in the net migration rate by regions, while micro-level research focuses on personal decisions behind migration. What is lacking is the link between the micro and macro level of population studies. This paper seeks to develop an empirical framework to measure the impact of location characteristics versus individual characteristics in determining migrants' destination choices by assuming that information on the attributes of locations is fully available to migrants. To do that, it is required to combine migrants' characteristics from cross-sectional microdata (Internal Migration Survey 2015) with the provincial attributes from panel macro-data, which is aggregated from various sources.

2. URBANIZATION IN VIET NAM

2.1 Urbanization and Rural–Urban Migration: Descriptive Statistics

The internal migration in Viet Nam is characterized by migrants' uneven flow to different destinations of their choices. There are 63 provinces in Viet Nam in three geographical areas: the North, the Center, and the South. Although urbanization is developing rapidly as a whole, the number of provinces with more than 40% of urban citizens remained consistent at ten over the eight-year period from 2011 to 2018 (Figure 1). In contrast, the figure for rural regions with less than 20% of the population living in metropolitan areas started to decline from 2014, from 31 to 27.

Figure 1: Number of Vietnamese Provinces by the Percentage of Urban Population



Source: GSO of Viet Nam.

To understand the provincial characteristics in the context of urbanization, panel data with information on the population, employment-related factors, basic infrastructure, and public services of 63 Vietnamese provinces from 2011 to 2018 are constructed. The data are primarily collected from three main sources: provincial characteristics from the General Statistics Office (GSO) of Viet Nam, the amount of foreign direct investment (FDI) inflow from the Foreign Investment Agency – Ministry of Planning and Investment, the Provincial Governance and Public Administration Performance Index (PAPI) from the Center for Community Support Development Studies (CECODES) and the United Nations Development Programme (UNDP).

In this data set, the provincial net-migration rate acts as a proxy of migrants' attractiveness and varies by the destination's urban population rate. In Table 1, rural provinces have an urban population rate of less than 20%; areas whose proportion of urban citizens ranges from 20 to 39 % are classified as semi-urban. In comparison, super-urban provinces are regions with more than 60% of the population living in metropolitan areas. This classification allows us to compare locational characteristics at different levels of urbanization.

Table 1: Provincial Characteristics by their Urbanization Level

	Rural (Urban Pop <20%) (N = 237)	Semi-urban (Urban Pop <40%) (N = 187)	Urban (Urban Pop <60%) (N = 41)	Super-urban (Urban Pop >60%) (N = 39)
Population				
Net migration rate	-2.14 (4.75)	-2.38 (5.50)	0.15 (3.09)	9.98 (16.58)
Density	384.74 (345.34)	351.30 (334.26)	864.29 (743.94)	1,316.22 (1,337.59)
Urban population (%)	0.16 (0.03) (1.17)	0.28 (0.05) (1.52)	0.48 (0.05) (1.02)	0.75 (0.11) (1.13)
Natural increase rate	9.56 (3.96)	9.84 (3.18)	8.54 (1.83)	10.22 (3.18)
Employment and Industry				
Labor force	762.22 (427.45)	722.56 (321.16)	1,340.84 (1,231.27)	1,502.80 (1,428.01)
Average income	1,985.06 (757.24)	2,364.51 (839.41)	3,305.71 (1,158.11)	3,943.65 (1,159.54)
FDI inflows	208.53 (416.25)	289.45 (643.88)	1,283.88 (1,611.62)	1,376.77 (1,792.90)
% Employed	61.07 (3.07)	58.04 (3.04)	53.79 (1.81)	55.21 (4.77)
Facilities and Services				
Number of supermarkets	8.15 (7.97)	6.02 (5.80)	33.20 (41.15)	55.13 (67.73)
Living cost (Ha Noi = 100)	90.49 (4.84)	90.85 (4.01)	94.52 (3.86)	94.74 (3.63)
Volume of passenger traffic	897.71 (872.44)	1,298.25 (1,210.84)	3,371.06 (3,791.34)	5,423.27 (5,620.04)
Volume of freight traffic	1,051.42 (1,491.33)	933.51 (876.55)	4,856.53 (6,038.13)	5,866.82 (8,364.40)
Personal procedures (PAPI)	1.89 (0.08)	1.89 (0.08)	1.86 (0.07)	1.87 (0.09)
Basic infrastructure (PAPI)	1.70 (0.24)	1.80 (0.23)	2.14 (0.24)	2.07 (0.29)
Health and Education				
Vaccination (%)	95.90 (4.21)	95.69 (4.13)	96.61 (3.03)	95.98 (4.25)
Under-five mortality rate	26.843 (12.644)	26.437 (12.091)	19.579 (6.241)	14.954 (3.826)
Infant mortality rate	17.681 (7.939)	17.420 (7.710)	13.010 (4.075)	9.938 (2.575)
Doctors per capita	0.66 (0.20)	0.64 (0.17)	0.56 (0.14)	0.67 (0.29)
Nurses per capita	0.95 (0.28)	1.01 (0.32)	0.89 (0.33)	1.03 (0.47)
Hospital beds per capita	2.06 (0.46)	2.14 (0.49)	1.91 (0.58)	2.58 (1.00)
Public primary education (PAPI score)	1.65 (0.16)	1.66 (0.14)	1.66 (0.18)	1.64 (0.20)
Primary teachers per student	0.06 (0.01)	0.06 (0.01)	0.05 (0.01)	0.04 (0.01)
Libraries per capita	0.02 (0.02)	0.02 (0.02)	0.01 (0.02)	0.01 (0.01)
Literacy rate	91.883 (8.766)	92.520 (4.756)	96.176 (2.269)	96.833 (1.383)
Trained employees (%)	14.73 (4.06)	14.94 (5.00)	26.21 (8.21)	27.96 (9.48)

Source: Author's calculation of the data from the GSO, Foreign Investment Agency, and PAPI index

Table 1 highlights the opposite status of the net migration rate in rural and urban regions. With a population density of fewer than 400 people per square km, rural provinces are sending areas with a negative migration rate. In contrast, super-urban cities with an average of 75% urban population and a density of 1,316 people per square km witnessed the highest average net migration rate, at almost 10%. This trend is alarming because the limited infrastructure in cities can harm the quality of life of its citizens. For instance, the eight-year average PAPI score for basic infrastructure in super-urban regions is 2.07, lower than the score of provinces within the urban category (2.14). This basic infrastructure index represents the quality of public goods and services provided by local governments, including access to electricity, the quality of nearby roads, waste management in residential areas, and the quality of drinking water.

There are also concerns that overurbanization in big cities such as Ha Noi and Ho Chi Minh City decreases the quality of healthcare and the education systems. Despite still having a lower mortality rate in infants and children under five in urban than in rural regions, the healthcare system in cities is under pressure. The number of doctors, nurses, and hospital beds per capita in big cities is slightly higher than in rural regions. However, well-known hospitals are concentrated in cities and provide services for both local patients and those from other provinces. Therefore, the quantities per capita are significantly overestimated. In 2018, Ho Chi Minh City's Health Department stated that nonlocal patients accounted for approximately 60% of the city's total number of patients, and the city's hospitals received 41.9 million people for checkups and treatment in 2017, accounting for 25.8% of the total number of patients nationwide that year (VNA 2018). In regard to the education system, the average primary teacher-student ratio is the lowest in some of the most urbanized regions. The average PAPI score for public primary education also supports the observation that primary education is lagging in big cities.

However, cities have not yet lost their attractiveness, especially for people who migrate to work. With the highest average income being as much as 4 million in big cities, double that in rural regions, and a reasonable cost of living, which is not much higher than less urbanized provinces, working in cities can be considered a good decision. The proportion of workers who are trained is also higher in more urbanized regions. Additionally, urban amenities such as supermarkets and good connectivity (indicated by a much higher volume of passenger and freight traffic) are also advantageous in metropolitan areas.

2.2 Urbanization and Demographic Changes: A Correlation Analysis

One crucial question to ask in urbanization and migration studies is whether rural–urban migration complications alter urban demographics. A Pearson correlation test was run to see if there is any potential link between the proportion of the urban population and the fertility rate and crude death rate (CDR) over the observed period of 2011–2018.

The results in Table 2 show that the more urbanized the region is, the lower the total fertility rate (TFR). Evidently, the 2019 Housing and Population Census estimated that the TFR in rural areas of Viet Nam was 2.26 children per woman, while this figure in urban regions was lower, at 1.83, with Ho Chi Minh City having the lowest TFR in the country (1.39 children per woman) (UNFPA, 2019). As urban women give birth less than their rural counterparts, it can help to slow down the urban population growth rate

in the future, holding other things constant. However, this may intensify the aging problem of the urban population.

Table 2: Pearson Correlation by Urbanization Level

	Urban Population (%)			
	Rural (Urban Pop <20%)	Semi-urban (Urban Pop <40%)	Urban (Urban Pop <60%)	Super-urban (Urban Pop >60%)
	(N = 237)	(N = 187)	(N = 41)	(N = 39)
Fertility rate	0.0615	0.0985	−0.2671	−0.3036
Crude death rate (CDR)	−0.0423	−0.2319	−0.4277	−0.2392

Source: Author's calculation.

Keyfitz (1980) argues that rural-to-urban migration is the chief cause of urban growth in the pre-transition period. But with the overall urban population being 50%, the natural urban increase would become the main contributor to urban population growth. De Vries (2006) refers to a large body of literature related to European cases, where the urban sector was believed to be a significant “sink” in the pre-transitional period and would count on rural–urban migration for population growth. An explanation for this observation can be taken from Dyson (2011). He argued that the CDR in urban areas is very high in the pre-transitional period due to infectious diseases. However, as deaths from infectious diseases reduce, the urban death rate falls more rapidly than the rural one.

From Table 2, it is noticeable that the negative correlation between the proportion of the urban population and the CDR increases with the urbanization level but only with regions with less than a 60% urban population. For super-urban neighborhoods, the correlation is weaker than the urban category, at −0.24. It confirms the presence of the aforementioned “transition.” After reaching a certain proportion of urban citizens, urban population growth will stop relying on rural–urban migration, but rather on the natural urban increase. As shown in Table 1, the average natural growth rate in super-urban regions is higher than in less urbanized areas, indicating that mega-cities’ population growth is significantly contributed to by the rate of natural increase.

This implies that in post-transitional conditions (e.g., super-urban cities), the complications introduced by rural–urban migration will not significantly alter urban population growth. Therefore, instead of blocking migration to big cities (with institutional barriers such as a household registration system) to mitigate overurbanization, the priority should be improving the infrastructure and inclusive public services. To do so, there must be a good understanding of the migrants’ location determinants to provide policies accordingly.

3. WHAT ATTRIBUTES OF A CITY ATTRACT MIGRANTS? A MACRO-ANALYSIS

Many provinces, such as those in the Mekong Delta and the northern mountainous region, suffer from an ongoing population decline. In contrast, other cities, including Ha Noi and Ho Chi Minh City, have experienced increasing numbers of inhabitants in recent years. This paper will first analyze the determinants of the internal migration imbalance in Viet Nam between 2011 and 2018.

3.1 The Random-Effects Model

The first objective of this paper is to identify the receiving regions' factors that attract migrants. For this purpose, a balanced panel model with random effects (RE) for the period 2011 to 2018 is estimated for 63 provinces. Although the fixed-effects (FE) method is often preferred, it is considered a within-group estimation method that can potentially ignore the between-group variance (Çağatay et al. 2014). Furthermore, the RE method is chosen because there is a time-invariant variable in the model, namely the level of urbanization. As shown in Figure 1, the number of provinces with more than 40% of urban citizens was consistent at ten over the course of eight years. In the context of Viet Nam, rapid urbanization is witnessed only in a few regions, while the urbanization level of most of the other areas does not change over time. In this case, the FE model is not feasible for estimating the net migration of regions whose urbanization level is not significantly varied over time and will lead to collinearity. For this reason, the RE method has also been widely used in the study of migration, especially internal migration. For example, Pavković, Pejović, and Palić (2018) applied RE to investigate the migration pattern in the European Union, where borderless migration between member countries makes it closely resemble internal migration. The same approach is employed by Doğan and Kabadayı (2015) to study Turkey's internal migration phenomenon. Nevertheless, a Hausman specification test was performed to assess the suitability of the model statistically. Testing the random-effects procedure against fixed effects, a Hausman test statistic is calculated as χ^2 equals 5.77 with an insignificant p-value of 10%; thus, a random-effects model is preferred.

In addition, to determine whether RE is better than the pooled ordinary least squares (P-OLS) model, the Breusch and Pagan Lagrangian multiplier (LM) test is also performed. The test statistic is computed as χ^2 of 40.91 with a probability smaller than 0.001. Thus, the null hypothesis that there is no panel effect is rejected. According to Wooldridge (2010), P-OLS can be employed to analyze pooled data rather than panel data. As we are using the same sample of 63 provinces and cities throughout the period (2011 to 2018), the RE model is better than P-OLS at capturing the panel effect of the data set. However, as a robustness check, the results for both estimations are recorded.

3.2 Empirical Results

The results of both models are shown to be consistent, given that RE and P-OLS estimates do not differ significantly. As the LM test favors the RE model, results will be discussed drawn from the RE estimation in Table 3.

The net migration rate of a province is expected to increase when there are rises in employment-related factors, such as the percentage of employed people, FDI inflows, and average income. These findings are consistent with previous studies on internal migration in Viet Nam. The amount of FDI inflow indicates foreign employment opportunities, which were found to attract more migrating individuals (Fukase 2013). The model estimates that if a province managed to raise its FDI inflows by USD1 billion a year, it could only increase the net migration rate by 0.8%, which is a moderate figure for such a sky-high amount of investment. A region that attracts more FDI inflow will create more job opportunities, and hence increase the province's employment rate. Indeed, the RE model found that an increase of 1% in a province's employment rate can boost its net migration rate by as much as 0.83%.

Table 3: Empirical Results for the RE and P-OLS Models of Migration Determinants

Lagged Independent Variables	Dependent Variable: Net Migration Rate					
	RE (1)	P-OLS (1)	RE (2)	P-OLS (2)	RE (3)	P-OLS (3)
Employment rate	0.620*** (0.140)	0.728*** (0.103)	0.679*** (0.135)	0.725*** (0.102)	0.833*** (0.143)	0.987*** (0.111)
% trained employees	0.0299 (0.0798)	-0.040 (0.0620)	0.0664 (0.0788)	0.00685 (0.0614)	0.172** (0.0862)	0.180** (0.0734)
FDI inflows (USD million)	0.0006 (0.0004)	0.00139*** (0.000457)	0.0009** (0.0004)	0.00215*** (0.000474)	0.0008* (0.0004)	0.0017*** (0.0005)
Average income (VND 1000)	0.0028*** (0.0007)	0.00348*** (0.000562)	0.0029*** (0.0007)	0.00337*** (0.000586)	0.0034*** (0.001)	0.00377*** (0.0008)
Equity in employment index	-0.407 (1.561)	-2.834 (1.774)	-1.023 (1.613)	-3.374* (1.798)	-0.202 (1.647)	-1.645 (1.797)
Living cost (Ha Noi = 100)	-0.147 (0.0990)	0.0227 (0.0917)	-0.117 (0.0993)	0.0224 (0.0901)	-0.159 (0.109)	-0.0767 (0.105)
Basic infrastructure index			3.579** (1.581)	3.593** (1.392)	4.579*** (1.636)	4.372*** (1.417)
Connectivity indicators	No	No	Yes	Yes	Yes	Yes
Quality of public services	No	No	Yes	Yes	Yes	Yes
Healthcare system indicator	No	No	No	No	Yes	Yes
Education system indicator	No	No	No	No	Yes	Yes
Urbanization level (rural as the base)						
Semi-urban	1.052 (1.030)	1.133 (0.706)	1.045 (0.965)	0.700 (0.685)	1.548 (0.974)	1.690** (0.708)
Urban	1.758 (2.322)	0.936 (1.482)	0.749 (2.163)	0.116 (1.457)	-0.194 (2.145)	-0.345 (1.431)
Super-urban	8.554*** (2.396)	7.281*** (1.523)	7.922*** (2.230)	7.146*** (1.492)	8.501*** (2.291)	8.071*** (1.524)
Observations	248	248	248	248	248	248
R ² within	0.0104	N/A	0.0157	N/A	0.0442	N/A
R ² between	0.5625	N/A	0.6235	N/A	0.7167	N/A
R ² overall	0.4688	0.503	0.5183	0.554	0.5976	0.623

Standard deviation in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

As far as employment is concerned, migrants tend to move when there is a positive earning gap at the destination. Giang, Nguyen, and Nguyen (2020) also observe that the migration flow is often from low-income provinces to high-income ones. The RE model estimates that an increase of VND100,000 (USD4.3) in monthly earnings will lead to a 0.35% rise in the net migration rate.

It is not surprising that super-urban provinces are 8.5 times more likely to be chosen as a destination than the most rural ones. It is interesting that for provinces that are moderately urbanized but still have less than 60% of the urban population, the results are not significant. This implies that migrants favor big cities over other less populated cities. It can intensify the problem of overurbanization in some Vietnamese cities if the trend persists. However, basic infrastructure also appears to have an influence on the migration flow. The infrastructure index for 63 provinces in the model ranges from 1.2 to 2.46. This indicates that an increase of 0.1 in this score is expected to raise the province's net migration rate by 0.5%. Therefore, a decline in infrastructure quality may also discourage incoming migrants or push people to emigrate.

Other proxies for quality of life, such as education and the healthcare system, are found to be insignificant. The benefits of economic opportunity in the urban region seem to overshadow these factors. Furthermore, despite being overwhelmed in terms of quantity, education and healthcare in cities are considered to be of a better quality than those in rural areas. It is common for people to move to cities for higher-level study or to have special health treatments that are not available in their home provinces. However, as migrants, the access to these public services is extremely limited as most of them do not have permanent household registration status (*ho khai*) (Duong 2010; Taylor 2011; Demombynes and Vu 2016). The exclusiveness of this system might make it appear as if it has no significant impact on migration decisions.

Cost of living is found to have a negative effect on the net migration rate; however, this effect is also insignificant. From a regional perspective, economic gain is considered to outweigh the increase in living costs.

The RE analysis shows us the importance of employment opportunities as they are strong determinants of migration. Migrants also start to take into consideration the basic infrastructure of the destination. But is this true for all migrants? Do both female and male migrants follow this trend? Do migrants with different relocating purposes come to the same decisions? The macro-analysis helps us to sketch a big picture but fails to answer these questions. We need a new approach to link the macro-trend of migration to the individual attributes of migrants.

4. MORE INSIGHTS FROM A MICRO–MACRO-ANALYSIS

4.1 Approach

4.1.1 Data

Combining different data sets for analysis is becoming a widespread practice. Economists can estimate models using information from two different microdata sets, and this practice is much needed in policy studies (Fan, Sherman, and Shum 2014). For example, Currie and Yelowitz (2000) applied the two-sample instrumental variable technique, which combines information on project participation with census data. But it is not always required for the second data set to consist of individual-level data. Microdata can be combined with macrodata as well, as in the works of Van den Berg and Van Der Klaauw (2001) and Henriques and Hsu (2014). The former merged micro and macro unemployment data to study the impacts of the business cycle on unemployment outflow. The latter analyzed consumers' wealth using macrodata from the Flow of Funds Accounts (FFA) and microdata from the Survey of Consumer Finances (SCF).

The same approach can be applied in migration studies, yet it is still very underused. This paper aims to explore this novel methodology of a micro–macro data combination in a rural–urban migration model. On the one hand, macro-analysis sketches a big picture of migration determinants, but we cannot map the result to a different type of migrants. The macro-analysis allows us to examine which attributes make a destination attractive (higher net migration rate). Yet, it does not enable us to analyze further the influences of these attributes at the micro level, such as a migrant's gender, social capital, and migration purposes. On the other hand, micro-analysis from survey data alone cannot capture the big picture. The addition of aggregate provincial information to the individual data will allow us to consider the availability of location information to migrants before relocating, thereby enhancing our analysis of migration decisions. For

example, a person will evaluate the differences in living costs and average salary between his or her home province with the potential city to where he/she can migrate.

I will first construct an integrated database by linking microdata, including individuals' characteristics of migrants in three metropolitan areas in the Internal Migration Survey 2015. The selected regional attributes include economic development and infrastructure. Data on the geographical distance between migrants' departure and destination will also be collected as a proxy for migration cost. Like the macro-analysis, I use the lagged values (by one year) of these aggregated variables to mitigate the problems of simultaneity, meaning people who migrated in 2015 are assumed to consider their decision based on 2014 data. The constructed data set will be further analyzed using a multinomial logit model (MNL) to identify the determinants of city choices, focusing on the urban regions.

4.1.2 Theoretical Framework

The constructed micro–macro data set will be analyzed in the discrete choice model, which follows the random utility theory. In this model, the attractiveness of a city is measured in terms of utility, which will be maximized by individuals (Azari, Parks, and Xia 2012). Migrants in this model are assumed to be confronted by a set of three different alternative locations, namely Ha Noi, Ho Chi Minh City, and Da Nang. The decision on migration location will result from the ability of individuals to systematically evaluate the characteristics of these alternatives. The most highly ranked location will be chosen as the migration destination.

4.2 Provincial Disparity and Migration Flow: What Can We Learn from the Linked Micro–Macro Data Set?

There are several ways to merge data sets. Wu, Zhang, and Dong (2013) combined a data set of individual-level survey data, aggregated census data, and geocoded local public goods data to study Beijing people's residential location choice. To empirically incorporate individual-specific variables into the location-specific characteristics, they use a set of interaction terms for each individual-specific variable that corresponds to each residential area. This paper employs a different approach: the location attributes will be directly incorporated into the microdata of each corresponding individual, whose characteristics are drawn from the Internal Migration Study 2015.

Table 4 shows a demonstration of the merged data set used in this paper. Each individual has a unique ID and the following individual and locational characteristics. For instance, ID 1 is male; he migrated at the age of 33; he worked in the nonagriculture sector before relocating for work; he had connections at the receiving location. The location's attributes include information presumably available to him at the time of migration. The DDY (departure – destination – year) informs us that this person moved from Nam Dinh Province (code 36) to Ha Noi (code 1) in the year 2012, so he will consider the locational information from the year 2011. For example, in 2011, Ha Noi's average monthly income was VND1,150 million (USD50) higher than Nam Dinh's average earnings per month; however, cost of living in Ha Noi is also 15.71 points higher. Ha Noi's basic infrastructure is better than that of Nam Dinh, yet the employment rate in Ha Noi is 6.8% lower. Additionally, the driving distance from the sending region to the destination cities is also recorded.

Table 4: Sample of Merged Data Set

ID	Individual Attributes					Location's Attributes (Differentials between Destination and Departure)						
	Female	Age	Job	Network	Purpose	DDY	Distance	Infra	FDI	Employ	Income	Cost
1	0	33	2	1	1	36 1 2012	109	0.12	1,071.41	−6.8	1,154	15.71
2	1	28	1	0	3	19 1 2015	79	0.18	900.75	−9.5	1,872.5	7.54
3	0	30	2	0	2	30 1 2013	76	−0.09	392.03	−7.9	1,128	11.76

Source: Author's constructed data set from Internal Migration Survey 2015, the GSO, the MPI, and driving distance from Google Maps.

The Internal Migration Survey 2015 found that the majority of migrants have access to destination information from various sources, including family, relatives and friends, media, and self-research, among other means of communication. Considering the availability of information to migrants is an essential feature in migration studies, given that it will significantly affect migrants' decision-making process.

Table 5 presents the summary statistics of the merged data set. As previously mentioned, the individual's characteristics are drawn from the Internal Migration Study 2015, with a particular focus on migrants in the three biggest cities of Viet Nam. The combined data set comprised 654 individuals who migrated to Ha Noi, Ho Chi Minh City, and Da Nang from different provinces from 2011 to 2015.

The proportion of female migrants in all three cities is bigger than that of male migrants, confirming the feminization trend of internal migration, especially in rural–urban flow. Migrants relocated to Ho Chi Minh City at an average age of 29, approximately three years older than migrants coming to Ha Noi and Da Nang. Around two-thirds of migrants have connections at the destination, with the highest proportion being in Ho Chi Minh City and the lowest in Ha Noi. Half of the Ha Noi migrants were studying before relocating, whereas half of the migrants in Da Nang were working in nonagriculture sectors. Most of the Da Nang migrants relocated to improve their quality of life, while Ha Noi is the least appealing to migrants in this category. Migrants in Ho Chi Minh City tend to migrate longer distances on average than those in Ha Noi and Da Nang.

There are some noticeable features when comparing locational characteristics between destination and sending regions. People who migrate to cities all improve their access to basic infrastructure as, on average, the infrastructure index in cities is higher than their places of origin, especially for Da Nang. This could explain the predominant percentage of migrants moving to Da Nang to improve their quality of life. On average, in terms of FDI inflows, migrants in Ho Chi Minh City and Ha Noi move from provinces with far fewer FDI inflows, while the opposite is true for people who move to Da Nang. This can be linked to the earlier statistics stating that only 15% of Da Nang migrants relocated for employment purposes.

It is interesting to see that migrants' places of origin have a higher employment rate than destination cities. However, all migrants could make a big improvement in their earnings, most significantly for those in Ho Chi Minh City with an average gain of VND2 million (USD86). This figure for Ha Noi is VND1.5 million (USD65) and VND1 million (USD43) for people who move to Da Nang. In contrast, to offset the higher income, cities' cost of living is also more expensive, especially for those in Ha Noi.

Table 5: Provincial Disparity and Migrants' Characteristics

Variable	Ha Noi (N = 254)	Da Nang (N = 201)	Ho Chi Minh City (N = 209)
<i>Individual characteristics</i>			
Female (%)	57.87 (49.47)	58.21 (49.44)	59.81 (49.15)
Age when moved	25.37 (10.79)	26.01 (9.39)	28.66 (11.58)
Born in urban area	0.13 (0.34)	0.28 (0.45)	0.24 (0.43)
Have network at destination	63.39 (48.27)	64.18 (48.06)	67.46 (46.96)
<i>Job before moved</i>			
Agriculture	18.90	4.48	19.62
Nonagriculture	25.98 (43.94)	49.75 (50.12)	35.89 (48.08)
Study	49.61 (50.1)	36.32 (48.21)	33.97 (47.48)
<i>Migration purpose</i>			
Work	0.43 (0.50)	0.15 (0.36)	0.38 (0.49)
Education	0.37 (0.48)	0.27 (0.45)	0.26 (0.44)
Quality of life (including family reunion)	0.21 (0.40)	0.57 (0.50)	0.35 (0.48)
<i>Differentials between destination and departure</i>			
Distance to migrate	187.11 (281.03)	396.68 (354.22)	511.96 (526.98)
Basic infrastructure (PAPI score)	0.37 (0.38)	0.62 (0.32)	0.54 (0.45)
Inflow FDI	677.67 (709.91)	-379.79 (917.40)	2,154.04 (989.89)
Employment (%)	-8.23 (2.97)	-6.00 (3.26)	-7.32 (3.21)
Population density	1,470.31 (513.77)	-38.78 (1,299.79)	3,235.07 (347.12)
Average income	1,514.82 (652.96)	1,015.71 (972.91)	1,949.33 (663.67)
Living cost (Ha Noi = 100)	12.98 (4.22)	2.67 (4.47)	10.94 (4.26)
Under-five mortality	-6.96 (6.31)	-11.13 (8.25)	-7.27 (7.15)
Primary teachers per student	-0.02 (0.01)	-0.01 (0.01)	-0.02 (0.01)
Trained workers (%)	18.95 (5.05)	18.86 (7.69)	17.68 (5.06)

Standard deviation in parentheses.

To better understand the attractiveness of Vietnamese cities to internal migrants, a multinomial logit model (MNL) of destination choice is conducted.

4.3 A Multinomial Logit Model of Destination Choice

The use of MNL in the locational choice research is extensive, especially in migration studies (Duncombe, Robbins, and Wolf 2001; Silvestre and Reher 2014; De Coulon and Wolff 2010; Willmore, Cao, and Xin 2012). It is also applied by some researchers, such as Coxhead, Nguyen, and Vu (2015), to study internal migration in Viet Nam. They found that those moving to Ho Chi Minh City or Ha Noi have broadly similar characteristics using microdata from the Viet Nam Living Standard Survey (VLSS) conducted in 2012.

In this paper, an MNL model will be estimated with the inclusion of locational information and the individual attributes of migrants. The outcome variable y is three mutually exclusive choices: migrate to Ha Noi (HN), Ho Chi Minh City (HCMC), and Da Nang (DN). The model is as follows:

$$P(y = HN|X) = \frac{e^{X\beta_{HN}}}{1 + (e^{X\beta_{HCMC}} + e^{X\beta_{DN}})}$$

$$P(y = HCMC|X) = \frac{e^{X\beta_{HCMC}}}{1 + (e^{X\beta_{HN}} + e^{X\beta_{DN}})}$$

$$P(y = DN|X) = \frac{e^{X\beta_{DN}}}{1 + (e^{X\beta_{HCMC}} + e^{X\beta_{HN}})}$$

in which DN is the reference category, X is a vector of individual and locational characteristics, as previously described, and β is a vector of coefficients to be estimated.

4.3.1 Male and Female Migrant

Table 6 shows the results of MNL estimation for the full sample and subsample by gender in terms of relative risk (odds). From the two specifications of full sample estimations, we can see that the inclusion of locational information significantly increases the model efficiency, at least in terms of residual.

Coxhead, Nguyen, and Vu (2015) found that those moving to Ho Chi Minh City or Ha Noi have similar characteristics using VLSS data. However, despite being similar when compared to migrants in other cities such as Da Nang, we can still find the differences between migrants in Ho Chi Minh City and Ha Noi.

When considering the employment rate, both male and female migrants are most likely to prefer Ho Chi Minh City. With a 1% increase in the differential of employment rate, migrants are 1.65 times more likely to be in Ho Chi Minh City than in Da Nang. The odd for Ha Noi is smaller, at 1.2. When estimating the results for different genders, it is found that the effect of the employment rate is more profound for male migrants.

Similarly, people relocating to Ho Chi Minh City have a better chance of increasing their average monthly income after migrating. The results show that an additional VND100,000 (the equivalent of USD4.3) earned per month by migrants increases the odds of being in Ho Chi Minh City instead of Da Nang by about 30% and Ha Noi by 20%. These estimates are consistent for both genders.

Table 6: Risk Relative Ratio of the MNL Model by Gender

	Full Sample (1)		Full Sample (2)		Male		Female	
	HN	HCM	HN	HCM	HN	HCM	HN	HCM
Age category (> 40 as reference)								
< 25	0.485*	0.313***	0.79	0.309*	1.317	0.554	0.302	0.118**
	(0.203)	(0.125)	(0.589)	(0.213)	(1.685)	(0.625)	(0.331)	(0.122)
25–40	0.673	0.618	0.882	0.789	2.758	1.096	0.329	0.441
	(0.259)	(0.217)	(0.639)	(0.533)	(3.707)	(1.4)	(0.339)	(0.424)
Born in urban area	0.48***	0.929	0.858	0.97	0.71	1.098	1.348	1.02
	(0.125)	(0.224)	(0.396)	(0.425)	(0.574)	(0.829)	(0.868)	(0.617)
Have network at destination	1.31	1.444	1.179	2.023	8.215**	10.932**	0.621	1.086
	(0.288)	(0.326)	(0.54)	(0.913)	(8.525)	(11.459)	(0.376)	(0.637)
Job before migration (Agricultural job as reference)								
Nonagricultural	0.186***	0.217***	0.209*	0.391	0.046**	0.089*	0.355	0.827
	(0.079)	(0.091)	(0.182)	(0.327)	(0.068)	(0.125)	(0.486)	(1.102)
Study	0.536	0.589	0.235	0.102	0.061	0.03	0.343	0.062
	(0.472)	(0.531)	(0.368)	(0.155)	(0.141)	(0.065)	(1.019)	(0.186)
Purpose of migration (Work as reference)								
Study	0.458**	0.561	0.642	0.837	1.013	0.985	0.271	0.469
	(0.158)	(0.205)	(0.456)	(0.578)	(1.434)	(1.324)	(0.274)	(0.464)
Quality of life	0.147***	0.242***	0.13***	0.185***	0.076**	0.065**	0.132**	0.239*
	(0.041)	(0.067)	(0.075)	(0.102)	(0.087)	(0.072)	(0.106)	(0.181)
Distance to migrate (km)			1.001	1.003***	1.001	1.003**	1	1.002**
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Difference in basic infrastructure index			0.051***	0.039***	0.018**	0.017***	0.041***	0.04***
			(0.042)	(0.031)	(0.03)	(0.026)	(0.044)	(0.041)
Difference in employment rate			1.199**	1.646***	1.47**	2.271***	1.018	1.298**
			(0.098)	(0.142)	(0.255)	(0.416)	(0.109)	(0.139)
Difference in average income			1.001*	1.003***	1.001	1.003***	1.001	1.003***
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Difference in living cost			2.453***	2.212***	2.974***	2.813***	2.314***	2.033***
			(0.258)	(0.226)	(0.748)	(0.696)	(0.293)	(0.248)
Difference in public health index			0.332	2.665	0.005**	0.727	0.777	3.361
			(0.285)	(2.091)	(0.01)	(1.342)	(0.836)	(3.364)
Difference in number of classes per capita			1.662*	0.897	1.088	0.655	1.769	0.982
			(0.433)	(0.222)	(0.495)	(0.284)	(0.684)	(0.366)
Log likelihood	–656.40774		–280.68258		–102.21585		–160.56822	
Number of obs	664		600		252		348	
Pseudo R2	0.0957		0.5709		0.6274		0.577	

Standard deviation in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

When investigating the impact of geographic living cost differentials, the earlier RE model found that cost of living is insignificant in regard to net migration. That is, an area with a higher cost of living will receive the same number of migrants with other factors holding constant. Yet, a person moving to a city from a high-living-cost region is very different from the people moving from a low-cost province, who will likely find it harder to adapt to the city. Indeed, the results of MNL show that cost of living matters for migrants, especially for females. Males are found to be more tolerant of higher living expenses than females.

When it comes to infrastructure, if a migrant were to increase infrastructure quality, hence their living environment, they would be expected to migrate to Da Nang and be least likely to relocate to Ha Noi. This confirms the earlier descriptive statistics, which state that only 21% of Ha Noi's migrants relocated to improve their quality of life, whereas the figure for Da Nang is as high as 57%. Migrants are found to be 10% more likely to move to Ho Chi Minh City than Ha Noi if they value the infrastructure of the destination. Females are also found to be more influenced by the infrastructure information than males.

As regards geographical distance, only estimates for Ho Chi Minh City are significant, indicating that people who relocate to Ho Chi Minh City are more likely to tolerate a longer journey.

In conclusion, rural–urban migrants are found to prefer Ho Chi Minh City over Ha Noi and like Da Nang least when considering employment-related factors, such as employment rate and average income. The urban infrastructure in Ha Noi is the least attractive despite the highest cost of living perceived by migrants. Male migrants are more sensitive to employment-related factors, yet less susceptible to the rise in living cost than female migrants.

4.3.2 Migrants' Social Capital

In Table 6, it is noticeable that having a network, such as family, relatives, and friends, at the destination is significant for the male sample with a relative risk ratio as high as 11. Yet, it is insignificant for female migrants, leading to an insignificant result for the full sample estimation. Therefore, subgroup analysis is run for people with and without connections in the destination city to capture any insights into the role of social capital in the location choice of migrants. Table 7 shows the relative risk ratio of the analysis. The results indicate that people without social capital at the destination are significantly more vulnerable to locational attributes.

In comparison with migrants who have connections in the destination city, people without such networks tend to be prepared to travel a longer distance, and react more strongly to the increase in the employment rate and cost of living. For instance, if people were to relocate to Ho Chi Minh City instead of Da Nang, those with an available network are 3% more likely to tolerate an extra 10 km on their journey, whereas the figure for migrants without any connection is 9%. As regards the employment rate and living costs, the results indicate that migrants without social capital at the destination are much more sensitive to increases in the employment rate and living costs at destinations than their counterparts.

Similarly, the results show that an additional VND100,000 (USD4.3) income per month experienced by migrants increases the odds of them being in Ho Chi Minh City instead of Da Nang by about 40%, 10% higher than people with available connections. This 10% can be interpreted as the risk premium that people without a connection require to migrate.

In conclusion, rural–urban migrants, both with and without connections at the destination, are found to prefer Ho Chi Minh City over Ha Noi and least favor Da Nang when considering employment-related factors. However, migrants without social capital are strongly affected by locational attributes. This implies that the availability of a network makes rural–urban migration seem less risky for coming migrants.

Table 7: MNL by Network

	Without Network		With Network	
	HN	HCM	HN	HCM
Age category (> 40 as reference)				
<25	0.003 (0.015)	0.001 (0.005)	0.986 (0.847)	0.355 (0.263)
25–40	0.065 (0.197)	0.081 (0.239)	1.504 (1.286)	1.008 (0.767)
Born in urban area	1.231 (1.591)	1.314 (1.665)	0.571 (0.335)	0.829 (0.425)
Job before migration (Agricultural job as reference)				
Nonagricultural	1.133 (4.193)	3.342 (12.642)	0.178* (0.186)	0.375 (0.359)
Study	0.048 (1.217)	0.002 (0.048)	0.686 (1.348)	0.299 (0.561)
Purpose of migration (Work as reference)				
Study	0.207 (0.341)	2.592 (4.401)	0.593 (0.585)	0.569 (0.541)
Life quality	0.017** (0.035)	0.02* (0.041)	0.151*** (0.107)	0.194** (0.126)
Distance to migrate (km)	1.007* (0.004)	1.009** (0.003)	1.001 (0.001)	1.002** (0.001)
Difference in basic infrastructure index	1.341 (3.274)	0.174 (0.419)	0.009*** (0.009)	0.025*** (0.024)
Difference in employment rate	3.129*** (1.341)	4.597*** (2.01)	1.126 (0.104)	1.455*** (0.137)
Difference in average income	1 (0.001)	1.004*** (0.001)	1.001** (0.001)	1.003*** (0.001)
Difference in living cost	8.765*** (5.24)	7.622*** (4.546)	2.13*** (0.247)	1.978*** (0.219)
Difference in public health index	0.01 (0.028)	0.143 (0.415)	0.046** (0.063)	3.099 (2.929)
Difference in number of classes per capita	0.874 (0.869)	0.268 (0.272)	1.484 (0.46)	0.95 (0.273)
Log likelihood	–63.735		–186.769	
Number of obs	209		391	
Pseudo R2	0.7171		0.5634	

Standard deviation in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

4.3.3 Migration Purposes

From the previous analysis, we can see that people who migrate to improve their quality of life are most likely to choose Da Nang over Ha Noi and Ho Chi Minh City. How about people who relocate for work and study? Given that the migration purpose is one of the main factors influencing location choice, an MNL for a subsample of people with different migration purposes is conducted, and the results are shown in Table 8.

Table 8: MNL by Migration Purpose

	Work		Study		Life Quality	
	HN	HCM	HN	HCM	HN	HCM
Age category (> 40 as reference)						
< 25	0.54 (0.774)	0.181 (0.25)	0 0.002	0 0	0.469 0.809	0.093* 0.13
25–40	2.502 3.447	3.757 4.97			0.571 0.888	0.111 0.152
Born in urban area	0.929 1.132	1.648 1.845	0.872 0.775	0.408 0.395	0.246 0.303	0.456 0.443
Have network at destination	0.935 0.885	1.857 1.693	2.613 1.984	2.524 1.999	0.133 0.257	0.171 0.299
Job before migration (Agricultural job as reference)						
Nonagricultural	0.136 0.171	0.508 0.6			0.459 1.419	0.474 1.399
Study	0.044 0.179	0.058 0.229			3.018 11.351	0.124 0.445
Distance to migrate (km)	1.003 0.002	1.004** 0.001	0.999 0.002	1 0.002	1 0.002	1.003* 0.002
Difference in basic infrastructure index	<0.001*** 0.001	0.01* 0.024	0.413 0.587	0.033** 0.048	<0.001*** 0	0.004** 0.01
Difference in employment rate	1.085 0.202	1.409* 0.267	1.09 0.254	2.248*** 0.562	1.858*** 0.443	2.016*** 0.46
Difference in average income	1.002 0.001	1.004*** 0.001	0.999 0.001	1.004*** 0.001	1.003 0.002	1.005 0.002
Difference in living cost	2.179*** 0.477	2.1*** 0.448	3.619*** 0.949	3.057*** 0.784	5.17*** 2.143	4.214*** 1.667
Difference in public health index	0.008* 0.021	10.119 20.273	0.087 0.145	2.677 4.477	<0.001*** 0	0.502 1.092
Difference in number of classes per capita	0.894 0.542	0.677 0.409	1.095 0.65	0.282** 0.162	2.465 1.889	2.439 1.622
Log likelihood	–83.603586		–73.892171		–51.204104	
Number of obs	198		196		206	
Pseudo R2	0.5743		0.643		0.7615	

Standard deviation in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

It is noticeable that the information on living cost in the cities is perceived differently by migrants from each group. People who migrate for employment appear to be least sensitive to living expenses as it will be compensated by a higher income. In contrast, migrants who want to improve their quality of life are most concerned.

It is interesting to see that employment-related factors, including employment rate and average income, affect migrant students in Ho Chi Minh City the most compared to students in other cities. This can be explained by their intention to stay and work in the city after graduation. In contrast, Ha Noi's estimates are insignificant; thus, we cannot conclude that the same trend also prevails for Ha Noi.

In conclusion, the locational attributes affect each type of migrant differently, but they generally follow the same pattern. Ho Chi Minh City appears to have desirable characteristics for the majority of the migrants.

5. CONCLUSION

The results indicate that Viet Nam's rural–urban migration is driven mainly by economic opportunity differentials. Regional variations in amenities, including healthcare and education systems, play a less critical role in this regard. However, it is found that migrants also take into consideration the basic infrastructure of the destination. Employment, however, is not the only driver of rural–urban migration. The more urbanized the city is, the more attractive it is to migrants.

The paper also demonstrates the use of a novel approach in the study of migration: the combination of individual survey data with locational information to understand a complex social phenomenon such as rural–urban migration. Analysis from the merged data set shows that typical rural–urban migrants prefer Ho Chi Minh City over Ha Noi and least favor Danang when considering employment-related factors. Even though a city like Ho Chi Minh City is becoming more crowded with overwhelming infrastructure, it is expected that the city will continue to welcome more migrants for the foreseeable future. Breaking it down to gender, male migrants are more sensitive to employment and income, yet less susceptible to the rise in living costs than female migrants. In terms of migrants' social capital, those without a network are more vulnerable to locational attributes than their counterparts. These locational attributes also appear to affect each type of migrant differently as their relocation purpose varies.

6. POLICY IMPLICATIONS

To mitigate the impact of overurbanization in big cities, the government needs to exert more effort in managing migration flow and ensure that there is a necessary labor force for the ongoing industrialization.

The paper found that employment and economic opportunity are the main factors that pull coming migrants to big cities. More alarmingly, small and medium-sized cities, including those in the Mekong Delta region, are found to be unattractive to migrants. Viet Nam is in urgent need of strategies to uplift the medium-sized cities in terms of industrialization and public and private goods and services. Once there are more employment opportunities with significant economic gains, there will be more incoming workers, who are also consumers, which in turn contributes to the development and urbanization of the cities. However, the limited infrastructure and poor regional connectivity prevent such progress from happening. For instance, seaports in Mekong Delta regions can only handle 20–25% of the total cargo in the region, and the rest must be transported through ports in the southeastern region, including major ports in Ho Chi Minh City and Ba Ria-Vung Tau, which have already experienced congestion (VNS 2018). To develop industrialization in the Mekong Delta, there must be sufficient management of the existing ports in the region. Once successful, this will solve many development issues in the Mekong Delta and surrounding areas, including the migration dilemmas.

The government can also restructure urban industries to encourage capital-intensive industries in big cities, while gradually shifting the labor-intensive sectors to other (surrounding) areas. Even in labor-intensive industries such as garments and footwear, some work segments involving R&D, planning, and customer liaison can be done in metropolitan areas such as Ho Chi Minh City and Ha Noi, while the actual production can be carried out in other regions. Doing so will require the cooperation of different ministries, as well as numerous private and public organizations.

It has been found that living cost differentials, in general, do not have a substantial effect on migration determinants, especially when average income is considered. It would be beneficial for the government to restructure the current minimum wage system to gradually introduce a unified minimum wage to avoid the concentration of laborers in urban areas.

The study also found that social capital makes rural–urban migration less risky for coming migrants, and most migrants relocated to where there is a connection. This implies that there will be a multiplier effect: Regions with more migrants will continue to attract more incoming people. Migration assistance programs will lower the risk of migrating to a place without an existing connection. When conducted successfully, it can break the multiplier chain of migration and relocate workers to where they are needed. Additionally, people migrate for different reasons; thus, their information needs are not identical. Such an assistance program is needed to facilitate migration flow and reduce the mismatch between migrants' expectations and reality.

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