

Urban Migration in Pre- and Post-Reform Viet Nam: Macro Patterns and Determinants of Urbanward Migration, the 1984-1989 and 1994-1999 Periods¹

Le Thanh Sang

Introduction

Migration is a major component of urbanization and is mainly affected by economic factors. Urban migration in developing countries is often explained by “pull” factors from the modernization model or “push” factors from the “over-urbanization” thesis. In Socialist countries, governments control urban migration to pursue their political and economic targets, and the effects of “pull” and “push” factors may be distorted. The purpose of this paper is to analyze macro patterns and determinants of urbanward migration from 1984 to 1989 and from 1994 to 1999, reflecting the macro political and economic factors in the pre- and post-reform eras in Viet Nam.

Viet Nam is currently in transition from a planned economy to a market economy, following the reform policies implemented in 1986. There is little doubt that the loosening of the *ho khau* restrictions and economic growth in urban areas, supported by the reform policies of the late 1980s, encouraged higher urban migration rates in the 1990s. However, urban migration in the pre- and post-reform eras in Viet Nam is also influenced by other important factors.

The urban population proportions and urban economic structures of the North and the South were not similar in the initial years following reunification in 1975. Consequently, northern and southern urban areas were noticeably different in the ways in which they attracted urban migrants. Before 1975, the North had a relatively low proportion of urban population and included mostly small and medium-size urban areas. The urban economy in the North was based mainly on the state economic sector and heavy industries. On the other hand, the South had a quite high proportion of urban population, including the HCM metropolis and other medium-size cities. The urban economy in the South had traditionally been based on the private economic sector, including manufacturing and trade. In the post-reform era, the state economic sector declined and offered very few employment opportunities. The non-state economic sector became the most important source of economic expansion and attracted the most urban in-migrants.

Second, with more economic advantages, the Southeast region experienced high economic growth rates and attracted the largest proportion of urban in-migrants. Before 1975, most manufacturing industries in the South were located in Sai Gon (HCMC) and Bien Hoa city (Dong Nai province). In the pre-reform era, the majority of non-state manufacturing industries were also concentrated in these cities. In the post-reform era, the government has attempted to develop economic growth poles, based on their economic advantages. The largest economic Southeast region has received the largest proportion of foreign and non-state investment sources and has therefore required a large number of workers in excess of the available local urban labor force.

¹ This paper is derived from a chapter of my dissertation defended at the University of Washington, 2004.

Third, the external migration and urban to rural migration of millions of people from HCMC and other southern cities after 1975 also affected urban in-migration to these areas. In the pre-reform era, HCMC was the major destination of state cadres, who were appointed by the government, and their families from the North. Better urban infrastructure and housing in HCMC, especially after millions of people migrated out, have also supported the planned in-migration to the city. Moreover, a large number of urbanites in HCMC and southern cities have received remittance from their overseas relatives from as early as 1976 and more so since the 1980s. These remittances were an important source of survival funds as well as funds for investment in business in the post-reform era. Thanks to these advantages, living standards and wages in HCMC and the Southeast region were the highest in Viet Nam, in relation to all cities and regions. In the 1990s, most urban areas did not need large-scale labor-migrants, because their urban economies grew slowly and the local labor force was sufficient. In contrast, the rapid growth of the private and foreign economic sectors in HCMC and other southeast cities offered more employment opportunities with relatively higher-than-average wages for labor migrants from provinces with lower living standards and fewer employment opportunities.

Finally, since the late 1980s, the expansion of the coffee export economy has fueled urban growth in the Central Highlands. This region is the capital of the coffee growing and processing industries in Viet Nam. Economic progress brought about by coffee exports has attracted many migrants to both urban and rural areas of this region.

So far, many studies in Viet Nam have focused on internal migration but none of them has analyzed macro patterns of urbanward migration. For example, Dang (1997) and Le (2002) analyzed macro patterns of inter-provincial migration from 1984 to 1989, using the 1989 census, but did not separate urban and rural migration. Drawing on a large survey, Truong (1996) analyzed micro patterns of migrants in HCMC. In this paper, I draw on the 1989 and 1999 censuses to address the macro patterns and determinants of urbanward migration from 1984 to 1989 and from 1994 to 1999, reflecting macro factors in the pre- and post-reform eras, respectively, in Viet Nam.

This paper includes several sections, as follows. First, I review the main findings of previous research on urban migration. Subsequently, I describe the data sources I use for analysis. I then look at macro patterns of urbanward migration from 1984 to 1989 and from 1994 to 1999. Next, I explain variables, methods, and hypotheses for testing determinants of urbanward migration. In the most important section, I analyze the determinants of urbanward migration rates in the two periods, using both log-linear and Box-Cox transformed models. Finally, I summarize the main findings of my analysis and offer conclusions.

Literature Review

Ravenstein (1889) argued that economic factors are the key determinants of migration, and observed that the majority of migrants move only short distances while some move

long distance to large cities. The urbanization process attracts people from rural to urban areas, and its effects are stronger in proximate rural areas than in remote rural areas. Commonly, great commercial or industrial centers attract both long-distance migrants and those from surrounding areas. The nearby areas are generally filled in by inhabitants from more remote rural areas.

In a different vein, Hawley (1950) found that agricultural land is an important factor in migration. High population densities reduce average agricultural land per worker, and thus reduce food and job supplies for local people. In contrast, lower population densities offer greater economic opportunities and more benefits for local people. These are the major "push" and "pull" factors that motivate migration from overpopulated areas to underpopulated areas with employment opportunities.

Lee (1966) argued that migration decisions are based on considerations not only of positive and negative points at origin and destination, but also of intervening obstacles, including geographic distance. Usually, poor economic conditions at origin are the main "push" factors in out-migration, while the likelihood of improved economic conditions at destination is the essential "pull" factor in in-migration. Generally, low economic opportunities in non-industrialized areas encourage out-migration, while high economic opportunities in commercial and industrial centers attract in-migration. Over time, migration is likely to develop within well-defined streams.

In another study, Stouffer (1940) developed a theory of intervening opportunities to explain the relationship between stream of migration and distance. He stated that "the number of migrants going a given distance is directly proportional to the percentage increase in opportunities at that distance" (Stouffer, 1940, p. 846). In his formula, the number of migrants from one city to another city is a direct function of three factors: size effect, intervening opportunities, and competing migrants among the two cities and the other cities within a given distance. Stouffer used this formula to examine migration among cities in the U.S. from the 1940 census. In a study of inter-metropolitan migration in the U.S. from 1955 to 1960, Taeuber and Galle (1966) used this method to come to similar results as Stouffer. However, Stouffer's theory did not directly measure economic factors of migration.

Notably, using the log-linear regression model, in which migration is a function of demographic and socio-economic factors, Lowry (1966) generalized major determinants of migration across large metropolitan areas of the U.S. from 1950 to 1960. Interstate migration is closely associated with the following factors: size and composition of origin population, distance, and labor market conditions at destination. Out-migrants are likely to choose nearby destinations with low unemployment rates and high wages. A place experiencing economic progress is likely to attract in-migrants from the whole country, especially those from nearby areas. A place experiencing economic stagnation is likely to have high out-migration rates, with the highest rates among young adults entering the labor force.

In an analysis of labor mobility between states in the U.S. over the period 1955-1960, also using the log-linear regression model, Greenwood (1969) found that migration stock² has the strongest positive effect on current migration. On the other hand, distance has a negative and highly significant effect on migration. Migration is likely from states with low median income to states with high median income, and from states with low urban population proportion to states with high urban population proportion. The greater a state's unemployment rate, the higher its rate of out-migration. Average education and temperature also have an influence on interstate migration. Using the same model, Greenwood and Sweetland (1972) found that migrants between Standard Metropolitan Statistical Areas in the U.S. from 1955 to 1960 were likely to migrate from low income areas to high income areas; from areas with low government expenditures to areas providing more public benefits. As in previous studies, distance was found to be an important obstacle to migration.

In China, numerous studies have confirmed that after several decades of state-controlled urban migration, economic reforms since 1979 have supported economic growth. Economic opportunities in urban areas have attracted rural to urban migration. According to Chan (2001, p.132), the average annual “total amount of moving” in the late 1990s was about 70 million, equivalent to 6 percent of the total population and twice the volume in 1977 (2-3 percent). Ideologically, Viet Nam and China have shared similar social and political characteristics, such as Confucianism and Socialism, and have experienced comparable paths of development. These similarities suggest that they would share some patterns of internal migration. In many respects, patterns of urban migration in the pre- and post-reform eras in China provide a good example for understanding urban migration in Viet Nam.

Many studies have found that temporary migration³ increased significantly in the post-reform era, and the majority of migrants concentrated in cities and towns. Chan (2001) estimated that China has had hundreds of millions of floating migrants in recent years. While migration policy successfully controlled permanent migrants to large cities, it was less successful in preventing temporary migrants because they were less likely to be affected by those rules and regulations. Towns could receive both permanent and temporary migration. However, these towns were more attractive destinations for temporary migration from smaller urban areas and rural areas than from larger cities. Migration to cities from other cities was likely to be permanent. In contrast, rural to urban migration was more likely to be temporary. For both types of migration, only a small number of migrants originated in cities; the majority of permanent and temporary migrants were from rural areas (Goldstein, 1990). As in Viet Nam, indicators of wage, income, and unemployment rates in China are not available at the provincial level. Researchers have to overcome these limitations by using proxy variables. In general, negative factors at origin are measured by available indicators such as land/labor ratio,

² Migration stock was measured by “number of persons born in state *i* and living in state *j*, 1950” (Greenwood, 1969, p. 189)

³ Temporary migration is migration to township or urban sub-district, county, and city from 6 months to 1 year. Temporary migration refers to non-*hukou* migration (Chan, 2001, p. 131).

agricultural yields, and industrial and agricultural outputs, all of which may represent pressures to migrate. Positive factors at destination are measured by several indicators, including potential land resources, industrial development, and investment growth. These indicators point to a place's capacity to attract labor migrants. Intervening obstacles are often measured by geographic distance and the availability of social networks that may be able to provide the material and social costs of migration. The broad hypotheses are that migration flow from province i to province j is associated with positive factors in destination, negative factors in origin, and intervening obstacles.

Chan *et al.* (1999) used logarithmic regression models to examine macro factors in inter-provincial migration from 1985 to 1990 for different types of migration: *hukou*, non-*hukou*, rural labor, and all migration. Results showed that population sizes were positively associated with the gross migration rate from province i to province j . Migration rates were higher between provinces with shorter distances. Provinces with higher agricultural shares experienced higher out-migration rates. This variable had the strongest effect on rural labor. Foreign direct investment in province j was positively associated with migration rates to province j because of increased "pull" factors. Social networks had a positive effect on migration rates of non-*hukou* and rural labor. This may suggest that social networks are very helpful for temporary or rural labor migrants, who are strongly affected by the "free" market and thus are likely to receive support from other migrants themselves. Land/labor ratios in province i had a negative and significant effect on rural labor migration from province i to province j . On the other hand, land/labor ratios in province j had a positive and significant effect on all types of migration (except the *hukou* migration, which was less related to land pressures). In short, these models provide a good framework to test the influence of "push" and "pull" factors on inter-provincial migration in the post-reform era in Viet Nam.

Data

With the 1989 and 1999 censuses, I compare the place of residence in 1984 (and in 1994) and the place of residence in 1989 (and in 1999) for persons aged 5 and above. I consider persons who lived in the same district in 1984 and 1989 (and in 1994 and 1999) as non-migrants. Inter-provincial migration is defined as movement from one province to another. Urbanward migration is regarded as flows of migrants from a given place 5 years earlier (1984 and 1994), including rural and urban areas, to urban areas at the times of the censuses (1989 and 1999). Using statistical year-books, I identify the macro socio-economic variables of each province to analyze the determinants of urbanward migration between provinces derived from the censuses.

Because all published statistics on macro variables are available only at provincial level, including both urban and rural areas within provinces. Therefore, these variables do not represent specific urban or rural areas. To measure macro factors, I assume that industrial production is located primarily in urban areas while agricultural production is in rural areas. On the basis of this assumption, I use industrial production indicators at provincial level to measure "pull" factors to urban areas and agricultural production indicators to

measure “push” factors from rural areas for my analysis of inter-provincial urbanward migration.

Data Analyses

Macro Patterns of Urbanward Migration: 1984-1989 and 1994-1999

In this section, I describe and analyze rates and spatial patterns of migration flows to urban areas. In-migration rates are measured by the number of migrants from different districts, provinces, and regions to urban areas in a town or a city from 1984 to 1989 (and from 1994 to 1999), divided by the urban population of this town or city in 1989 (and in 1999). Because the denominator is based on the destination area, migration rates from the different sending areas to the same town or city show their relative contributions to growth, not the propensity to migrate from the sending area. Movements from different distances to towns and cities with different sizes reflect spatial patterns of urban migration. Central Ha Noi and central HCMC are the major national cities of the entire country. Other cities have significant effects at the regional level. These cities are specified as regional cities. Provincial towns are administrative centers of provinces. Small towns are urban areas of rural districts. I first analyze magnitudes and spatial patterns of migration by administrative division. I then look at patterns of urban migration between the eight major regions in Viet Nam. Differentials in migration between men and women are also discussed in these analyses.

Urbanward Migration by Administrative Division

Migration Status by Administrative Division

Table 1 presents migration status of persons aged 5 and older to urban areas by administrative division in Viet Nam, 1984-1989 and 1994-1999. The results show that while rural in-migration rates were almost the same between the two periods, urban in-migration increased rapidly in the second period, primarily to large cities, and attracted long-distance migrants. These patterns suggest that, on average, large cities have provided more economic opportunities and therefore attracted more migrants in the post-reform era.

As can be seen in the table, urban in-migration rates in the 1980s were similar across towns and cities, with about 7.5 percent (except central Ha Noi). In the 1990s, however, there is a strong association between in-migration rates and size of place. The rates increased steadily from 5.5 percent in small towns to about 21 percent in central Ha Noi and central HCMC.

Larger cities in 1984-1989 had higher proportions of in-migrants from areas within the same province. In contrast, smaller urban areas in this period attracted more migrants from other regions. On the other hand, in 1994-1999, the rates of in-migration from other provinces and regions increased rapidly in regional cities and especially to central Ha Noi and central HCMC.

While central Ha Noi attracted migrants from nearby provinces and from other regions (mainly from the neighboring Northeast region) at roughly the same level (6.5 percent) in

the 1990s, central HCMC attracted migrants primarily from other regions (9.7 percent, compared to only 2.7 percent from Southeast region). In absolute numbers, the migrants to central HCMC accounted for 38 percent (and 44 percent) of all urban in-migrants nationally between provinces (and between regions), respectively, during this period.

Compared to rural in-migration, urban in-migration rates were much higher. In 1984-1989, urban in-migration exceeded rural in-migration by about three times for within-province migration and by about two times for between-province migration. In 1994-1999, these figures were about five times and three times, respectively. As a whole, urban in-migration rates increased almost 50 percent, from 7.8 percent in the second half of the 1980s to 11.4 percent in the second half of the 1990s, while rural in-migration rates were unchanged. Moreover, the 1990s witnessed the emergence of a sharp rise in migration rates to larger cities relative to the 1980s.

The results also show that large cities in the post-reform era gained high in-migration rates, especially from long distances, as might be expected of a market economy. In the pre-reform era, however, higher long-distance in-migration rates to small towns reflected government policies on urbanization and urban in-migration. The government established numerous new small towns in remote areas and limited the growth of large cities in the 1980s in order to pursue a policy-balanced spatial distribution. The government sent a large proportion of urbanites from large cities to small towns in order to maintain administration, education, health care, and agricultural and industrial projects in these towns. Figure 1 illustrates these patterns of intra- and inter-provincial migration across different types of urban areas over the two periods.

In summary, the low urban in-migration rates in the 1980s reflected low levels of economic growth and the control of the government on urbanization in the pre-reform era. On the other hand, high urban in-migration rates in the 1990s reflected major changes in the post-reform era when economic growth was high, especially in large cities, and residential registration was loosened.

Urbanward Migration by Region Migration Status by Region

Table 2 provides a look at the migration status in 1984-1989 and 1994-1999 of persons aged 5 and above in eight regions. For comparison, overall rural in-migration is also included. The results show that the Central Highlands and Northwest regions experienced the highest rates of between-region urban migration in 1984-1989, but the Southeast and Central Highlands regions held these positions in 1994-1999. The Southeast region became the primary destination of migrants in the latter period.

In the pre-reform era, the government developed small towns in economically underdeveloped and remote regions and sent the administrative staff to these towns to pursue a better spatial distribution of urban areas between regions. This explains the high rates of urban migration, especially inter-regional migration, to the Northwest and Central Highlands regions in 1984-1989. However, since the urban populations in these

areas were small, the absolute numbers of migrants attracted to these regions were not especially large.

In the Southeast region, although the number of urban in-migrants from other regions was largest, the migration rate was not high, compared to the Southeast region's urban population. On the other hand, the Southeast and Central Highlands regions were the most important destinations for rural migrants from all regions through migration programs planned by the government. These regions had the greatest potential land resources for agriculture. I argue that these spatial patterns of migration in northern and southern regions from 1984 to 1989 partly reflected the socialist industrialization and urbanization policies of the government and differences in socio-economic conditions between the North and the South in the pre-reform era.

In the 1994-1999 period, the Red River Delta, Northwest, Central Highlands, and Southeast regions experienced higher-than-average rates of migration. The Southeast and Central Highlands regions experienced the highest rates of urban migration from other regions (more than 8 percent). In absolute numbers, only the Southeast region received more than a half of total between-region migrants from 1994 to 1999. The attraction of the Red River Delta to migrants increased considerably from 1984-1989 to 1994-1999. While the Southeast region attracted the majority of inter-regional migrants, the draw of the Red River Delta on migrants within the region was stronger than those from other regions.

Although urban migration rates increased sharply from the 1980s to the 1990s, the increase was not equally distributed across regions. Migration rates increased more rapidly in the Southeast and Red River Delta regions, while migration rates in some regions, such as the Northern Central and Mekong River Delta regions, remained low and unchanged. Figure 2 illustrates the variation of migration rates within provinces, between provinces within regions, and between regions from 1984 to 1989 and from 1994 to 1999 across eight regions.

Inter-Provincial Urban In-Migration by Region

In the previous section, the results showed a pattern of migration from northern urban areas to southern urban areas. The results from Table 2 also showed that the Southeast and Central Highlands regions received high levels of between-region migrants. In this section, I examine the regional exchange of inter-provincial urbanward migrants from 1984 to 1989 and from 1994 to 1999.

The results from Table 3 show that inter-provincial migration was likely between provinces within the same region and between neighboring regions. There was also a pattern of migration from most regions (except the Northwest and the Central Highlands) to the Southeast region. These patterns support the hypothesis that migrants were likely to migrate from northern regions, especially from the Red River Delta, to the Southeast and other southern regions.

In general, there were three major groupings of regional exchange of urban in-migrants. In the North, the exchange of urban population between the Red River Delta and Northeast regions accounted for three-fourths and nearly nine-tenths of total inter-provincial migrants to the Red River Delta and Northeast regions, respectively, in both periods. These regions were also the major sending regions of migrants to urban areas of the Northwest region. The Red River Delta supplied about two-thirds of inter-provincial migrants of the Northwest, while the Northeast supplied less than one-fifth (although the absolute numbers of migrants were small). In contrast, these regions received only a tiny number of migrants from southern regions.

In central Viet Nam, the exchange of urban population between the Northern Central and Central Coast regions accounted for about 44.5 percent and 49.9 percent of total inter-provincial migrants to the Northern Central and Central Coast regions, respectively, in 1984-1989. The figure increased to nearly two-thirds of total inter-provincial migrants to each region in 1994-1999. These regions also contributed more than one-fourth of total inter-provincial migrants to the Central Highlands. In addition, the Central Highlands received about 30.4 percent and 21 percent of inter-provincial migrants from the Red River Delta in the two periods, respectively, while migrants within this region and from the Southeast and Mekong River Delta regions made up only a small proportion in total inter-provincial migrants to the Central Highlands.

In the South, exchange between the Southeast and Mekong River Delta regions made up almost a half of inter-provincial migrants to the Southeast region and from 75.6 percent in 1984-1989 to 86.5 percent in 1994-1999 of total inter-provincial migrants to the Mekong River Delta. However, the Southeast region also received a large number of migrants from the Red River Delta, Northern Central, and Central Coast regions. Although migration rates from the Red River Delta slowed somewhat (from 22.0 percent of total inter-provincial migrants in 1984-1989 to 15.4 percent in 1994-1999), migration rates from the Central regions increased a little. Inter-provincial migration in the Mekong River Delta was made up mostly by migration between provinces within the region (about 60.3 percent in 1984-1989 and 70.8 percent in 1994-1999). Migrants from the Southeast region made up about 15 percent of total inter-provincial migrants. This region also received an increasing number of migrants from the Red River Delta and Northern Central regions, although the proportion of migrants from the Red River Delta to total migrants to the Southeast region in 1994-1999 decreased. Figure 3 shows the major urban in-migration flows between regions in the same periods.

In summary, the spatial patterns of inter-provincial urbanward migration also show that migration is concentrated within three broader regions - the North, the Central, and the South - and from northern regions, particularly the Red River Delta and the Northern Central, to southern regions, in which the Southeast region attracted the largest number of these migration flows. Although the migration rates from northern to southern regions were reduced in 1994-1999, this general pattern held.

Determinants of Inter-Provincial Urbanward Migration

Variables, Methods, and Hypotheses

Variables

The major purpose of this section is to analyze macro factors in inter-provincial urbanward migration. I use two dependent variables, separately for men and women: (1) in-migration rate to urban areas of the destination province from other provinces, and (2) out-migration rate from the origin province to urban areas of other provinces. Independent variables include geographic distance, urban population proportion, agricultural productivity and agricultural land per worker, industrial productivity, regions, and migration rates in 1984-1989 (to analyze their effect on migration in 1994-1999). Definitions and measurements of these variables are presented in Table 4.

Methods

In this analysis, I use both log-linear and Box-Cox models. Most studies of the determinants of migration generally use the linear regression model or the log-linear regression model, in which all variables of a linear model are transformed into the logarithmic form as in Equation (1) and Equation (2). Researchers often prefer the log-linear model to the linear model because it creates a higher R-squared, especially when the relationship between variables in the linear model is not linear. For example, Lowry (1966), Greenwood (1969), and Greenwood and Sweetland (1972) applied this method to analyze the determinants of interstate labor migration in the United States. However, this method requires a restrictive assumption. The elasticity of migration is assumed to be constant with any change of an independent variable. However, this assumption is questionable when the variations of independent variables are large (Goss and Chang, 1983).

The maximum likelihood method suggested by Box and Cox (1964) for a general functional form of migration (Zarembka, 1974) in Equation (3) makes possible a choice of the best functional form of migration from a sample instead of an arbitrary choice⁴. With a range of parameters λ and θ , all regression models of M_{ij}^{**} and X_{ij}^* transformed from Equation (4) and (5) by λ 's and θ 's were calculated. A pair of λ and θ that creates the highest maximum likelihood estimate is the best functional form for transformation. A comparison between these models is helpful to evaluate the validity of chosen models.

$$\begin{aligned}
 (1) \quad M_{ij} &= \beta_1 + \beta_2 X_{2j} + \beta_3 X_{3j} + \dots + \beta_k X_{kj} + e_j \\
 (2) \quad \text{Log } M_{ij} &= \beta_1 + \beta_2 \log X_{2j} + \beta_3 \log X_{3j} + \dots + \beta_k \log X_{kj} + e_j \\
 (3) \quad M_{ij}^{**} &= \beta_1 + \beta_2 X_{2j}^* + \beta_3 X_{3j}^* + \dots + \beta_k X_{kj}^* + e_j \\
 (4) \quad \text{With } M_{ij}^{**} &= (M_{ij}^{**} - 1)\lambda \\
 (5) \quad X_{ij}^* &= (X_{ij}^* - 1)\theta
 \end{aligned}$$

For inter-provincial urbanward migration in 1984-1989, the number of provinces for analysis is $n = 40$ and the total of cases in the model equals $n*(n-1) = 1,560$. For the 1994-1999 analysis, the number of provinces is $n = 61$ and the total of cases in the model equals $n*(n-1) = 3,540$.

⁴ For more detail, see "Changes in Elasticities of Interstate Migration: Implication of Alternative Functional Forms" (Goss and Chang, 1983)

Hypothesis

In the analysis of determinants of inter-provincial urbanward migration, I suggest the following hypotheses:

1. Geographic distance between provinces has a negative effect on migration rates because it increases the costs of migration.
2. The higher the urban population proportion in a destination province, the higher the rate of urban in-migration to this province. On the other hand, the higher the urban population proportion in the origin province, the lower the rate of out-migration from the province.
3. The industrial structure in urban areas, and agricultural productivity and agricultural land per worker in rural areas do not have significant effects on urban in- and out-migration from 1984 to 1989, because the government controlled urban migration through the “*ho khai*” system and because the levels of economic growth in the pre-reform era were low. If results support the hypothesis, this pattern essentially reflects the socialist urbanization policy.
4. The growth of non-state industries in the destination province has a positive effect on urban in-migration rates to the province from 1994 to 1999. This sector grew rapidly in the post-reform era and required a larger number of workers than were available locally. State industry did not have a positive effect on urban migration because employment in this sector was not expanding. On the other hand, agricultural productivity and agricultural land per worker had negative effects on out-migration rates from the province. If the positive effect of non-state industry is confirmed, this result provides evidence to support the modernization explanation. In contrast, if the negative effects from agricultural production in rural areas are valid, this result lends evidence to support the over-urbanization thesis.
5. Migration is higher from the North to the South than the reverse, especially from the Red River Delta to the Southeast and Central Highlands regions. These patterns result from migration flows planned by the government in the pre-reform era and the attraction of better economic opportunities in these regions in the post-reform era. However, in the latter period, the Red River Delta also attracted urban in-migration because of the high economic growth of the region.
6. Migration flows from 1984 to 1989 had a positive effect on migration flows from 1994 to 1999 as a result of increased social networks between origin and destination areas.

Determinants of Urban In-Migration from 1984 to 1989

In Table 5, I analyze the determinants of inter-provincial urban in-migration rates from 1984 to 1989 separately for men (upper panel) and women (lower panel), using

multivariate log-linear regression models (from Model 1 to Model 7) and the Box-Cox regression model (Model 8). Model 1 examines the effects of the urban population proportion of the destination province j and the geographic distance between provinces i and j on the urban in-migration rates to province j from province i . Model 2 analyzes the effects of the industrial productivity of province j on in-migration rates. Model 3 analyzes the net effects of distance, industrial productivity, and region variables on in-migration rates. Model 4 analyzes the net effects of urban population proportion, distance, industrial productivity, and region variables on in-migration rates. In Model 5, I analyze the effects of the productivities of state industry and non-state industry on in-migration rates, separately. Model 6 includes all variables in Model 5 and distance and region variables. Model 7 includes all variables in Model 6 and the urban population proportion variable. In the models, the Red River Delta is the omitted reference region. Model 8 is the Box-Cox transformed model, using the same variables in Model 7 to compare results derived from different equations.

The results from Model 1 show that distance and urban population proportion had strong and statistically significant effects on urban in-migration rates for both men and women. These variables alone explain for about 48 percent of the variation of urban in-migration rates between provinces. Across all models, the effects of these variables were nearly constant. Distance was the largest obstacle for in-migrants. The standardized coefficients of distance across models were from -.52 to -.56. This result suggests that a positive change of one standard deviation in distance predicts a negative change of more than one-half a standard deviation in urban in-migration rates. Viet Nam's long, narrow geography and underdeveloped transportation system are the major reasons for the strong effect of distance on mobility. The urban population proportion in the destination province was also a major determinant of urban in-migration. The standardized coefficients of this independent variable were about .44 for men and .39 for women in the full model (Model 7). These results support the hypothesis that urbanward migration flowed mostly to provinces with shorter distances and higher urban population proportions.

In Model 2, industrial productivity had a positive effect on urban in-migration rates and the effect was somewhat stronger for women than for men (standardized coefficients were .21 and .13, respectively). When adding the distance and the region variables in Model 3, the effect of industrial productivity is somewhat reduced in the model for women but unchanged in the model for men. However, after controlling for urban population proportion in Model 4, the effect of industrial productivity on urban in-migration rates became statistically insignificant. This result suggests that urban migrants were more likely to migrate to provinces with higher urban population proportions than those with higher industrial specification. Since industries with high productivities were often located in urban provinces, the urban population proportion variable overlapped in explanatory power with the industrial productivity variable.

Model 5 analyzed the effects of the productivity of state and non-state industry on urban in-migration rates. The results show that the productivity of non-state industry had a positive effect on in-migration rates while the effect of the productivity of state industry

was statistically insignificant. Controlling for the distance and region variables in Model 6, the negative effect of state industry became significant while the positive effect of non-state industry held constant. However, when adding the urban population proportion variable to the model, the productivity of non-state industry was no longer significant. The results from Model 7 suggest that state industry did not support in-migration while the effect of non-state industry was insignificant, controlling for the urban population proportion.

In general, state employees received more benefits and subsidies from the government in the pre-reform era. The state economic sector often accepted workers who were permanent residents of towns and cities to reduce the costs of housing, food, and other necessary services that needed to be supplied for migrants and their families. Moreover, employment in state industry was relatively “privileged”, and most new positions were filled by people from the families of state workers and other urban residents. The higher productivity of state industries was reflected in above-average wages and more benefits. Because of the abundant supply of labor for jobs in state industry, there were few additional opportunities for labor migrants from rural areas.

On the other hand, non-state industry was mainly based on handicraft and small-scale business, using more laborers with low wages. Therefore, migrants were likely to migrate to large cities, where non-state industry offered more opportunities for employment. However, this economic sector was not favored by the government in the pre-reform era. Controlling for the urban population proportion, non-state industry did not produce a significant net effect on urban in-migration rates.

The results from these models also show the variation of urban in-migration rates between regions, after controlling for other variables. Compared to the Red River Delta, the Southeast and Central Highlands regions were positively associated with in-migration rates across all models. Especially, these regions attracted more women than men. In Model 7, the standardized coefficients of these variables for women were about double those for men. Although the Mekong River Delta, Northwest, Northeast, and Central Coast regions supported higher rates of female migrants, these effects were very small. These results imply that certain factors created the attraction of the Southeast and Central Highlands regions to urban migrants in general and female migrants in particular.

One important factor is higher living conditions, including housing and income, in the Southeast region. In 1975, compared to Ha Noi and other urban areas in Viet Nam, average housing area in HCMC and other cities of the Southeast region was much higher. The gap was enlarged when millions of southern urbanites, mainly from HCMC, fled Viet Nam and migrated to New Economic Zones or to their original rural areas after 1975. According to Nguyen (1994, p.73), average housing area per capita in HCMC was about 7 square meters in 1975 and 5.8 square meters in 1993, compared to only 4.0 square meters in Ha Noi in 1994. In the 1980s, although Viet Nam faced serious food shortages, living standards in HCMC were still higher than those of all other urban areas

in Viet Nam, based on HCMC residents' private property and millions of U.S. dollars in remittances from their relatives in Western countries.

In the mid-1980s, the expansion of coffee exports raised the incomes of coffee planters and their employees. As long as the government continued to encourage migration to the Central Highlands region, economic progress brought about by coffee export supported migration not only to rural areas but also to urban areas of the region. According to *Food and Agricultural Organization of the United States*, until 1984, coffee area in Viet Nam was roughly 12,000 hectares. Coffee export was about 4,000 tons, with a value of only 6 million USD. However, the coffee area had increased 10 times by 1994 and 40 times by 2000. Coffee export was about 180,000 tons and 740,000 tons, equivalent to 110 million USD and more than 500 million USD in 1994 and 2000, respectively. In the 1990s, Viet Nam was ranked in the ten largest coffee export countries and since 2000 has become the second-largest coffee export country in the world. This industry had an important effect on urban migration and urban growth in the Central Highlands region.

Areas with higher living standards and greater economic opportunities typically offer higher wages. The Southeast and Central Highlands regions provided such conditions in the pre-reform era, and migrants were more likely to migrate to these regions. As in any urban economy in the world, in Viet Nam there existed a dual labor market. On the one hand, the primary labor market included the state sector and some employment, which required *ho khau* and other conditions that labor migrants could rarely meet. Better living conditions and the need for more administrative workers in large cities and industrial centers in the Southeast were the primary reasons for the high rate of in-migration. On the other hand, the secondary labor market included "dirty" jobs with lower wages, which were reserved for labor migrants. While economic opportunities were limited for migrants in most urban areas, economic advantages in the Southeast and the Central Highlands attracted independent migrants into the non-state and informal labor market after the government began to launch reform policies in 1986.

These advantages made the Southeast and Central Highlands regions the major destinations of many migrants, especially those who could fill lower-status jobs. However, there have been other reasons for the higher migration rates for women than men to these regions. First, the 1989 census enumerated civil population and special population groups separately, and reported only information on civil population. The special groups included about 1.04 million people who served in the armed forces. Because young men were predominant in these special groups, this means that the urban in-migration rates of young men to these regions were probably underestimated because of the exclusion of a larger proportion of men than women from the civil population.

Second, men were more likely than women to work for the government in Viet Nam. In the pre-reform era, housing was a major problem. The government could not afford housing for all the families of state sector employees. To keep the costs of urbanization down, the government reduced the numbers of people dependent on state workers in urban areas as much as possible. Thus, a significant proportion of people worked for the

government in urban areas while their families still resided in other urban or rural areas. I argue that the large stock of available housing and the prosperous economic environment of HCMC created advantageous conditions for state workers - the majority of whom were men - to bring their families to the city. In the same period, while most of the state workers and cadres who migrated to Ha Noi resided in tenement quarters and left their families in their places of origin, state workers in HCMC could bring their families to them because they did not face the serious problems with jobs and housing their Ha Noi counterparts faced.

In the late 1980s, reform policies began to encourage independent migrants. Textile and shoe-making factories in HCMC, Dong Nai and Binh Duong provinces, and coffee-processing businesses in the Central Highlands may have made these regions more attractive to women than to men. However, these opportunities did not really emerge until the reform policies encouraged economic growth and urban migration in the 1990s (Tran, 2000).

The results show that Model 7 is the best fitting model for urban in-migration rates from 1984 to 1989. The R-squared is relatively high (.520 for men and .526 for women). In order to evaluate the validity of the log-linear model, I applied a Box-Cox model, transformed from the original least squares model by using two transformed parameters: “*theta*” for the independent variable and “*lambda*” for the dependent variables, to find the pair of θ and λ that creates the most likely estimate. With the pair of $\theta = .01$ and $\lambda = -.1$ for the model of men and $\theta = .01$ and $\lambda = -.3$ for the model of women, the results from Model 8 show that R-squared did not improve much and the sign and standardized coefficients of independent variables were quite similar, compared to Model 7. The similarity between Model 7 and Model 8 confirms that the results from the log-linear regression models were valid and convincing.

In summary, urban in-migration between provinces from 1984 to 1989 was not “pulled” by industrial production in urban areas of destination provinces. The urban economy in the pre-reform era was not strong enough to attract labor migrants. State industry was almost closed to labor migrants. Non-state industry was less developed and did not have a significant effect on migration. The strongest determinants of urban in-migration in this period were geographic distance between provinces and the urban population proportions of destination provinces. With the economic and urban infrastructure advantages of the Southeast and the prosperous coffee export of the Central Highlands, these regions had positive effects on urban in-migration and were more favorable for women than men.

Determinants of Out-Migration to Urban Areas from 1984 to 1989

Table 6 analyzes determinants of out-migration rates from province *i* to urban areas of province *j* from 1984 to 1989 for men (upper panel) and women (lower panel), using log-linear regression models (from Model 1 to Model 4) and a Box-Cox transformed model (Model 5). Model 1 measures the effects of geographic distance between origin and destination provinces and of the urban population proportions of origin provinces on out-migration rates. Model 2 examines the effects of agricultural productivity and agricultural

land per worker, and of the productivity of state and non-state industry of origin provinces on out-migration rates. Model 3 includes all variables from Model 1 and Model 2. Model 4 is the full model, including all variables in Model 3 and the region variable. Model 5 uses the same variables in Model 4 but with the Box-Cox method.

The results from Model 1 show that only distance between provinces had a strong negative effect on out-migration rates (standardized coefficients were $-.55$ for men and $-.52$ for women). This effect persists in the full model (Model 4) when controlling for other variables. Although the urban population proportion in the origin province had a negative and statistically significant effect on men's out-migration rates in the full model, the effect was very small. The urban population proportion could affect out-migration from rural and urban areas in two opposite directions. First, a higher urban population proportion could attract rural migrants within a province and thus retard out-migration from the rural areas of this province to urban areas of other provinces. However, a higher urban population proportion could also support out-migration from the urban areas of this province to urban areas of other provinces, since mobility in urban areas is much higher than mobility in rural areas. In the 1999 census, when out-migration was specified separately for rural and urban areas, I expect that urban population proportion in origin province had a positive effect on urban to urban inter-provincial out-migration and a negative effect on rural to urban inter-provincial out-migration.

In Model 2, agricultural and industrial production in origin province had negative effects on out-migration rates and the effects were stronger for men. Provinces with lower agricultural productivity, lower agricultural land per worker, and lower productivity of state and non-state industries were hypothesized to have higher rates of out-migration to urban areas of other provinces. Controlling for distance and urban population proportion variables in Model 3, these negative effects were still statistically significant, except for agricultural productivity in the women's model. However, after adding the region variable in Model 4, these negative effects from origin province on out-migration rates became statistically insignificant, except for the productivity of non-state industry in the model for women. The results show that unmeasured variations between regions rather than "push" factors were dominant in the model to explain patterns of out-migration.

Compared to the Red River Delta, the Mekong River Delta, Central Coast, Southeast, and Northwest regions had negative and statistically significant coefficients. This evidence suggests that the Red River Delta region supported the highest out-migration rates to urban areas of other provinces, net of other variables. This result reflected government policies on population distribution in the pre-reform era. The Red River Delta is not only the most densely populated region but also includes Ha Noi, Hai Phong, and other major cities in the North, which supplied most of the country's cadres and state employees, who came to play important positions in administration and socialist economic sectors in southern urban areas. The Mekong River Delta region provided the lowest out-migration rates (standardized coefficients were about $-.26$). The Southeast and Central Coast regions had low out-migration rates as well. The results show that while patterns of out-migration rates between most of the northern regions and the Red River Delta were

similar, most southern regions were associated with lower out-migration rates. In the North, only the Northwest had lower out-migration rates than the Red River Delta, but the difference was very small. Moreover, this region accounted for only a small proportion of urban population in the whole country, in agreement with past government policies to develop this remote and undeveloped mountainous region. The significant variation in in- and out-migration rates between the North and the South supports the hypothesis that in the pre-reform era, when urban migration was strictly controlled, the government supported migration from northern regions to southern regions, not only to rural areas but also to urban areas.

So far, the best-fitting model is Model 4, which explains about 38.5 and 35.8 percent of the variation in out-migration rates for men and women, respectively. With $\theta = -.2$ and $\lambda = .3$, the results from the Box-Cox transformed model (Model 5) confirm the patterns of out-migration rates in Model 4. R-squared and standardized coefficients were improved a little, but the sign and the statistical significance of coefficients was very similar.

In summary, inter-provincial out-migration to urban areas from 1984 to 1989 was correlated with “push” factors from origin province, but these were insignificant when dummy variables for each region were included in the model. Distance had the strongest negative effect on out-migration rates. The Red River Delta, Northeast, and Northern Central regions were associated with higher rates of out-migration, while the Mekong River Delta, Southeast, and Central Coast regions were associated with lower out-migration rates.

A comparison between in- and out-migration shows that the productivity of industry in destination province did not attract in-migrants. Agricultural productivity and agricultural land per worker in origin province had no significant effect on out-migration rates. In other words, there is no evidence that “pull” or “push” factors affected these flows of in- and out-migration in the pre-reform era. There were clear patterns of variation in in- and out-migration between regions, with most of the southern regions positively associated with in-migration and most of the northern regions positively associated with out-migration. The Red River Delta, Northeast, and Northern Central regions were the major sending regions, while the urban areas of the Southeast and Central Highlands regions became the major destinations of urban migrants from other regions. Since urban migration, especially to large cities, was strictly controlled, these patterns reflected the pre-reform era government’s intervention for political and economic reasons. In the next section, I will address the determinants of in- and out-migration in the post-reform era.

Determinants of Urban In-Migration from 1994 to 1999

Table 7 presents log-linear and Box-Cox regression models of determinants of urban in-migration rates from 1994 to 1999 for men (upper panel) and women (lower panel). Actually, these models use the same independent variables as the models for migration from 1984 to 1989 but in c. 1995, and one additional variable is the history of migration (using migration rates from 1984 to 1989 to predict migration rates from 1994 to 1999).

The results from Model 1 show that distance and urban population proportion had strong and statistically significant effects on in-migration rates for both men and women. The effect of distance was constant when controlling for other variables. Standardized coefficients of distance in the full model (Model 6) were about -.54. The effect of urban population proportion was reduced but was still statistically significant (standardized coefficients were .23 for men and .26 for women in Model 6). These results confirm that distance and urban population proportion were still the important factors in urban in-migration in the post-reform era.

In Model 2, industrial productivity in destination province had a positive effect on in-migration rates. This effect was still statistically significant in Model 3, controlling for distance and region variables. However, when adding urban population proportion and history of in-migration variables in Model 4, industrial productivity no longer affected in-migration rates. On the basis of this model, one can say that in-migration in the post-reform era was not “pulled” by industrial productivity. However, as noted earlier, I expect that state and non-state industries have opposite effects on urban in-migration. The results from Model 5 and Model 6 provide strong evidence to support this hypothesis.

In Model 5, productivity of non-state industry had a positive effect on in-migration rates while productivity of state industry had a negative effect on in-migration rates for men and women. Moreover, the standardized coefficient of non-state industry was about six times larger than that of state industry. Controlling for other variables in Model 6, the coefficient of non-state industry was twice that of state industry. Because productivity of state industry was much higher than that of non-state industry, when these effects were merged in only one variable in Model 4, the positive effect of non-state industry could not compensate for the negative effect of state industry on in-migration. However, when I measure these effects separately in Model 5 and Model 6, the results show that productivity of non-state industries attracted urban in-migrants. This positive effect was stronger than the negative effect of state industry, whose gates were closed not only to rural migrants but also to most urban workers.

The results from Model 6 also show that most regions were associated with positive in-migration rates, relative to the Red River Delta. However, the standardized coefficients of these regions were very small, except for the Southeast and Central Highlands regions, which were also somewhat more favorable for women migrants than for men. Because the 1999 census enumerated the entire population without special groups and the government no longer controlled strictly urban in-migration through *ho khau* registration, these patterns suggest that economic growth and the urban economic structures of the Southeast and Central Highlands regions in the post-reform era attracted migrants and were more favorable to women than to men. The rapid expansion of foreign and private investment in garment and shoe-making factories in HCMC, Dong Nai and Binh Duong provinces of the Southeast region required a large number of workers in general and female workers in particular. Labor migrants were the major supply that met this labor need.

In Model 6, I examine the effect of past migration on current migration. Controlling for other variables, in-migration rates from 1994 to 1999 were positively associated with in-migration rates from 1984 to 1989. Clearly, networks created from prior migration flows supported further migration flows, net of other variables. In general, all variables from Model 6 predict about .54 percent of the variation of urban in-migration rates from 1994 to 1999. With $\theta = .01$ and $\lambda = -.1$, the results from the Box-Cox transformed model (Model 7) are very similar to those of Model 6. The similarity confirms the validity of these models.

Determinants of Out-Migration to Urban Areas from 1994 to 1999

Table 8 presents log-linear and Box-Cox models of determinants of inter-provincial out-migration rates to urban areas from 1994 to 1999. The upper panel shows models for men and the lower panel shows models for women.

Model 1 in Table 8 shows that distance had a strong negative effect on out-migration. This effect was consistent across all models. The standardized coefficient was about .47 on average for men and women in Model 6. Urban population proportion in origin province was likely to retard women's out-migration, but this effect was very weak (the standardized coefficient was only -.008 in Model 6).

Model 2 shows that only agricultural land per capita in origin province had a negative and statistically significant effect on out-migration rates. When controlling for distance and urban population proportion variables in Model 3, the effects of industrial productivity were also statistically significant. However, when adding region and prior out-migration variables in the full model (Model 6), the effects of all agricultural productivity and agricultural land per worker, and the productivity of state and non-state industries were statistically insignificant. Instead, out-migration rates varied by regions and were positively associated with the prior out-migration variable. While out-migration rates in the Northern Central regions were similar to those in the Red River Delta, the rates of out-migration in other regions were lower, with the Mekong River Delta having the most negative coefficient (-.20 for men and -.12 for women). This result suggests that the Red River Delta and Northern Central regions were the major sources of out-migrants to urban areas of other regions. Given the spatial patterns of migration analyzed in the previous sections, it can be seen that the Southeast and the Central Highlands were the main destination regions for these out-migrants.

Model 6 was not a strong model of out-migration rate from 1994 to 1999 (R-squared is .272 for men and .225 for women). In the Box-Cox model (Model 7), R-squared improved by about 7 percent. The coefficients between Model 6 and Model 7 were remarkably similar, except productivity of non-state industry for men and agricultural land per worker for women. The coefficients of these variables were positive and statistically significant at .05 level in the Box-Cox model. Because the net standardized coefficients were very small (.06), this was a possible error between the different functional forms.

In summary, the results from the analysis of inter-provincial out-migration to urban areas from 1994 to 1999 show that industrial and agricultural production in origin province did not affect these inter-provincial out-migration flows in this period. Distance was the strongest determinant of migration. Urban population proportion had a positive effect on urban to urban out-migration but a negative effect on rural to urban out-migration. Prior out-migration had a significant effect on out-migration in 1994-1999. The Southeast and Mekong River Delta regions had lower rates of all types of out-migration. The Northwest and Northeast regions had lower rates of rural to urban out-migration. The results do not provide evidence to support the hypothesis of over-urbanization in the post-reform era.

Main Findings and Conclusions

From the 1950s to the late 1980s, the Vietnamese government enforced a policy of migration control, especially control of rural to urban migration. Only those with official permission were allowed to live in cities. After a long period of very slow economic growth, the Vietnamese government began to apply a policy of economic reform known as *Doi Moi*. A key point was to admit the role of the market and to allow economic actors, including individuals and households, greater independence in making economic decisions, including decisions relating to migration. These reform policies fostered more rapid economic development and a renewal of the urbanization process. Migration in the post-reform era reflected the rational choices made by individuals and households in responses to changing economic opportunities. Although the government continued with planned migration projects, the scale of these projects was modest, while free migration increased rapidly. Rural to rural migration was still a major stream, but rural to urban migration emerged in response to economic development that began after *Doi Moi* with the loosening of the *ho khau* restrictions.

However, other factors created significant variations in the patterns of urbanward migration in the pre- and post-reform eras. First of all, urban population and urban areas were unevenly distributed among regions in Viet Nam. Urban population in the North was only about half that in the South. Most large urban areas and industrial centers in the North were located in the Red River Delta, while those in the South were located in the Southeast region.

Over the two periods, the Southeast region, especially HCMC, played an important role in economic development and attracted the majority of urban in-migrants. After 1975, the government directed a de-urbanization process in the southern urban areas. The South also experienced the migration of millions of southern urbanites, especially from HCMC, abroad or to rural areas. There were also massive planned migration flows from the Red River Delta and other northern regions to southern urban areas, especially from Ha Noi to HCMC. Since the 1980s, many urbanites in the Southeast region have received large-scale remittances from their relatives in Western countries. With the advantages of a well-developed urban infrastructure, including good housing and above-average living standards, the Southeast region emerged as a major destination. Many state employees and their families from the Red River Delta and other northern regions moved to the Southeast in the pre-reform era to assume administrative and managerial roles. With

abundant non-state businesses and investment from private and foreign sectors, the Southeast region experienced the highest economic growth rates and attracted the majority of urban migrants in the post-reform era.

Over the past two decades, the Central Highlands region, which formerly had the lowest population density, has experienced the highest in-migration rates. Since the 1990s, Viet Nam has become one of the largest coffee exporting countries in the world. The economic prosperity fueled by coffee exports has supported urban growth in provincial towns and newly established small towns throughout the Central Highlands. With the exception of Ha Noi capital, the Red River Delta and Northern Central regions had the highest out-migration rates to urban areas of other regions. High cultivable land pressure in the Red River Delta and problems in agricultural production in the Northern Central region were factors that contributed to increased rural out-migration from these regions. On the other hand, new employment created by urban areas in these regions primarily attracted local employees. Consequently, these regions had the largest flows of migrants to urban areas of the Southeast region.

The spatial patterns of urban migration show that population exchanges were likely to occur between nearby regions. However, there has also been a trend of migration from the North to the South, especially to the Southeast region. In general, larger cities have had higher rates of long-distance migration than smaller towns. In the post-reform era, this pattern reflects the conventional rule of modernization and development. Higher rates of long-distance migration to smaller towns in the pre-reform era, on the other hand, reflect urbanization policies of the socialist government.

The results from the regression models show that geographic distance was one of the strongest barriers to inter-provincial urban migration. Urban population proportion in a province also had a positive effect on urban in-migration rates. Land pressures had a significant effect on out-migration over the two periods. However, this “push” factor was reduced in the model with the regional dummy variables. This result shows that there is very little variation in “push” factors between provinces within regions. However, these “push” factors may be more significant between provinces captured by the regional dummy variable. This result agrees with the uneven distribution of agricultural land between regions and the relative equality of land per agricultural worker within localities in socialist Viet Nam. In the pre-reform era, migration was regulated by the government, and land pressures on out-migration correlated with large-scale government-sponsored migration programs, mainly from the Red River Delta to southern regions. In general, the northern regions have less land and less potential for expansion for agriculture than southern regions.

In the 1980s, industrial productivity did not have significant effects on migration to urban areas, government control of urban migration being a key factor. In the 1990s, the productivity of non-state industry emerged as the major force drawing rural to urban migrants, reflecting the “pull” factor in urban areas. The results show that the macro

patterns and the determinants of urban migration in the 1980s basically reflect the rule of socialist urbanization, while those in the 1990s support the modernization model.

The general patterns of urban migration over the two periods in Viet Nam were quite similar to those in China. Urban migration was controlled in the pre-reform era and increased rapidly in the post-reform era after the government gave greater freedom to the market economy and lifted the *hokhau* restrictions. Most Chinese migrants migrated to the coastal regions and most Vietnamese migrants migrated to the Southeast region and the Central Highlands, which experienced high economic growth rates. Large cities offered more economic opportunities and thus received most rural migrants in the post-reform era. Rural industries in China also attracted numerous migrants from nearby rural areas. However, local industries in Viet Nam are still weak and have provided very few economic opportunities for migrants.

The patterns of urban migration in Viet Nam in the 1990s are comparable with those in Southeast Asia in the 1980s. The higher growth rates of industries in urban areas in the 1980s in Southeast Asia attracted massive flows of migrants from rural areas. Increasing land pressures and fewer opportunities in rural areas encouraged young people to migrate to urban areas. Large cities, which offer more employment, are the major destination. Similarly, the economic reforms in Viet Nam brought economic benefits firstly to several large cities in the 1990s. These cities attracted the majority of rural to urban migrants. Although the government is still committed to “a socialist orientation”, the rules of a market economy are now strongly affecting various aspects of Vietnamese society and economy. High and stable growth rates in both industry and agriculture in recent years suggest that urban migration in Viet Nam will continue to follow the expected patterns of the modernization model.

Bibliography

- Bartholomew, Steele, Mounstaki, and Galbraith. 2002. *The Analysis and Interpretation of Multivariate Data for Social Scientists*. Chapman & Hall/CRC.
- Central Census Steering Committee. 2000. *1999 Population and Housing Census: Sample Results*. General Statistical Office. Hanoi.
- Chan, Kam Wing. 1994. *Cities with Invisible Walls: Reinterpreting Urbanization in Post-1949 China*. Oxford University Press.
- Dang, Anh; Goldstein, Sidney; and McNally, James. 1997. "Internal migration and development in Vietnam." *International Migration Review*, Vol. 31, No. 2: Pp. 312-337.
- Dang, Nguyen Anh. 1999. "Market reforms and internal labor migration in Vietnam." *Asian and Pacific Migration Journal*. Vol. 8, No. 3: p. 381-410.
- Dang, Thu *et al.* 1994. "Di Dan cua Nguoi Viet tu The Ky 10 den giua The Ky 19." [Migration of Viet People from the 10th Century to the Mid. 19th Century]. *Phu San Nghien Cuu Lich Su [History Study Review]*.
- Davin, Delia. 1999. *Internal Migration in Contemporary China*. Macmillan Press Ltd., Great Britain.
- Desbarats, Jacqueline, 1987. "Population Redistribution in Vietnam." *Population and Development Review*, Vol. 13, No. 1, p. 43-76.
- Djamba, Yanyi K.; Goldstein, Sidney; Goldstein, Alice. 1999. *Migration and occupation change during periods of economic transition: women and men in Vietnam*. Brown University.
- Djamba, Yanyi; Goldstein, Alice; Goldstein, Sidney. 1999. "Permanent and Temporary Migration in Viet Nam during a Period of Economic Change." *Asia-Pacific Population Journal*, Vol. 4, No. 3: p. 25-48.
- Do, Van Hoa. 1998. *Resettlement in Vietnam: Its Effects on Population and Production. In International Seminar on Internal Migration: Implications for Migration Policy in Vietnam*. Population Council. Viet Nam. Ha Noi.
- Doan, Mau Diep; Trinh, Khac Tham. 1996. "Survey of Spontaneous Migration to A Rural and An Urban Area in Viet Nam." *Asian Population Studies Series*, No. 142, Pub. Order No. ST/ESCAP/1644. ix, p. 57.
- Dorothy Swaine Thomas. 1938. *Research Memorandum on Migration Differentials*. Social Science Research Council. New York.
- Fallenbuchl, Z. M. 1970. "The communist Pattern of Industrialization." *Soviet Studies*, Vol. 21, No. 4: 458-484.
- Forbes, Dean and Nigel Thrift. 1987. *The Socialist Third World: Urban Development and Territorial Planning*. Basil Blackwell Ltd.
- Galle, Omer R. 1963. "Occupational Composition and the Metropolitan Hierarchy: The Inter- and Intra-Metropolitan Division of Labor." *The American Journal of Sociology*, Vol. 69, No. 3, 260-269.
- Goldstein, Sidney. 1978. *Circulation in the Context of Total Mobility in Southeast Asia*. East-West Center. Honolulu. Hawaii.
- Greenwood, Machael J. 1972. "The Determinants of Migration Between Standard Metropolitan Statistical Areas." *Demography*, Vol. 9: p. 665-681.

- Greenwood, Michael J. 1965. *Migration and Economic Growth in the United States*. Academic Press. New York.
- Guest, Philip. 1998. *Dong Luc Di Dan Noi Dia o Viet Nam*. [Motive of Internal Migration in Vietnam]. The Publishing House of Agriculture, Vietnam.
- Hardy, Andrew. 1998. *A History of Migration to Upland Areas in 20th Century, Vietnam*. A thesis submitted for the degree of Doctor of Philosophy at the Australian National University.
- Hugo, Graeme, 1993. Migrant Women in Developing Countries. In *Internal Migration of Women in Developing Countries*. ST/ESA/SER.R/127. United Nations, New York, Pp. 47-76.
- Jeffrey G. Williamson. 1988. "Migrant Selectivity, Urbanization, and Industrial Revolutions". *Population and Development Review*, Vol. 14, No. 2: 287-314.
- Lee, Everett S. 1966. "A Theory of Migration." *Demography*, Vol. 3, Issue 1: p. 47-57.
- Liang, Zai and White, Michael. 1996. "Internal Migration in China." *Demography*, Vol. 33: p. 375-384.
- Lowry, Ira S. 1966. *Migration and Metropolitan Growth: Two Analytical Models*. University of California, Los Angeles, California.
- Massey, Douglas S. et al. 1993. "Theories of International Migration: A Review and Appraisal." *Population and Development Review*, Vol. 19: p. 431-466.
- McNeill, William H. 1984. "Human Migration in Historical Perspective." *Population and Development Review*, Vol. 10: p. 1-18.
- Merli, M. Giovanna. 1997. "Estimation of International Migration for Viet Nam, 1979-1989." *Seattle Population Research Center Working paper*, No.97-4: Jan, 1997.
- Merli, M. Giovanna. 1998. "Mortality in Vietnam, 1979-1989." *Demography* Vol. 35, No.3: 345-360.
- Musil, Jiri. 1980. *Urbanization in Socialist Countries*. M. E. Sharpe Inc. White Plains.
- Naughton, Barry. 1999. Danwei: The Economic Foundation of A Unique Institution. In Lu, Xiaobo and Elizabeth J. Perry (eds), 1999. *Danwei: The changing Chinese Workplace in Historical and Comparative Perspective*, p. 169-194.
- Population Council .1998. *International Seminar on Internal Migration: Implications for Migration Policy in Vietnam*. 1998. Ha Noi, Viet Nam.
- Project VIE/95/004. 1997. *Survey of Spontaneous Migration to Ho Chi Minh City*. Institute for Economic Research of Ho Chi Minh.
- Ravenstein E.G. 1885. "The Laws of Migration." *Journal of the Royal Statistical Society*, XLVIII, Part 2.
- Shaw, R. Paul. 1951. *Migration Theory and Fact: A Review and Bibliography of Current Literature*. Regional Science Research Institute.
- Sjoberg, Orjan. 1999. "Shortage, Priority, and Urban Growth: Towards a Theory of Urbanization under Central Planning." *Urban Studies*, Vol. 36, No. 13, p. 2217-2236.
- Stouffer, Samuel A. 1940. "Intervening Opportunities: A Theory Relating Mobility and Distance." *American Sociology Review*, Vol. 5: p. 845-867.
- Taeuber, Karl E., Galle Omer R. 1966. "Metropolitan Migration and Intervening Opportunities." *American Sociology Review*, Vol. 31. No. 1: p. 5-13.

- Thomas, Dorothy S. 1938. *Research Memorandum on Migration Differentials*. Social Science Research Council. New York.
- Thrift, Nigel and Dean Forbes. 1986. *The Price of War: Urbanization in Vietnam 1954-85*. Allen and Unwin.
- Trinh, Khac Tham. 1998. Characteristics of Rural to Urban Migration in Vietnam and Policies to Control It. In *International Seminar on Internal Migration: Implications for Migration Policy in Vietnam*. Population Council. Ha Noi.
- Truong, Si Anh; Gubry, Patrick; Vu, Thi Hong; Huguet, Jerrold W. 1996. "Migration and employment in Ho Chi Minh City." *Asia-Pacific Population Journal*, Vol. 11, No. 2: p. 3-22.
- United Nations Development Program. 1998. *The Dynamics of Internal Migration in Viet Nam*. Ha Noi.
- Viet Nam General Statistical Office. 1992. "So Lieu Cong Nghiep Viet Nam 1986-1991 – Phan Bo, Co Cau, Qui Mo, va Hieu Qua." [Vietnam Industrial Data 1986-1991 – Distribution, Structure, Scale, and Effectiveness.] 1992. Statistical Publishing House. Ha Noi.
- Viet Nam General Statistical Office. 1994. *Estimating the Fertility and Mortality of Provinces and Ethnic Groups: Vietnam, 1989*. Statistical Publishing House.
- Viet Nam General Statistical Office. 1996. *Impertus and Present Situation of Vietnam Society and Economy After Ten Years of Doi Moi*. Statistical Publishing House. Ha Noi.
- Viet Nam General Statistical Office. 1996. *Statistical Data of Agriculture, Forestry, and Fishery 1985-1995*. Statistical Publishing House. Ha Noi.
- Viet Nam General Statistical Office. 1996. *Viet nam Socio-Economy the Period 1996-1998 and Forecast for the Year 2000*. Statistical Publishing House. Ha Noi.
- Viet Nam General Statistical Office. 1998. *Major Social and Economic Information Obtained From the Large Scale Surveys in Period of 1990-1996*. Statistical Publishing House. Ha Noi.
- Viet Nam General Statistical Office. 1998. *Socio-Economic Statistical Data of 61 Provinces and Cities in Viet Nam*. Statistical Publishing House. Ha Noi.
- Viet Nam General Statistical Office. 2000. *Statistical Data of Viet Nam Agricultural, Forestry and Fishery 1975-2000*. Statistical Publishing House. Ha Noi.
- Viet Nam General Statistical Office. 2000. *Statistical Data of Viet Nam Socio-Economic 1975-2000*. Statistical Publishing House.