URBAN GROWTH IN PRE- AND POST-REFORM VIET NAM: PATTERNS AND COMPONENTS OF GROWTH, THE 1979-1989 AND 1989-1999 INTER-CENSAL PERIODS(*)

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INTRODUCTION

Urbanization and urban growth in developing countries are often explained by either the modernization model or the "over-urbanization" thesis. This process in socialist countries is generally understood through a different theoretical and conceptual framework. Socialist governments pursue a "managed urbanization" goal through economic policies and direct controls on urban growth. The primary purpose of my study is through an analysis of patterns and components (annexation, net migration, and natural increase) of the growth of urban areas in the pre-reform and post-reform era in Viet Nam to find evidence that supports the socialist urbanization thesis as well as aspects from the modernization and over-urbanization perspectives.

Viet Nam is a socialist developing country in transition from a centrally planned economy to a market economy. Reform (*doi moi*) policies derived from the Sixth Resolution of the Vietnamese Communist Party (1986) marked an important point in urban growth in Viet Nam. Rapid economic growth as a result of economic reforms and the weakening of residential registration (*ho khau*)[1], especially in large cities, have supported increasingly urban growth though rural to urban migration. However, political, economic, and social changes that occurred in Viet Nam before and after reunification (1975) have also had significant effects on urban growth over the last two decades. Before 1975, urbanization in the North was held at a low level by political, while the level in the South was rather high because of war. After 1975, while a considerable proportion of urbanites in southern areas were sent to their original rural areas or to New Economic Zones, part of urban population in northern areas was sent to southern cities for administrative and economic management. Over the last three decades, particularly at the end of 1970s and the 1980s, millions of people moved out of Viet Nam for various political and economic reasons. These flows of emigration and urban to rural migration diminished urban growth in Viet Nam. On the other hand, flows of urban to urban migration from the North to the South changed patterns and components of the growth in these urban areas. Socialist urbanization policies in the pre- and the market economy in the post-reform probably were the most important factors in explaining the patterns and components of urban growth, but these additional factors are also critical for my analysis and interpretation of urban growth in Viet Nam.

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[1] The household registration system states that each person has a permanent place of residence, and has to obtain official permission from the government to change locations. The household registration system is also related to the provision of housing land, employment, food, and other needs.

While many Vietnamese and foreign researchers have studied migration and urbanization, no studies have systematically and empirically analyzed patterns and components of growth across urban areas in Viet Nam using all three 1979, 1989, and 1999 censuses. This study represents an attempt to fill up this gap. In addition to these censuses, I use government documents to identify urban boundaries. Census data are the best source for an analysis of urban growth in Viet Nam, both at the national and the urban area levels. Using the method of Shryock and Siegel (1975, p. 822), based on survival rates and age structures by sex of observed population across consecutive censuses, I calculate urban growth and its components for all matched urban areas in the 1979-1989 and 1989-1999 inter-censal periods. Although reform policies were officially stated in 1986, thorough economic reforms just began in 1988 and their primary effects on socio-economic aspects did not come to apply until the 1990s. Therefore, I assume that the period 1979-1989 reflected characteristics of a centrally planned economy and the period 1989-1999 reflected elements of a market economy.

In this study, I try to provide a test of alternative urbanization theories from an analysis of patterns and components of urban growth in the pre- and post-reform eras. As well as China, Viet Nam is carrying market reforms economically but under control of the socialist government; patterns and components of urban growth analyzed in Viet Nam conditions provide more empirical evidence to evaluate urbanization theories in a centrally planned economy, and especially in a market economy controlled by the socialist government. Such an analysis also provides a scientifically based account of the demographic patterns for policy makers to consider.

The paper includes some sections as followed: First, I briefly review urbanization theories relating to urban growth in order to provide a theoretical and empirical background for my test of urbanization theories from analyses of urban growth. I then provide a summary of Viet Nam context relating to urbanization and urban growth, in which historical characteristics of urbanization, government policies, and the impact of international migration on urban growth in Viet Nam will be discussed. On the basis of this theoretical and practical background, I suggest hypotheses for analysis. Subsequently, I describe the relevant data sources, and methods, including advantages and problems that affect the analysis. The main section is to present analyses of the patterns and components of urban growth for the 1979-1989 and 1989-1999 inter-censal periods. Finally, I summarize the main findings and present some conclusions.

THEORETICAL BACKGROUND

Various theories attempt to explain the factors of urban growth. The modernization model assumes that urban growth is a logical step in the processes of industrialization and modernization. As new jobs are created in the urban economy, workers are drawn by higher wages from the agricultural rural economy to the urban industrial economy. In the 19th century, urban mortality was higher than rural mortality, while urban fertility was growing lower. The modernization model therefore assumes that rural to urban migration was the major component of urban growth (Schnore, 1958; Preston, 1979). Although the modernization framework is generally considered to

provide the best account of urban growth that took place during the rapid industrialization period of the 19th and early 20th century in the West (McGee, 1971; Hirschman, 1976), this theory has been criticized insufficient to explain the factors that shape patterns of urban growth in contemporary developing countries.

The "over-urbanization" theory assumes that the urban job growth cannot keep up with the flow of rural to urban migrants. Rural to urban migration is not a result of "pull" factors in urban economy, but of "push" factors from rural economy. The urban bias theory argues that political elites divert scarce economic resources to cities, which attracts migrants who are "pushed" from impoverished rural areas to urban areas. Urban growth without industrialization causes the expansion of informal economic sector, high unemployment rates, and other urban problem (Bradshaw, 1987).

The "managed urbanization" thesis assumes that urban growth should be associated with the labor demand of the industrialized urban economy for an optimal distribution of labor force and in order to prevent the urban population from growing faster than the growth of jobs created in the urban economy. Urban growth is therefore closely associated with the socialist industrialization strategy. Guided by the Marxist tenets that "the larger the proportion of social product allocated for accumulation the higher the rate of growth" and that "the rate of increase of the production of producer goods must exceed that of consumer goods" (Fallenbuchl, 1970, p.459), socialist countries adopted an industrialization strategy, whose priority was heavy industry. Investment in industry is financed by extracting the surplus from agriculture and limiting the consumption of urban and rural population. Population movement is treated as an element of production and urban growth is planned to serve for the industrialization strategy through the migration control policies of the government. This thesis explains why urbanization levels and urban growth in socialist countries are always lower than in other countries with similar levels of economic development, which so called "under-urbanization" (Chan, 1991, 1994).

Testing these urbanization theories requires an analysis of the relationship between urban growth and socio-economic factors in both rural and urban areas. However, a demographic perspective, which analyzes the patterns and components of urban growth, provides some indirect evidence on these alternative theories.

First, if urban growth is primarily explained by natural increase, the result supports neither the "over-urbanization" nor the "modernization" theories because there are few rural to urban migrants. On the other hand, the result would support the "managed urbanization" thesis because the socialist government restricts rural to urban migration, as the need of the urban economy does not surpass the urban labor force.

Second, if net migration makes a larger contribution to urban growth, it is difficult to assess how the evidence supports urbanization theories because the relationship between net migration rates and socio-economic development in rural and urban areas cannot be tested from only a demographic analysis. However, as the socialist government promotes a market economy and lifts controlling policies in rural to urban migration, the increasing net migration rates are likely to support the modernization model because economic growth will occur primarily in large cities, which receive most investment from private and foreign sectors and have better other conditions for economic growth.

Nevertheless, this process can also support the "over-urbanization" theory if the reason for rural to urban migration was "push" factors from rural areas. While this problem requires an analysis of the correlation between "push" factors and rural to urban migration, there are some reasons to hypothesize that it is less likely that rural to urban migration in the post-reform era supports the over-urbanization theory. First, agricultural land in Viet Nam was collectivized through cooperative movements in the pre-reform era. In 1988, when the cooperative system was dissolved, agricultural land was distributed equally to rural households, on the basis of their agricultural workers. Second, to avoid a large gap of land inequality, the Vietnamese government applied policies that limited the transfer of "the use-right of land"[2] in the post-reform era to make sure that every agricultural household has productive land. These factors retarded land pressures on agricultural households and therefore reduced the "push" factors of rural to urban migration. I expect that at least in the first decade after reform, the increase of rural to urban migration supports aspects of the modernization model.

VIET NAM SETTING

Viet Nam is a Southeast Asian country with an area of 329,241 square kilometers and a population of 76.3 million, of which 23.7 percent of national population lived in urban areas[3] in 1999 (Central Census Steering Committee, 2000). Until the middle of the 19th century, urban areas in Viet Nam were mainly small pre-industrial towns with three major functions: military-administration, trade, and handicraft production (Nguyen, 1997). During the French colonial period (1858-1945), urbanization levels were low and urban growth was closely associated with the needs of the colonial economy. Urban areas were established as conduits for the exploitation and transport of raw materials for the French colonial administration. Aside from a few mining and manufacturing factories, industries in urban areas were underdeveloped. Seaports and transport centers grew rapidly and became major cities. Until the 1920s, only Ha Noi, Sai Gon-Cho Lon, and Hai Phong cities had an urban population of 100 thousand or more. In the beginning of the 20th century, the proportion of urban population was about 2 percent; by the early 1940s, this figure had increased to about 10 percent (Pham *et al*., 1994, p. 20).
In 1954, in accordance with the Geneva Agreement, Viet Nam was divided into two parts with two different political-economy regimes. In the North, guided by socialist doctrine, the government applied an industrialization strategy, based on heavy industry, and held urbanization at a low level through economic policies and residential registration system. The proportion of total population in urban areas in the North increased from only 7 percent in 1954 to 11 percent in 1975 (Nguyen, 1997). In the South, the concentration of economic resources in large cities (Sai Gon and Bien Hoa) and the negative impact of war in rural areas led to massive rural to urban migration and the rapid growth of the urban population in the late 1960s and early 1970s. The proportion of urban population in the South increased from 27 percent in 1955 to 40 percent in 1974 (Truong, 1996, p. 4).

[2] In Viet Nam, land belongs to the State. The government gives people "the use-right of land" but not private ownership as in non-socialist countries.
[3] Urban areas including all wards of towns and cities, and small towns of rural districts

These patterns of urbanization in the North and the South reflected the two regions' different economic, military, and political characteristics.

After reunification in 1975, the Vietnamese government applied the industrialization and urbanization policies from the North to the whole country. While controlling rural to urban migration, the government sent numerous southern urbanites to their original rural areas and to settle in frontier areas (Desbarats, 1989). Political and economic difficulties in the years after 1975 forced millions of people, the majority of whom were southern urbanites, to flee to other countries (Hitchcox, 1990; UNHCR, 1979; Merli, 1997). As a result, the proportion of urban population in Viet Nam declined and then held steady at around 19 percent in the late 1970s and early 1980s. Reform policies launched since 1986 and the gradual weakening of the residential registration system have supported economic growth, rural to urban migration, and gradual urbanization. Although the government does not directly encourage urban in-migration, especially to large cities, in recent years the market-oriented economy has been a major factor behind increasing urbanization.

In summary, while inheriting colonial characteristics, urbanization in Viet Nam was strongly affected by the war and the different political-economic models of the North and the South until 1975. The intervention of the government in the pre-reform era and the emergence of the market economy in the post-reform era have been the dominant features for the past 25 years.

HYPOTHESIS

In analyzing the components of the growth of urban areas in Viet Nam, I outline my hypotheses relating to development strategies and applied policies of the Vietnamese government before and after reform and consequently their impacts on urban growth. Although *doi moi* was officially approved by the Resolution adopted by the Sixth Communist Party Congress in 1986, most of the government's policies promoting a market economy have been issued since 1988[4]. Many studies show that economic and social structures changed slowly and a planned economy continued to affect Vietnamese society in the late 1980s. I assume that the effects of the market economy on urban growth have been significant in the 1990s. On the basis of this assumption, I consider the 1979-1989 inter-censal period to reflect a planned economy and the 1989-1999 inter-censal period to reflect a market-oriented economy.

I assume that natural increase is the strongest component of urban growth for almost all urban areas in the pre-reform era. On the other hand, while natural increase is still the most significant component of urban growth in small urban areas, migration is an increasingly important component of urban growth in large cities in the post-reform era.

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[4] The 217th-HDBT Decree for State Economic Sector was issued in 1987. The Tenth Resolution in Agriculture of the Vietnamese Communist Politburo, The Law of Foreign Investment in Viet Nam, The 27th, 28th, and 29th Decrees in Non-Agriculture for Non-State Economic Sectors were issued in 1988. The Law of Agricultural Land was issued in 1989. These key policies and those that followed have supported economic progress in the 1990s. Since 1989, Viet Nam has exported rice. Private and foreign economic sectors have had an increasing impact on national economic growth.

These hypotheses are based on the following arguments: In a planned economy, the labor force was managed to conform to the socio-economic targets of the government. Through *ho khau* and economic investment policies, urban migration was limited and planned by the government. The economic recession in the 1980s did not create "pull" factors in urban areas that would attract rural to urban migrants. Moreover, the international migration and urban to rural migration that mostly occurred in the southern cities in the late 1970s and the 1980s diminished the effect of urban in-migration on urban growth in southern Viet Nam. On the other hand, a large number of urban out-migrants from northern to southern cities was planned by the government to meet administrative and state economic demand after reunification. This policy reduced the impact of in-migration on the growth of northern urban areas. Consequently, natural increase was likely to be the most important factor to account for urban growth in the pre-reform era. Since the 1990s, urban economic development has encouraged independent migrants to migrate to cities for economic opportunities. However, the larger urban areas are assumed to have experienced more rapid economic progress and thus attracted more migrants. On the other hand, smaller urban areas were less attractive to migrants and thus natural increase remained the most important component of urban growth in small towns.

DATA AND METHODS

1. Data

The 1979, 1989, and 1999 Censuses

The key data for analyses of patterns and components of urban growth are based on the 1979, 1989, and 1999 censuses. The first census conducted after Viet Nam's reunification, on Oct. 1, 1979 (published in 1981), was a very short report. In regards to urban areas, it provided only the urban population numbers in these areas by sex, without any other social or demographic characteristics. The second and third censuses were conducted on Apr. 1, 1989 and Apr. 1, 1999. However, the published censuses reported only provincial-level data. This study uses unpublished data supplied by the General Statistical Office that provide additional tables of the urban and rural population, including composition by age and sex at the commune level[5].

One problem with the 1989 census was the omission of special enumeration groups from the published civilian enumeration population, including private and collective households. The only information about these special enumeration groups is the total number (about 1.04 million) and its age structure by sex at the national level, as presented in Table 1. Because these groups included people who were working in the armed forces, the majority of them were men aged 20-24. In order to build age structures by sex for the whole population at commune level, I add the population of these special groups to the civilian population of communes on the assumption that each commune

[5] Commune is the lowest administration level. In 1999, Viet Nam's communes numbered about 12,000, with the average population of a commune being about 5,000-6,000.

will receive a number proportional to the magnitude of the population and age structure by sex of each commune. This assumption may cause some bias, because northern regions were more likely to have army residents than southern regions. However, in the mid-1980s, Viet Nam began to gradually withdraw its armed forces from Cambodia, sending most of them to their homeland. In 1989, Viet Nam completed the military withdrawal from Cambodia, and many soldiers returned to their homes. These events minimize the errors caused by this assumption.

Moreover, the 1989 census counted some state agricultural farms and industrial factories as urban units, although these were not considered administrative urban areas[6]. Some of these small towns were disbanded in the 1990s and could not be found in the next census. When urban areas are matched from the 1979 to 1999 censuses, only officially administrative urban areas are included; some of these units are not. However, because the total urban population of these small towns was small, this problem has only a modest effect on the results.

Finally, although the Viet Nam censuses enumerated all persons in the current place at the time of the censuses in principal, it seems that some of those people who migrated for a short period were omitted at the destination place. This factor may cause some underestimation of the scale of migration and urban growth in the post-reform era, in general, and of temporary migration, in particular, at a time when these flows increased rapidly. However, it has only a small effect on the figures and does not affect the major patterns.

Government Documents on Urban Boundaries

In this section, I review government policies and decrees regarding socio-economic development, the definition of urban areas, and especially boundary changes over time. These sources allow me to measure the effects of reclassification on urban growth in the 1979-1989 and 1989-1999 inter-censal periods.

In the late 1980s, most decrees on boundary changes included the number of urban-reclassified residents (and the number of remaining rural residents) from original communes, which were assigned as new urban areas or enlarged parts of urban areas. This information helps to track the number of current urban-reclassified residents who were classified as rural residents in the previous censuses. Unfortunately, few details were released in the earlier years. Another limitation is that the 1979 census did not provide any information at the commune level. Thus, the component of reclassification in urban growth between 1979 and 1989 cannot be calculated directly from these sources. For urban areas which were changed in their boundaries, this component will be inferred

[6] In the pre-reform era, the government wanted to develop small towns that had been built in remote and less developed regions, primarily on the basis of state agricultural farms and industrial factories, in order to pursue a "spatially reasonable urban system". The 1989 census counted these projects as urban units, although some of them were more or less than 1,000 people or purely economic units. Actually, some state farms and factories developed as administrative urban units, but many of them were later disbanded or collapsed.

as the residual after the migration and natural increase components are subtracted from added urban population.

Although there are some limitations, these data provide an excellent source for the analysis of urban growth across urban areas in Viet Nam in the pre-reform era (1979-1989) and the reform era (1989-1999).

2. Methods

In this chapter, I use the method based on observed inter-censal growth rate and survival rates by age and sex between two consecutive censuses described by Shryock and Siegel (1975, p. 822). I also use Coale-Demeny Model Life Tables (1966) and Viet Nam Life Tables (GSO, 1994) to estimate the survival of population by age and sex over successive censuses.

Because the censuses were conducted 10 years apart, it is easy to identify identical 5-year birth cohorts enumerated in 1979, in 1989, and in 1999 (in the 1979-1989 inter-censuses, t = 9.5 because the 1979 census was conducted on Oct. 1 instead of Apr. 1 as were the 1989 and 1999 censuses). For example, those aged 0-4 in 1979 should appear as aged 10-14 in 1989. Based on the survival ratios (L_{x+10}/L_x) in the model life tables, I can compute the number of persons expected to be found in the census 10 years later. By subtracting the observed census count from the expected number of persons within age groups, I can estimate net migration for those aged 10 and above. An assumption of this method is that the enumerations from censuses are accurate and complete. Therefore, the results are analyzed in this paper on the basis of whole population (including special enumeration groups).

Moreover, this calculation does not deal with those aged 0-9 in the latter census, since they were not yet born in the former census. One possible solution to this problem is based on the age-specific fertility rates of women in reproductive ages and the expected number of women across years. These sources allow for the estimation of the number of children born each year. On the basis of survival rates for age and sex, births in each year can be used to compute the number of surviving children aged 0-9 in the latter census. Net migration at age 0-9 will be the residuals of these numbers and the observed numbers in the latter census. However, this method is infeasible when applied to numerous small urban areas because it is too complicated and some data sources were unavailable or inaccurately reported for these areas. To solve this problem, I assume that there was zero migration for those aged 9 and below. Although this assumption is not true (for children in family migration), most migration is observed for those aged 15 and above. Migration for children is very low in Viet Nam and reduced because the *ho khau* system requires children to study at local schools where they have permanent residential registration.

Subtraction of the population of urban areas in the latter census from the estimated number of migrants and the population of identical urban areas in the former census (plus the new urban-reassigned population for the changed boundaries and new urban areas) gives the number of those accounted for by natural increase. The calculation is based on the method of forward survival rates, assuming that the whole population is exposed for a full 10 year-period and migration occurred right before the next census.

Actually, people could have migrated at any time before that date, and the total population was declining over time. This method is therefore likely to underestimate net migration. (The estimates will be more accurate if the average between the forward and backward survival methods is used.)

To calculate these components of urban growth, my analyses are also based on several other assumptions.

First, the calculation assumes an age structure by sex applied for each urban area. However, the 1979 census provided only the urban population by sex of urban areas. Data on age structures are only available for provincial populations. I assume that urban areas had similar age composition by sex to the total population in the provinces where they were located. An alternative is to apply age structure by sex of the national population for all urban areas. I apply both scenarios to check whether the results are similar.

Although the 1989 census published age composition by sex across communes, most government decrees on boundary changes only reported the number of people who were reassigned urbanites and those that remained rural residents at the time of reclassification. To construct the sex and age structures of these reassigned urbanites in 1989 for each commune, I assume that the growth rate, and sex and age structures of this group are similar to those of the whole population of the commune in 1989. Although the boundary changes were allowed to occur randomly during the 1989-1999 inter-censal period, this assumption permits an estimate of the reassigned urbanites to 1989 and their sex and age structures at that time. I believe the homogeneity of rural communes makes this a reasonable assumption.

Second, I have to assume a common set of life tables applied to all urban areas. At the national level, estimates on death rates in Viet Nam varied according to different data sources. On the basis of the 1979 census population counts and age-specific death rates from the 1978 and 1979 death registrations, the General Statistical Office (GSO, 1983, p. 125) reported that the 1979 life expectancy at birth was 63.7 for men and 67.9 for women. However, this level of life expectancy was much higher than the levels estimated by other sources. One possible source of the discrepancy is under-registration of deaths. Drawing from Vietnamese sources, Banister (1985) estimated that life expectancy at birth was about 60 years for Viet Nam as a whole in 1978. From the 1989 census, the General Statistical Office (GSO, 1994) reported that life expectancy in 1989 was 63.7 years for men and 67.9 years for women, and constructed a set of life tables for each province. Mortality estimation was based on a census question asked to a 5 percent sample of the total civilian population about deaths in the household in the prior year. Since under-reported deaths exaggerated life expectancy, these estimates were adjusted upward using the Preston-Coale method (Preston *et al*., 1980). In another study of mortality rates in Viet Nam based on the 1979 and 1989 censuses, Merli (1998) used two distinct procedures to estimate mortality during the inter-censal period: (1) the Preston-Bennett method (1983), which uses the two consecutive age distribution and age-specific growth rates usually applied when the quality of registration on deaths is poor; and (2) the Bennett and Horiuchi method (1984), which estimates mortality directly from a set of imperfect death registrations, supposing that age is reported fairly accurately. Merli

reported that life expectancy at birth in 1979-1989 was 61.4 years for men and 63.2 years for women.

I assume that Merli's estimate of life expectancy in 1979-1989 is reasonable. I apply the Coale-Demeny West Life Table Level 19 (Merli also applied the West model in her study), which provides a similar life expectancy, for analysis of the growth of all urban areas in 1979-1989. The life expectancy in 1989 reported by the General Statistical Office (1994) — 63.7 for men and 67.9 for women — was also based on careful examinations and reflected an improvement on life expectancy. This is the only source to provide a set of life tables for all provinces in Viet Nam. Therefore, I apply these provincial life tables for urban areas located within these provinces for the 1989-1999 inter-censal period.

Third, since information on boundary changes from 1979 to 1989 is unavailable, I assume that net migration and natural increase rates in urban areas that experienced boundary changes and in newly established areas can be estimated using the following assumptions: (1) similarity to the average rate of unchanged-boundary urban areas, (2) similarity to the average rate of unchanged-boundary urban areas of similar size, or (3) similarity to the average rate of unchanged-boundary urban areas of similar size in the North and the South, separately. Combined with the two possibilities of applied national and provincial age structures, there are six scenarios of urban change in the 1979-1989 inter-censal period. All combinations will be included for comparison.

DATA ANALYSES

1. Administrative Division and Population Changes in Viet Nam

Administrative Division

Essentially, Viet Nam's hierarchical administration system includes four levels: (1) the central government, (2) national cities and provinces, (3) provincial cities, towns, urban districts, and rural districts, and (4) wards, district town (the lowest urban unit) and communes (the lowest rural unit). Each national city consists of urban districts and rural districts. Urban districts, including only wards, comprise the central city of each national city. Each province consists of at least one provincial city or town, and several rural districts. Each provincial city or town includes both wards and communes (few provincial cities or towns include only wards). These wards make up the urban area of each provincial city or town. Rural districts comprise most communes and one (sometimes two or three) small towns, but many rural districts include only communes. This administration system is illustrated in Figure 1. In 1990, Viet Nam consisted of 61 national cities and provinces. The distribution of these provinces is presented in Figure 2.

Corresponding to these administrative divisions, urban areas in Viet Nam include three levels: (1) the central cities of national cities, (2) the urban areas of provincial cities and towns of provinces, and (3) the small towns of rural districts. Decree No. 31-TT/LB, issued by the prime minister on Nov. 20, 1990, sets conditions satisfied for urban areas, including urban population and its non-agricultural population proportion. Accordingly,

an urban area includes at least 4,000 urban inhabitants, of which at least 60 percent make up non-agricultural population, concentrated in an area with a population density of 3,000 persons per square kilometer and above. In mountainous areas, the lowest urban population stipulated for an urban area is 2,000. My study focuses on these urban areas and their urban population, not their rural population.

Table 2 provides a brief description of Viet Nam's administration system, including urban and rural populations, and the linkage between hierarchical administration levels in the 1979-1989 and 1989-1999 inter-censal periods. Over the two decades, the number of provinces, including national cities, increased from 40 in 1979 to 53 in 1989 and 61 in 1999. Similarly, the number of districts and communes also increased. In the 1979 census, Viet Nam included 477 districts. In 1989, there were 536 districts and 10,070 communes. In 1999, the number of districts and communes were 614 and 12,020, respectively. The national population increased from 52.7 million in 1979 to 64.4 million in 1989 and 76.3 million in 1999.

Urban areas in Viet Nam include the central cities of the 4 national cities, the urban areas of the 81 provincial cities and towns, and 500 district towns (in 1999). Most of the district towns are very small. The distribution of population shows that most of the urban population resided in several medium and large cities. Only 4 central cites, including all the urban districts of national cities, accounted for more than one-third of the total urban population. An equal proportion of the urban population lived in provincial cities and towns. On the other hand, the 500 small towns in 1999 accounted for less than 30 percent of the total urban population.

Population Changes

Population changes in rural and urban areas reflect urbanization growth. At the national level, urbanization was retarded in the 1979-1989 period and recovered in the 1989-1999 period. Table 3 presents population changes over the two inter-censal periods. The proportion of urban population was about 19 percent from 1979 to 1989 but increased to 23.7 percent in 1999. Correspondingly, the annual growth rate of urban population in the 1979-1989 period was 2.2 percent, similar to the growth rates of total population and rural population (both 2.1 percent), but this rate increased to 3.7 percent in 1989-1999, more than three times the growth rate of the rural population. While natural increase was often lower in urban areas than in rural areas, these results suggest that net migration and annexation were the key factors contributing to the high growth rate of urban areas in the later period. The following section provides an analysis of the components of urban change across the three consecutive censuses.

2. Urban Growth and Its Components

In order to analyze the components of urban change, individual urban areas need to be matched across the consecutive censuses. Table 4 provides a summary of urban areas and urban population and their changes in the 1979-1989 and 1989-1999 inter-

censal periods. These urban areas are classified into different categories, depending on whether the area had the same boundaries, had a change in boundaries, was a new place, had been disbanded, or is unknown. The first three categories matched in the consecutive censuses make up the sample for this analysis of urban growth.

The three censuses show that Viet Nam had 264, 464, and 642 urban areas and an urban population of 10.1, 12.3, and 18.1 million in 1979, 1989, and 1999, respectively. Between 1979 and 1989, 220 urban areas, accounting for about 47 percent of urban areas and 65 percent of urban population in 1989, did not change their boundaries. Twenty-seven urban areas, accounting for about 6 percent of urban areas and 23 percent of urban population (including old and new re-classified urbanites) in 1989, had boundary changes. Although 139 new small towns (30 percent of urban areas in 1989) were established, the urban population in these areas made up just over 8 percent of total urban population in 1989. About 17 percent of urban areas with only 3.5 percent of total urban population could not be matched between the 1979 and the 1989 censuses. Most of these urban areas were state agricultural and industrial projects and were therefore very small (less than 3,000 people on average for each). In total, these 387 matched urban areas accounted for about 83 percent of urban areas and 96 percent of the urban population in 1989.

Between 1989 and 1999, 533 urban areas (including non-changed, changed in boundary, and newly established urban areas), accounting for about 83 percent of urban areas and 95 percent of urban population in 1999, were matched in both censuses. Although 93 urban areas (17 percent of urban areas in 1999) were not matched, these areas accounted for less than 5 percent of urban population in 1999.

The composition of urban areas in the 1979-1989 and 1989-1999 periods partly reflected different urbanization policies applied in the pre- and post-reform eras. From 1979 to 1989, newly established small towns accounted for 30 percent of total urban areas and 8.3 percent (more than 1 million) of urban population in 1989. In the same period, only 27 urban areas expanded their boundaries and the total annexed population was only about 250,000. From 1989 to 1999, newly established small towns accounted for only 15 percent of total urban areas and 4.4 percent (about 800,000) of urban population in 1999. On the other hand, 40 urban areas (mostly large and medium cities) were enlarged, and the annexed population was about 1 million. This result suggests that urbanization policies in Viet Nam shifted in priority from the establishment of numerous small towns in the pre-reform era to the expansion of the boundaries of cities in the post-reform era. The following section provides an in-depth analysis of urban change and its components across three consecutive censuses. The matched areas are suited to an analysis of urban change in Viet Nam over the two decades at hand.

Table 5 presents urban population changes and the components of these changes in the 1979-1989 and 1989-1999 inter-censal periods using two different methods, as described in the methodology section. The results from Table 5 show that net migration changed from negative in the 1979-1989 period to positive in the 1989-1999 period. Consequently, natural increase was the only important component of urban growth from 1979 to 1989. However, net migration accounted for about one-fourth of the growth from 1989 to 1999.

For the 220 urban areas whose boundaries remained unchanged from 1979 to 1989, there were only small differences in the components of urban growth between the alternative equations, which used the National Age Structure or the Provincial Age Structures. Over this period, the annual growth rate was 1.0 percent, the net migration rate was from - 0.7 to - 0.8 percent, and the natural increase rate was from 1.6 to 1.7 percent. Negative net migration was the primary factor that explained for the low growth rate of these urban areas.

Negative net migration was a result of the massive flows of urban to rural migration and emigration that occurred during this period. According to Desbarat (1987, p. 38, 61), in the 1976-1980 five-year plan, the government sent about 700,000 persons from Ho Chi Minh City (HCMC) to rural areas, of which about 400,000 persons were sent to New Economic Zone areas. From 1975 to 1984, the government relocated about 2.4 million persons (from both rural and urban populations). In the 1981-1985 plan, about 625,000 persons, mainly from the Red River Delta, were sent to the South, while about 847,000 southern urbanites were sent to New Economic Zone areas or rural areas (Banister, 1985, p. 7). On the basis of UNHCR data, Merli (1997, p. 35) estimated that about 400,000 boat and road refugees and an additional 160,000 persons through the Orderly Departure Program left Viet Nam during the 1979-1989 inter-censal period. If these people had remained in Viet Nam, the 1989 population would have been about 551,000 more than the enumerated census population in that year. From 1975 to 1995, 64 percent of international Vietnamese migrants settled in the U.S. (Merli, 1997, p. 6). The 1990 U.S. census reported that 334,000 Vietnamese were settled in the U.S. from Jan. 1, 1980 to Jan. 1, 1990. The 2000 U.S. census reported that 546,000 Vietnamese born outside the U.S. had arrived in the U.S. before 1990. Ignoring the many persons that died, at least 500,000 Vietnamese left Viet Nam from 1979 to 1989 and settled in Western countries. The majority were southern urbanites, who had worked for or had closed relationships with the Sai Gon regime and the U.S. government before 1975. There were also a substantial number of Chinese Vietnamese. The actual number of Vietnamese emigrants may have been much larger. Using the method of forward survival rates, with the Coale-Demeny West Life Table Level 19 as applied by Merli (1997) for the 1979-1989 inter-censal period, I estimate that the 1989 census count is lower than the expected population by about 0.7 million women and 1.6 million men (Table 6). This gap may be caused by the inaccurate enumerations and undocumented sources of migration. Although it is hard to properly assess the impact of international migration on urban change, as well as urban to rural migration, these flows had a significant negative effect on urban growth in Viet Nam in this period.

For all 386 matched areas in 1979-1989, the urban annual growth rate was about 2.0 percent. This rate is somewhat lower than the national urban growth rate (2.2 percent) in Table 3. As cautioned earlier, the 1989 census enumerated some state agricultural and industrial projects in remote areas as urban areas. These unmatched areas exaggerated the national urban population in 1989, and the national rate overestimated the urban growth. On the other hand, the rate based on the matched urban areas could underestimate urban growth because of the additional unmatched areas, such as some newly established urban

areas, not caused by the 1989 enumeration[7]. Therefore, the urban growth rate in 1979-1989 was probably about 2.1 percent, equivalent to the growth rate of the national population.

The results based on the National Age Structure and the Provincial Age Structures were similar, but the estimates of annexation and net migration were more varied, depending on which rates of net migration and natural increase are applied to urban areas with boundary changes and new urban areas. It appears that the results in hypothesis 1 (H1: net migration and natural increase rates in areas with changed boundaries and new urban areas were assumed to be similar to those in the 220 areas with consistent boundaries) underestimated the impact of reclassification and net migration on urban growth, because this method does not deal with variation among urban areas with different sizes and in different regions. The result in hypothesis 2 (H2: net migration and natural increase rates were weighted by size of urban areas) shows that the impact of reclassification and negative net migration on urban changes increased after estimates of net migration and natural increase varied by size of urban areas. When the variation among areas with different sizes and regions is taken into account in hypothesis 3 (H3: it is assumed that there were different patterns between the North and the South), the rates of these components also changed. The rates of net migration and annexation ranged from -0.9 and 1.0 percent in H1 to -1.1 and 1.2 percent in H2 and -1.4 and 1.4 percent in H3, respectively, using the Provincial Age Structures assumption.

The results from H1, H2, and H3 confirm that natural increase was the only important component of urban growth in the 1979-1989 period. This component accounted for about 90 percent of urban growth, while the rest (10 percent) was from annexation. From 1979 to 1989, urban net migration was negative and partly compensated by annexation. The combination of Provincial Age Structures and the average rates of net migration and natural increase weighted by size and region reflects the specific political and economic conditions of urban areas and provides the most accurate estimates of urban population changes in this period. These estimates will be used for further analyses.

For 527 matched areas in 1989-1999, I calculate the components of urban growth from both the National Urban Life Table and the Provincial Life Tables (GSO, 1994). Table 5 shows that the results are quite similar. The annual urban population growth rate in this period was 3.3 percent. This rate is lower than the national urban growth rate (3.7 percent in Table 3) because of the impact of some unmatched urban areas[8] newly established between 1989 and 1999. Corresponding to this urban growth rate, annexation, net migration, and natural increase rates were 1.2, 0.8, and 1.7 percent, respectively, using the Provincial Life Tables method. Natural increase was still the largest component of urban growth (44.9 percent), but annexation and net migration also played an important role in this period (33.0 and 21.1 percent, respectively). Note that international migration continued during the 1989-1999 inter-censal period. Most international migrants were those who migrated through the Orderly Departure Program and those

[7] In Table 4, the unmatched urban population was about 175,000 in 1979 and 428,000 in 1989, but the population of the unmatched state projects in 1989 was only about 100,000.

[8] In Table 4, the unmatched urban population in 1999 was about 846,000, of which about 100,000 resulted from the 1989 enumeration census, while the original population sources were unknown for the rest.

guaranteed by their relatives abroad. The U.S. Census in 2000 reported that 442,000 Vietnamese born outside the U.S. settled in the U.S. from 1990 to 2000. External migration continued to slow down urban growth in Viet Nam. In order to allow for variation of survival rates across provinces, the Life Tables method will be used in the subsequent analysis.

Urban Growth and Its Components by Size

Table 7 presents urban population growth and its components by size in the 1979-1989 and 1989-1999 inter-censal periods. The results show that these rates varied widely across different sizes in the 1979-1989 period and that the growth and net migration rates were higher in large cities in the 1989-1999 period.

In the 1979-1989 period, urban growth rates, excluding reclassification, increased in areas with sizes from 20,000 to 500,000. However, the rates decreased in HCMC and Ha Noi and were negative in urban areas below 20,000 and in new urban areas. For areas with medium size, the net migration rate was negative and the rate of natural increase rate was lower in the larger areas. Although millions of people in HCMC migrated abroad and to rural areas during this period, the net migration rate in HCMC was 0.2 percent. On the other hand, the net migration rate in Ha Noi was -2.4 percent (for constant boundaries) even though this city did not experience international or urban to rural migration. This result suggests that massive out-migration from Ha Noi to southern cities after 1975 was the key factor behind the city's low growth rate in the 1979-1989 period.

However, the most interesting result that needs to be explained was the negative growth rates in small towns and new urban areas. These areas experienced not only negative net migration rates but also very low rates of natural increase compared to larger urban areas. I argue that the government's industrialization and urbanization policies, the economic recession in the 1980s, and the adjustments of the government afterward were the major factors contributing to this unusual phenomenon.

First, almost all urban areas with a population of 20,000 and above were long established. When some of them expanded to surrounding rural areas, the government had to accept all inhabitants who lived in these rural areas as urban residents (including many children and other dependents). Therefore, the age structures in these urban areas changed less. However, many urban areas with a population less than 20,000, including new urban areas, were based on state industrial and agricultural projects. Most of the state employees in district administration, health, education, and services in these new urban areas were not local inhabitants. To reduce the costs of urbanization, the government limited the number of dependents in these places through the *ho khau* system. Consequently, many people in these areas were young and single, and left families in rural areas. Because the size of these places was small, these factors had a strong effect on age structures and population changes in these small towns. Consequently, low fertility rates caused the abnormally low natural increase rates in these small towns. Documents on urban boundary changes made by the government in the 1979-1989 period provide strong evidence in support of this argument. For example, Viet Quang (a small town in Bac Quang district, Ha Tuyen province) was established in 1986 with a

population of 10,332, including 3,090 residents of communes and 7,242 state employees (Decree No.14-HDBT, Dec. 19, 1986). Many small towns included only the employees of state farms, and even now the names of these small towns remain in the form "the State Farm …town". This type of small town was more common in the North than in the South.

Second, the economic recession in the 1980s led to the collapse or shrinkage of many state farms. To reduce budget deficiencies and increase the economic efficiency of the state sector, the government reduced the numbers of state workers in these areas. The government also provided more rights for local people and economic units in the late 1980s. (Decree No. 217-HDBT, issued in Nov. 14, 1987, applied for the state economic sector; Decree No. 169-HDBT, issued in Nov. 14, 1988, applied for the state farms.) These policies reduced demand for labor in the state sector, especially on agricultural farms, an industry that was manual labor-intensive. As a result, the number of state employees fell from 4,091,000 in 1987 to 3,416,000 in 1990, with industrial employees falling in number from 964,000 to 807,000 and agricultural employees from 504,000 to 430,000 (Statistical Year Book, 1988, 1991). This decreasing trend continued during the 1990s. Because a large proportion of the population in small towns was made up by state workers, these policies had a strong negative impact on the growth of these areas. I assume that out-migration to the original communes after the government cut down the state labor force and the economic recession in the 1980s was the main reason for the extremely negative net migration rates in these small towns in the 1979-1989 period.

In the 1989-1999 inter-censal period, urban growth rates increased more rapidly in large cities, especially in Ha Noi and HCMC. These higher rates were the result of two factors: annexation and net migration. HCMC had the highest number of annexed urban population and attracted the largest number of migrants (more than one-fourth of all annexed national urban population and one-third of all national urban net migrants). Ha Noi had the highest growth rate and the highest net migration rate, though the number of net migrants to Ha Noi was only about two-thirds the number of net migrants to HCMC. The magnitude of urban population, and annexed and net migration suggests that the urbanization process occurred mainly in HCMC, the largest economic center in Viet Nam. The high population growth in Ha Noi concentrated mainly in the old center, with less in surrounding areas.

Higher growth rates in cities with a population of 200,000 and above reflected the economic progress which occurred in large cities in the post-reform era. While the population growth and net migration rates of medium size cities were more modest, the rates for small urban areas were also higher. It seems that economic progress in rural areas in this period supported economic growth in small towns and increased urban net migration in these small towns.

In summary, the patterns of urban growth and its components by size in the pre- and post-reform eras were very different. In the pre-reform era, urban growth rates were lower in the largest cities and negative in small towns, compared to cities and towns of medium size. Negative net migration occurred in all size classes and was strongest in small towns and new urban areas. Natural increase was the only contributor to urban growth across all sizes. In the post-reform era, urban growth rates were high in small towns but even higher in the largest cities. Net migration had an increasing role in urban

growth. Annexation and net migration were more important than natural increase in explaining urban growth in Ha Noi and HCMC. Natural increase contributed a lower function of urban growth in larger places and accounted for only half of urban growth in cities with populations from 200,000 to 500,000.

Urban Growth and Its Components by Size and North-South

While most scholars have focused on urban growth and migration to large cities and have reported on the massive out-migration from southern cities, especially HCMC, after reunification (Desbarats, 1989), they have not paid attention to or did not have data sources for the study of small urban areas. Researchers also found substantial migration from the North to the South (Nguyen, 1997; Le, 2001) and from the South to abroad (Hitchcox, 1990; UNHCR, 1979; Merli, 1997) in the 1980s; however, they have not been able to assess how these flows affected urban changes in the North and South. Conventionally, urban growth in this period was expected to be lower in the South than in the North because of external migration and urban to rural migration. However, my analyses show that urban growth rates in the 1979-1989 period were lower in the North than in the South. In the 1989-1999 period, urban growth rates were similar between the two regions.

Table 8 summarizes patterns of urban change by size in the North and the South in the 1979-1989 and 1989-1999 inter-censal periods. From 1979 to 1989, the urban growth rate in the North was lower than the urban growth rate in the South (1.6 and 2.3 percent, respectively) because of larger negative net migration (- 4.2 and - 0.2 percent, respectively), even though the annexed urban population in the North was about double that in the South. These trends can be explained only if there was a major flow of urban migration from the North to the South in the years following reunification.

In order to maintain the operation of socialist bureaucracy and the collectivized economic sectors in southern cities, especially as these cities experienced massive flows of international and urban to rural migration, the government had to send numerous migrants from Ha Noi and other northern urban areas to southern urban areas. These in-migrants diminished the impact of international and urban to rural migration on southern urban growth. On the other hand, because the proportion of urban population in the North in 1979 was only one-third of the urban population in the South, the number of out-migrants to southern cities led to negative growth rates for the urban population in northern urban areas. Moreover, it is possible that the North experienced more economic difficulties in the pre-reform era and was negatively affected by reform policies, because the North was heavily based on the socialist economic sectors. In the post-reform era, the market economy brought similar economic opportunities to both regions and urban growth rates were expected to be equal.

Controlling for boundary changes (ignoring the effects of annexation) in column (b), annual urban growth rate was negative (- 1.3 percent) in the North but positive (1.6 percent) in the South. While natural increase surpassed urban growth in the North, this component accounted for 84 percent of urban growth in the South. The great difference between the North and the South raises questions about the reliability of the underlying

data and methods of analysis. To double check, I compare the urban growth rates calculated from the whole northern and southern urban populations and those estimated from the matched urban areas in the North and in the South, respectively. The urban growth rates of the whole urban population of the two regions were the same at 2.2 percent. The rate in the South is quite similar to the rate that is estimated from the 172 matched southern urban areas. However, the growth rate based on the 214 matched northern urban areas is lower than the estimate from the whole urban population in the North (1.6 percent versus 2.2 percent, respectively). Because most state farms and industrial factories counted as urban areas in the 1989 census were located in the North, the 1989 northern urban population was exaggerated. These areas were excluded from the matched urban areas that were the basis of my analysis. The estimate derived from the matched urban areas therefore better reflects urban population change in the North.

The low growth and negative net migration of most northern urban areas in this period is plausible. Patterns and components of urban growth by size in the 110 matched cities with no change in boundary (Table 9) reflect this trend (annual growth rate was -1.1 percent and net migration rate was -2.9 percent). These rates are similar to those in the 214 matched northern urban areas, controlling for boundary changes (-1.3 and -3.0 percent, respectively). Clearly, the enumeration of state industrial and agricultural projects as urban areas in the 1989 census, which could not be matched to those from the 1979 census, was one of the primary factors that caused the differences in the rates of urban growth and net migration based on the whole northern urban population and the population of matched urban areas. The differences, therefore, do not affect the results derived from the analyses based on the matched urban areas. Nevertheless, because analyses for this period are based on incomplete sources and several assumptions, the results need to be used with some caution.

In the South, negative urban growth and negative net migration rates occurred only in small towns with populations lower than 20,000. Compared to northern small towns, the decline in southern small towns was much smaller. The patterns of urban changes and their components by size and the North-South regions support the hypotheses that socio-economic changes in the late 1980s had a strongly negative effect on small urban areas in the North because the urban economy in the North was heavily based on the socialist economy while southern areas inherited the advantages of a market economy developed before 1975.

In the 1989-1999 inter-censal period, patterns of urban growth between the North and the South were very similar. Urban growth rates were about 3.3 percent per year. Controlling for boundary changes, these rates were 2.1 percent. The urban net migration rate was 0.9 percent in the North and 0.8 percent in the South. Annual natural increase rates were from 1.5 to 1.7 percent. Natural increase contributed from 42 percent (in the North) to 47 percent (in the South) to urban growth. Annexation was an important component of urban growth in both regions. Although net migration contributed the smallest component (25 percent in the North and 21 percent in the South), it was an important indicator of the beginning of urbanization in Viet Nam. In the North, only Ha Noi had a high urban growth rate. On the other hand, large cities and urban areas with populations below 10,000 and new small towns in the South grew at rates faster than

average. The next section will provide a close look at the patterns and components of urban growth across eight major regions.

Urban Growth and Its Components by Region

Table 10 presents patterns of urban growth and its components in eight major regions in the 1979-1989 and 1989-1999 inter-censal periods. The results show that while all regions in the North experienced negative net migration, all regions in the South experienced only modest negative or even positive net migration in the 1979-1989 period. The variation between regions narrowed in the 1989-1999 period. These results confirm the common patterns of urban growth and its components between the North and the South.

Corresponding to the patterns in the North, all 4 northern regions had very high negative net migration rates in the 1979-1989 period. In general, natural increase surpassed urban growth in these regions, with the exception of the Northwest and the Northern Central regions, in which annexation contributed from 10 to 20 percent of the urban growth. Although urban population in these regions was expanded rapidly by the government, annexation could not compensate for the enormous out-migration which occurred in these areas.

In the same period, the Central Highlands experienced the highest urban growth rate as a result of natural increase and annexation. The Southeast region was the only region that did not experience negative net migration, although this region (including the cities of HCMC and Bien Hoa) sent millions of people abroad and to rural areas in the 1980s. Low positive net migration (13,000) suggests that urban out-migrants from this region were almost replaced by in-migrants from other regions. Because the government strictly controlled urban migration in the pre-reform era, this result strengthens the hypothesis that flows of urban migrants from northern cities, especially Ha Noi, were the primary sources of in-migration in this region.

In the Mekong River Delta, urban growth in the 1979-1989 period was lower than natural increase because negative net migrants numbered greater than the annexed urban population. Compared to other southern regions, the Mekong River Delta experienced the highest negative net migration rate. Because the Mekong River Delta was the most densely populated and had the lowest urbanization level in the South, urban areas in this region may not have received organized urban in-migrants from the North. On the other hand, urban areas in the Mekong River Delta probably experienced de-urbanization and international migration in the 1980s. Controlling for boundary changes, all northern regions experienced negative urban growth; in contrast, all southern regions experienced positive urban growth.

In the 1989-1999 inter-censal period, the Central Highlands and the Southeast experienced the highest urban growth rates as a result of annexation and high positive net in-migration rates. This growth reflected rapid economic progress in these regions. The expansion of agricultural products for export, such as coffee and black pepper, in the Central Highlands and the strong recovery of industrial production in the Southeast attracted urban in-migrants and therefore supported urbanization process in these regions.

The Red River Delta and the Northeast regions also experienced rapid urban growth. These regions, including Ha Noi, Hai Phong, and Quang Ninh, were large industrial centers and also had high economic growth rates. Behind the Central Highlands and the Southeast, the Red River Delta region also experienced high urban net migration rates. These regions had economic advantages for development and received more investment from the government, foreigners, and private investors in the post-reform era. These factors strongly encouraged urbanization and urban growth in these regions. The Northern Central region also experienced high urban growth and net migration rates contributed by some major cities. However, most urban areas in this region were relatively small. The positive net migration of the Northern Central region was primarily explained by several cities in the region with positive net migrants, such as Thanh Hoa, Vinh, and Dong Hoi.

The Northwest, the Central Coast, and the Mekong River Delta regions experienced the lowest urban growth rates. These regions had low urbanization levels, weak industrial capacities or less potential for economic development. In the post-reform era, these regions also received less investment and did not attract migrants to the regions' urban areas.

In the 1989-1999 inter-censal period, the contribution of net migration became important in several regions. In regions with high positive net migration rates, natural increase contributed about 40 percent, while the contribution of net migration was more than one-third of urban growth. On the other hand, natural increase explained from one-half to two-thirds of urban growth in the Northwest, the Central Coast, and the Mekong River Delta regions. Net migration accounted for only a small proportion of urban growth, but annexation was an important factor contributing to urban growth in these regions. Only the Northwest region experienced a negative net migration, with 95 percent of urban growth due to natural increase.

MAIN FINDINGS AND CONCLUSIONS

Urban growth and its components are important indicators of socioeconomic development and are related to urbanization policies. Urban growth and its components in Viet Nam over the last two decades were strongly associated with the socialist industrialization strategy in the pre-reform era and with the market-oriented economy in the post-reform era. The different political economic regimes between the North and the South before 1975 and the massive external migration which occurred in the South after reunification had strong effects on patterns of urban growth in the 1980s and 1990s. Prior studies of urbanization have not addressed these issues with empirical analyses. Analyzing survival rates by age and sex of observed populations across the 1979, 1989, and 1999 consecutive censuses, this study addresses urban changes and the relative contributions of annexation, net migration, and natural increase to these changes across urban areas in the pre- and post-reform eras.

The results of my analysis show that urban growth rates were very low in the pre-reform era but increased rapidly in the post-reform era because urban net migration changed from negative to positive. If natural increase was the only key contributor to

urban growth in the pre-reform era, then net migration played an important role in the post-reform era, especially in the largest cities. Annexation is also important in explaining urban growth, especially in small towns. The main findings can be summarized as follows.

First, the annual urban growth rate increased rapidly between the two inter-censal periods, from 2.0 percent in 1979-1989 to 3.3 percent in 1989-1999. The urban growth rate in 1979-1989 was similar to the national rate of population growth, but the urban growth rate in 1989-1999 was nearly double the national growth rate (1.7 and 3.3 percent, respectively). This result suggests that, at the national level, urbanization was stagnant in the pre-reform era. While the annual rates of annexation and natural increase of urban population were lower in 1989-1999 (1.4 and 1.9 percent in 1979-1989, using Provincial Age Structures, compared to 1.2 and 1.7 percent in 1989-1999, using Provincial Life Tables, respectively), net migration was the only key factor explaining the change of urban growth between the two inter-censal periods.

Second, net migration rates were negative in 1979-1989 and positive in 1989-1999 across most urban areas with different population sizes. In the former period, Ha Noi and small towns (with populations of 20,000 and lower) had the highest negative net migration rates. In the latter period, urban areas with populations of 200,000 and above had net migration rates much higher than smaller urban areas. Ha Noi experienced the highest annual net migration rate (2.4 percent, compared to 1.1 percent in HCMC), while HCMC attracted the largest absolute number of urban in-migrants, twice the number to Ha Noi.

Third, natural increase was the primary factor behind urban growth in 1979-1989, but the contribution of this component was less in 1989-1999 and negatively associated with the population sizes of urban areas for the latter period. Overall, natural increase, net migration, and reclassification contributed about 45, 22, and 33 percent to increased urban population, respectively.

Fourth, the North, especially large cities and small towns, experienced very high levels of out-migration from 1979 to 1989. In the South, negative urban net migration occurred mainly in small towns. Although there was massive external migration and urban to rural migration from southern cities, there is evidence that migration organized by the government from northern urban areas to southern urban areas compensated for these out-migration flows in the South. These flows caused extremely negative net migration in the North from 1979 to 1989. When the government applied reform policies in the socialist economic sectors, small towns in the North, heavily based on a planned economy, had much slower urban growth than towns in the South. In the reform era, urban growth and its components were similar between the North and the South.

Fifth, all northern regions experienced extremely negative net migration rates in 1979-1989, while negative net migration rates in southern regions were modest. In 1989-1999, the Southeast, the Central Highland, the Red River Delta, and the Northeast, which experienced high economic growth, had the highest urban growth and net migration rates.

The key question that needs to be answered in this chapter is whether the results provide sufficient evidence to argue convincingly that the patterns and components of urban growth in the 1979-1989 and 1989-1999 inter-censal periods support given

theoretical explanations of urbanization process in Viet Nam. Overall, the results do support the hypotheses.

First, "managed urbanization" offers the best explanation of patterns and components of urban growth in Viet Nam during the period 1979-1989. Although massive flows of international migration reduced urban growth, the government played the most important role in urban growth in the pre-reform era through de-urbanization policies guided by the socialist industrialization strategy. Negative net migration rates in the 1979-1989 inter-censal period lend strong evidence to support this argument.

Second, patterns and components of urban growth in the 1989-1999 inter-censal period are likely to support the modernization model. Although the socialist government still controlled economic activities to a certain extent in many aspects, most economic activities have operated according to the economic incentives of a market economy. Economic reform policies and the relaxation of the *ho khau* system have supported rural to urban migration. The high growth rate of industrial output in the 1990s shows that the urban economy has created "pull" factors to attract migrants. On the other hand, agricultural output also made continuous impressive progress, with Viet Nam becoming one of the largest rice-exporting countries. Moreover, land distribution in rural Viet Nam was rather equal among agricultural households within local areas. After a decade of reform, land inequality was not great, because the government still limited the transfer of "the use-right of land" to insure agricultural land for every agricultural household in rural areas. Therefore, it is less likely that the "over-urbanization" explanation is persuasive, at least in the first decade of the post-reform era. The annual urban growth rate was about 3.3 percent and net migration accounted for only 22 percent of this growth in the 1989-1999 inter-censal period. Natural increase still accounted for more than two-thirds in most medium and small towns.

The evidence shows that urbanization in Viet Nam is still relatively low and in the early stages of modernization. The current level of urbanization in Viet Nam is still below 31 percent, considered the average for developing countries in 1980. The annual urban growth rate was also lower than the average of 4 percent for developing regions in the 1970s (Ogawa, 1985). Similarly, net migration accounted for less than one-fourth of urban growth, but this contribution was about one-half of urban growth in most developing countries. I expect that urbanization in Viet Nam will grow more rapidly in the next decade, with net migration one of the most important components of urban growth.

This study has several limitations. First, because certain detailed data are not available, the calculation of urban growth and its components in the period 1979-1989 is based partly on assumptions and thus should be used with some caution. Second, international migration had a significant negative effect on the growth of urban areas in Viet Nam, but the available data sources do not allow a deep assessment of this effect. Finally, as mentioned earlier, urbanization theories have to be tested through an analysis of the relationship between urban growth and various socio-economic aspects in both rural and urban areas, rather than from an analysis of only its demographic components. In the next chapter, I will provide such an analysis by looking at patterns and determinants of urbanward migration in the pre- and post-reform eras.

Table 1: Age Structure of Population in Viet Nam: The 1979, 1989, and 1999 Censuses

Age	The 1979 Census		The 1989 Census (*)						The 1999 Census	
	F	M	F1	M1	F2	M2	F2-F1	M2-M1	F	M
0-4	3,766	3,946	4,419	4,665	4,419	4,665	0	0	3,489	3,683
5-9	3,762	3,929	4,214	4,393	4,214	4,393	0	0	4,399	4,634
10-14	3,407	3,633	3,675	3,857	3,675	3,857	0	0	4,412	4,654
15-19	3,061	2,954	3,431	3,254	3,448	3,358	17	104	4,081	4,141
20-24	2,601	2,281	3,101	2,532	3,148	2,896	47	364	3,495	3,430
25-29	1,976	1,742	2,950	2,564	2,987	2,721	36	157	3,287	3,281
30-34	1,315	1,177	2,428	2,116	2,456	2,245	29	130	3,030	3,003
35-39	1,104	967	1,737	1,469	1,752	1,535	15	66	2,860	2,727
40-44	1,085	919	1,172	991	1,180	1,021	8	31	2,370	2,180
45-49	1,114	995	1,066	855	1,069	871	2	16	1,672	1,465
50-54	902	825	1,059	844	1,060	853	1	9	1,140	964
55-59	873	681	1,047	892	1,047	898	0	7	1,005	782
60-64	663	541	857	707	857	710	0	2	988	760
65-69	560	419	708	523	708	524	0	1	921	726
70 and above	974	571	1,126	682	1,126	683	0	1	1,704	1,038
TOTAL	27,161	25,581	32,989	30,342	33,145	31,231	156	889	38,854	37,469

Note:

(*) In the 1989 census, M1 and F1 were male and female populations, excluding Special Enumerated Groups and M2 and F2 were male and female population, including these groups. Detailed information was released only for M1 and F1.

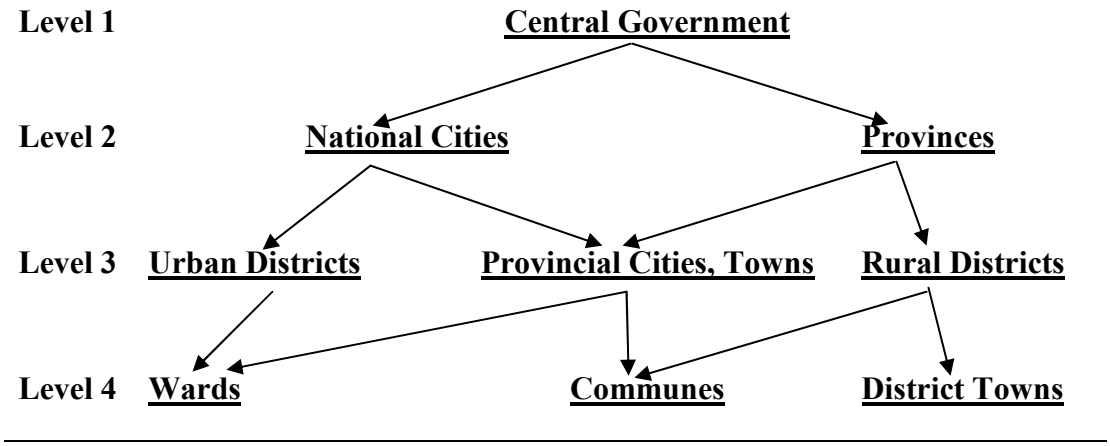
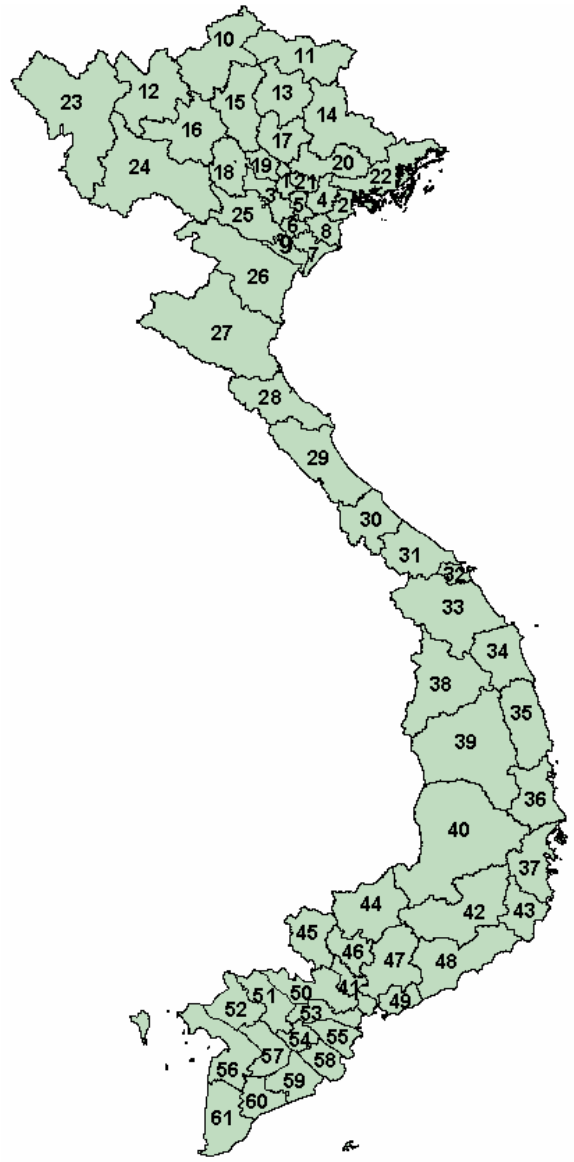


Figure 1: Framework of Administrative Divisions in Viet Nam



Id	Province	Id	Province
Red River Delta		**Central Coast**	
1	Ha Noi City	32	Da Nang City
2	Hai Phong City	33	Quang Nam
3	Ha Tay	34	Quang Ngai
4	Hai Duong	35	Binh Dinh
5	Hung Yen	36	Phu Yen
6	Ha Nam	37	Khanh Hoa
7	Nam Dinh	**Central Highlands**	
8	Thai Binh	38	Kon Tum
9	Ninh Binh	39	Gia Lai
Northeast		40	Dak Lak
10	Ha Giang	**Southeast**	
11	Cao Bang	41	Ho Chi Minh City
12	Lao Cai	42	Lam Dong
13	Bac Kan	43	Ninh Thuan
14	Lang Son	44	Binh Phuoc
15	Tuyen Quang	45	Tay Ninh
16	Yen Bai	46	Binh Duong
17	Thai Nguyen	47	Dong Nai
18	Phu Tho	48	Binh Thuan
19	Vinh Phuc	49	Ba Ria - Vung Tau
20	Bac Giang	**Mekong River Delta**	
21	Bac Ninh	50	Long An
22	Quang Ninh	51	Dong Thap
Northwest		52	An Giang
23	Lai Chau	53	Tien Giang
24	Son La	54	Vinh Long
25	Hoa Binh	55	Ben Tre
NorthernCentral		56	Kien Giang
26	Thanh Hoa	57	Can Tho
27	Nghe An	58	Tra Vinh
28	Ha Tinh	59	Soc Trang
29	Quang Binh	60	Bac Lieu
30	Quang Tri	61	Ca Mau
31	T T - Hue		

Figure 2: Distribution of 61 National Cities and Provinces in Viet Nam: 1999

Table 2: Viet Nam's Administrative Divisions: Number and Population in 1979, 1989, and 1999

Level 1				Central Government					
Level 2			National Cities			Provinces			**Total**
Number	in 1979		3			37			40
	in 1989		3			50			53
	in 1999		4			57			61
Pop (000)			**Urban**	**Rural**		**Urban**	**Rural**		
	in 1979		3,984	3,286		6,131	39,328		52,729
	in 1989		4,461	3,044		8,037	48,833		64,376
	in 1999		6,846	3,221		11,227	55,030		76,324
Level 3		Urban Districts			Provincial Cities, Towns			Rural Districts	
Number	in 1979	19			58			400	477
	in 1989	19			70			447	536
	in 1999	33			81			500	614
Pop (000)		**Urban**	**Rural**		**Urban**	**Rural**		**Urban**	**Rural**	
	in 1979	3,592	0		4,028	1,523		2,497	41,090	52,730
	in 1989	4,133	0		5,131	2,920		3,235	48,957	64,376
	in 1999	6,560	0		6,431	2,783		5,086	55,464	76,324
Level 4		**Wards**			**District Towns**			**Communes**		
Number	in 1979	na			203 (*)			na		na
	in 1989	810			391			8,869		10,070
	in 1999	1,023			557			10,440		12,020
Pop (000)		**Urban**	**Rural**		**Urban**	**Rural**		**Urban**	**Rural**	
	in 1979	7,620	0		2,497	0		0	42,613	52,730
	in 1989	9,264	0		3,235	0		0	51,877	64,376
	in 1999	12,991	0		5,086	0		0	58,246	76,324

na: Not available

(*) Of 400 rural districts, only 203 districts consist of urban population. Usually, each rural district has one small town. Urban residents of rural districts live in these small towns. Since the number of small towns in 1979 is not available, we suppose that these urban areas equal small towns.

Table 3: Population Changes in the 1979-1989 and the 1989-1999 Inter-Censal Periods

	1979	1989	1999	Proportion of urban-rural pop			Pop change		Annual growth rate	
				1979	1989	1999	79-89	89-99	79-89	89-99
Total pop (000)	52,729	64,376	76,324	100.0%	100.0%	100.0%	11,647	11,948	2.1%	1.7%
Urban pop (000)	10,116	12,498	18,078	19.2%	19.4%	23.7%	2,382	5,580	2.2%	3.7%
Rural pop (000)	42,613	51,877	58,246	80.8%	80.6%	76.3%	9,264	6,369	2.1%	1.2%

Table 4: Urban Areas Matched in the 1979-1989 and the 1989-1999 Inter-Censal Periods

The 1979-1989 inter-censal period

	The 1979 census	The 1989 census	Boundary change in 1979-1989					Proportion of each type in 1989 urban areas				
			Non-changed boundary	Changed boundary	New urban areas	Total matched urban areas	Disband or unknown	Non-changed boundary	Changed boundary	New urban areas	Total matched urban areas	Disband or unknown
	(1)	(2)	(3)	(4)	(5)	(6)=(3)+(4)+(5)	(7)=(2)-(6)	(8)=(3)/(2)	(9)=(4)/(2)	(10)=(5)/(2)	(11)=(6)/(2)	(12)=(7)/(2)
Areas (N)	264	464	220	27	139	386	78	47.4%	5.8%	30.0%	83.2%	16.8%
Pop (000)	10,116	12,498	8,077	2,843	1,035	11,955	543	64.6%	22.7%	8.3%	95.7%	4.3%

The 1989-1999 inter-censal period

	The 1989 census	The 1999 census	Boundary change in 1989-1999					Proportion of each type in 1999 urban areas				
			Non-changed boundary	Changed boundary	New urban areas	Total matched urban areas	Disband or unknown	Non-changed boundary	Changed boundary	New urban areas	Total matched urban areas	Disband or unknown
	(1)	(2)	(3)	(4)	(5)	(6)=(3)+(4)+(5)	(7)=(2)-(6)	(8)=(3)/(2)	(9)=(4)/(2)	(10)=(5)/(2)	(11)=(6)/(2)	(12)=(7)/(2)
Areas (N)	464	642	398	40	95	533 (*)	109	62.0%	6.2%	14.8%	83.0%	17.0%
Pop (000)	12,498	18,078	7,753	8,689	790	17,232	846	42.9%	48.1%	4.4%	95.3%	4.7%

Column (4) includes old and new reclassified urban population. In 1979-1989, the original 1979 population and the annexed population were 2,518,550 and 248,628, respectively. In 1989-1999, the original 1989 population and the annexed population were 5,873,379 and 958,933, respectively.

Column (7) includes some small towns officially disbanded by the government and those not be linked from available data. Most of them were the state agricultural and industrial projects that were counted as urban units in the 1989 census.

(*) Of which, 6 urban areas were added into larger urban areas between 1989 and 1999. Therefore, the number of urban areas for futher analysis will be 526.

Table 5: Components of Urban Growth in the 1979-1989 and the 1989-1999 Inter-Censal Periods

The 1979-1989 Period	Urban Pop 79	Urban Pop 89	Using National Age Structure				Using Provincial Age Structures			
			Growth 79-89	Annex	Net Migration	Natural Increase	Growth 79-89	Annex	Net Migration	Natural Increase
For 220 matched unchanged boundary areas										
Pop (000)	7,422	8,129	707		-484	1,191	707		-574	1,281
Annual change rates			1.0%		-0.7%	1.6%	1.0%		-0.8%	1.7%
Components of the growth			100.0%		-68.4%	168.4%	100.0%		-81.2%	181.2%
H1: For all 386 matched areas: 79-89 (*)										
Pop (000)	9,941	12,062	2,122	1,076	-715	1,762	2,122	1,038	-819	1,903
Annual change rates			2.0%	1.1%	-0.8%	1.7%	2.0%	1.0%	-0.9%	1.8%
Components of the growth			100.0%	50.7%	-33.7%	83.0%	100.0%	48.9%	-38.6%	89.7%
H2: For all 386 matched areas: 79-89 (**)										
Pop (000)	9,941	12,062	2,122	1,211	-865	1,777	2,122	1,176	-962	1,908
Annual change rates			2.0%	1.2%	-1.0%	1.7%	2.0%	1.2%	-1.1%	1.8%
Components of net growth			100.0%	57.1%	-40.8%	83.7%	100.0%	55.4%	-45.4%	89.9%
H3: For all 386 matched areas: 79-89 (***)										
Pop (000)	9,941	12,062	2,122	1,514	-1,149	1,757	2,122	1,444	-1,249	1,927
Annual change rates			2.0%	1.5%	-1.3%	1.7%	2.0%	1.4%	-1.4%	1.9%
Components of the growth			100.0%	71.3%	-54.1%	82.8%	100.0%	68.0%	-58.9%	90.8%
The 1989-1999 Period	Urban Pop 89	Urban Pop 99	Using National Urban Life Table				Using Provincial Life Tables			
			Growth 89-99	Annex	Net Migration	Natural Increase	Growth 79-89	Annex	Net Migration	Natural Increase
For 527 matched areas: 89-99										
Pop (000)	12,370	17,245	4,876	1,610	1,002	2,265	4,876	1,610	1,077	2,189
Annual change rates			3.3%	1.2%	0.8%	1.7%	3.3%	1.2%	0.8%	1.6%
Components of the growth			100.0%	33.0%	20.5%	46.4%	100.0%	33.0%	22.1%	44.9%

Due to lack of information in the 1979 age structures and sources of boundary changes, we assume that urban areas that were changed in boundaries and newly established during the 1979-1989 period experienced 3 possibilities:

(*) these urban areas had average net migration and natural increase rates that were similar to those of the 220 unchanged boundary areas.

(**) these urban areas had average net migration and natural increase rates that were similar to those of the unchanged boundary areas with the same population sizes in 1989: 500,000 and above; 200,000-500,000; 100,000-200,000; 50,000-100,000; 20,000-50,000; 10,000-20,000, and lower.

(***) similar to (**) but the average net migration and natural increase rates in different population sizes were separated by the North and the South

Table 6: Expected and Observed the 1989 Persons Survived from the 1979 Population in the 1979-1989 Inter-Censal Period

Age	Observed 1979 Pop (000)		Expected 1989 Pop (000)		Observed 1989 Pop (000)		Difference (000)	
	F	M	F	M	F	M	F	M
0-4	3,766	3,946			4,419	4,665		
5-9	3,762	3,929			4,214	4,393		
10-14	3,407	3,633	3,692	3,855	3,675	3,857	-17	2
15-19	3,061	2,954	3,716	3,872	3,448	3,358	-268	-514
20-24	2,601	2,281	3,354	3,562	3,148	2,896	-206	-666
25-29	1,976	1,742	2,998	2,879	2,987	2,721	-11	-158
30-34	1,315	1,177	2,537	2,215	2,456	2,245	-80	30
35-39	1,104	967	1,918	1,685	1,752	1,535	-166	-150
40-44	1,085	919	1,269	1,129	1,180	1,021	-88	-108
45-49	1,114	995	1,055	913	1,069	871	13	-42
50-54	902	825	1,021	848	1,060	853	39	5
55-59	873	681	1,022	883	1,047	898	25	15
60-64	663	541	795	691	857	710	62	18
65-69	560	419	718	521	708	524	-10	2
70 and above	974	571	1,121	742	1,126	683	5	-59
TOTAL	27,161	25,581	25,215	23,796	33,145	31,231	-703	-1,623

Table 7: Components of Urban Growth in the 1979-1989 and the 1989-1999 Inter-Censal Periods by the 1989 Sizes (1)

Urban Population in Censal Years	N	Prior censal pop (000)		Next censal pop (000)	Inter-censal pop change (000)			Annual change rate						Components of growth		
								(a)			(b)			(a)		
		Changed boun-dary **(a)**	Consistent boundary **(b)**		Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Annex	Net mig.	Natural inc.
For all 386 matched areas: 79-89 (***)																
Central HCMC	1	2,442	2,442	2,852	410	45	365	1.6%	0.2%	1.5%	1.6%	0.2%	1.5%	0%	11%	89%
Central HN (*)	1	820	983	922	102	-203	142	1.2%	-3.0%	1.7%	-0.7%	-2.4%	1.4%	159%	198%	139%
200,000 - 500,000	6	1,358	1,470	1,661	303	-61	252	2.1%	-0.5%	1.8%	1.3%	-0.4%	1.7%	37%	-20%	83%
100,000 - 200,000	13	1,362	1,425	1,585	223	-117	277	1.6%	-0.9%	1.9%	1.1%	-0.9%	1.9%	28%	-52%	124%
50,000 - 100,000	18	1,063	1,043	1,258	195	2	213	1.8%	0.0%	1.9%	2.0%	0.0%	2.0%	-10%	1%	109%
50,000 - 20,000	41	1,174	1,084	1,286	112	-49	251	1.0%	-0.4%	2.0%	1.8%	-0.5%	2.2%	-80%	-43%	224%
10,000 - 20,000	59	973	984	862	-111	-270	148	-1.3%	-3.4%	1.5%	-1.4%	-3.4%	1.5%	-9%	243%	-133%
Lower 10,000	108	749	769	600	-149	-271	101	-2.3%	-4.7%	1.3%	-2.6%	-4.6%	1.3%	-14%	182%	-68%
New urban areas	139		1,212	1,036	1,036	-352	177				-1.6%	-3.6%	1.4%	117%	-34%	17%
Total	**386**	**9,941**	**11,410**	**12,062**	**2,122**	**-1,275**	**1,927**	**2.0%**	**-1.4%**	**1.9%**	**0.6%**	**-1.2%**	**1.6%**	**69%**	**-60%**	**91%**
For all 527 matched urban areas: 89-99																
Central HCMC	1	2,881	3,334	4,127	1,246	345	448	3.6%	1.1%	1.4%	2.1%	1.0%	1.3%	36%	28%	36%
Central Ha Noi	1	949	1,012	1,403	454	262	130	3.9%	2.4%	1.3%	3.3%	2.3%	1.2%	14%	58%	29%
200,000 - 500,000	6	1,681	1,774	2,205	524	143	288	2.7%	0.8%	1.6%	2.2%	0.8%	1.5%	18%	27%	55%
100,000 - 200,000	13	1,526	1,605	1,933	407	84	245	2.4%	0.5%	1.5%	1.9%	0.5%	1.4%	19%	21%	60%
50,000 - 100,000	18	1,361	1,471	1,684	323	8	206	2.1%	0.1%	1.4%	1.4%	0.1%	1.3%	34%	2%	64%
50,000 - 20,000	45	1,303	1,413	1,701	398	53	236	2.7%	0.4%	1.7%	1.9%	0.4%	1.5%	28%	13%	59%
10,000 - 20,000	90	1,303	1,357	1,653	350	65	231	2.4%	0.5%	1.6%	2.0%	0.5%	1.6%	15%	19%	66%
Lower 10,000	258	1,366	1,380	1,749	383	101	268	2.5%	0.7%	1.8%	2.4%	0.7%	1.8%	4%	26%	70%
New urban areas	95		635	790	790	17	137				2.2%	0.3%	2.0%	80%	2%	17%
Total	**527**	**12,370**	**13,979**	**17,232**	**4,876**	**1,077**	**2,189**	**3.3%**	**0.8%**	**1.6%**	**2.1%**	**0.7%**	**1.5%**	**33%**	**22%**	**45%**

(1): For 1979-1989, using Provincial Age Structures and West Life Tables Level 19. For 1989-1999, using Provincial Life Tables

(*): Of 220 unchanged-boundary urban areas, the northern largest cities were those sized 100,000-200,000. Thus, net migration and natural increase rates of Ha Noi was referred by these cities. Probably, Ha Noi's natural increase rate was somewhat lower than 1.7 percent.

Table 8: Components of Urban Growth in the 1979-1989 and the 1989-1999 Inter-Censal Periods by the 1989 Size and North-South

For the 1979-1989 Inter-Censal Period

Urban Population in Censal Years	N	Prior censal pop (000)		Next censal pop (000)	Inter-censal pop change (000)			Annual change rate (%)						Components of growth (%)		
								(a)			(b)			(a)		
		Changed boun-dary **(a)**	Consistent boundary **(b)**		Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Annex	Net mig.	Natural inc.
For all 214 matched areas in the North																
Central Ha Noi	1	820	983	922	102	-203	142	1.2%	-3.0%	1.7%	-0.7%	-2.4%	1.4%	159%	-198%	139%
200,000 - 500,000	1	331	382	358	28	-79	55	0.8%	-2.9%	1.6%	-0.7%	-2.4%	1.4%	184%	-284%	200%
100,000 - 200,000	5	649	687	642	-7	-144	99	-0.1%	-2.6%	1.5%	-0.7%	-2.5%	1.4%	-507%	1938%	-1332%
50,000 - 100,000	7	425	421	457	32	-32	68	0.8%	-0.8%	1.6%	0.9%	-0.8%	1.6%	-11%	-99%	210%
50,000 - 20,000	15	387	405	440	54	-42	77	1.4%	-1.2%	1.9%	0.9%	-1.2%	1.8%	34%	-79%	144%
10,000 - 20,000	13	265	265	210	-55	-84	29	-2.4%	-4.0%	1.1%	-2.4%	-4.0%	1.1%	0%	153%	-53%
Lower 10,000	81	521	541	373	-148	-228	60	-3.5%	-6.1%	1.1%	-3.9%	-5.8%	1.1%	-14%	154%	-41%
New urban areas	91		772	551	551	-307	85				-3.6%	-5.3%	1.1%	140%	-56%	16%
Total	**214**	**3,397**	**4,456**	**3,953**	**556**	**-1,119**	**617**	**1.6%**	**-4.2%**	**1.8%**	**-1.3%**	**-3.0%**	**1.4%**	**190%**	**-201%**	**111%**
For all 172 matched areas in the South																
Central HCMC	1	2,442	2,442	2,852	410	45	365	1.6%	0.2%	1.5%	1.6%	0.2%	1.5%	0%	11%	89%
200,000 - 500,000	5	1,027	1,088	1,302	275	18	196	2.5%	0.2%	1.8%	1.9%	0.2%	1.7%	22%	6%	71%
100,000 - 200,000	8	713	738	943	230	28	178	2.9%	0.4%	2.3%	2.6%	0.4%	2.3%	11%	12%	77%
50,000 - 100,000	11	638	622	801	163	34	145	2.4%	0.6%	2.2%	2.7%	0.6%	2.2%	-10%	21%	89%
50,000 - 20,000	26	787	679	846	59	-7	173	0.8%	-0.1%	2.1%	2.3%	-0.1%	2.4%	-185%	-11%	296%
10,000 - 20,000	46	708	719	652	-56	-186	119	-0.9%	-3.2%	1.6%	-1.0%	-3.2%	1.6%	-19%	330%	-212%
Lower 10,000	27	228	228	227	-1	-42	41	0.0%	-2.2%	1.8%	0.0%	-2.2%	1.8%	-6%	4197%	-4091%
New urban areas	48		439	485	485	-45	91				1.1%	-1.1%	2.0%	90%	-9%	19%
Total	**172**	**6,544**	**6,955**	**8,109**	**1,565**	**-156**	**1,310**	**2.3%**	**0.3%**	**1.9%**	**1.6%**	**0.2%**	**1.8%**	**26%**	**-10%**	**84%**

Table 4.5.2.4a (continued)

For the 1989-1999 Inter-Censal Period

Urban Population in Censal Years	N	Prior censal pop (000)		Next censal pop (000)	Inter-censal pop change (000)			Annual change rate (%)						Components of growth (%)		
								(a)			(b)			(a)		
		Changed boundary (a)	Consistent boundary (b)		Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Annex	Net mig.	Natural inc.
For all 291 matched northern urban areas																
Central Ha Noi	1	949	1,012	1,403	454	262	130	3.9%	2.4%	1.3%	3.3%	2.3%	1.2%	14%	58%	29%
200,000 - 500,000	1	383	416	485	102	14	55	2.4%	0.4%	1.3%	1.5%	0.3%	1.2%	32%	14%	54%
100,000 - 200,000	5	640	649	762	122	26	86	1.7%	0.4%	1.3%	1.6%	0.4%	1.3%	7%	22%	71%
50,000 - 100,000	7	506	571	624	117	-17	70	2.1%	-0.3%	1.3%	0.9%	-0.3%	1.2%	55%	-14%	59%
50,000 - 20,000	16	416	441	556	139	45	69	2.9%	1.0%	1.5%	2.3%	1.0%	1.5%	18%	33%	50%
10,000 - 20,000	23	356	407	503	147	31	66	3.4%	0.8%	1.7%	2.1%	0.7%	1.5%	34%	21%	45%
Lower 10,000	186	859	875	1,060	201	37	148	2.1%	0.4%	1.6%	1.9%	0.4%	1.6%	8%	18%	74%
New urban areas	52		285	328	328	-3	47				1.4%	-0.1%	1.5%	87%	-1%	14%
Total	**291**	**4,111**	**4,656**	**5,722**	**1,610**	**396**	**670**	**3.3%**	**0.9%**	**1.5%**	**2.1%**	**0.8%**	**1.3%**	**34%**	**25%**	**42%**
For all 236 matched southern urban areas																
Central HCMC	1	2,881	3,334	4,127	1,246	345	448	3.6%	1.1%	1.4%	2.1%	1.0%	1.3%	36%	28%	36%
200,000 - 500,000	5	1,298	1,358	1,719	421	129	233	2.8%	0.9%	1.6%	2.4%	0.9%	1.6%	14%	31%	55%
100,000 - 200,000	8	886	956	1,171	286	57	158	2.8%	0.6%	1.6%	2.0%	0.6%	1.5%	24%	20%	55%
50,000 - 100,000	11	854	900	1,060	206	24	136	2.2%	0.3%	1.5%	1.6%	0.3%	1.4%	22%	12%	66%
50,000 - 20,000	29	887	971	1,146	259	7	167	2.6%	0.1%	1.7%	1.7%	0.1%	1.6%	33%	3%	65%
10,000 - 20,000	67	946	950	1,149	203	34	165	1.9%	0.4%	1.6%	1.9%	0.3%	1.6%	2%	17%	81%
Lower 10,000	72	507	505	689	182	65	120	3.1%	1.2%	2.1%	3.1%	1.2%	2.1%	-1%	35%	66%
New urban areas	43		350	461	461	20	91				2.8%	0.6%	2.3%	76%	4%	20%
Total	**236**	**8,258**	**9,323**	**11,524**	**3,265**	**682**	**1,519**	**3.3%**	**0.8%**	**1.7%**	**2.1%**	**0.7%**	**1.5%**	**33%**	**21%**	**47%**

Table 9: Urban Growth and Its Components in the 1979-1989 Inter-Censal Period by the 1989 Size and North-South for 220 Unchanged Boundary Urban Areas

Urban Population in Censal Years	N	Prior censal pop (000)		Next censal pop (000)	Inter-censal pop change (000)			Annual change rate						Components of growth		
								(a)			(b)			(a)		
		Changed boundary (a)	Consistent boundary (b)		Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Annex	Net mig.	Natural inc.
For all 110 matched areas in the North																
100,000 - 200,000	3	435	435	407	-28	-91	63	-0.7%	-2.5%	1.4%	-0.7%	-2.5%	1.4%	0%	326%	-226%
50,000 - 100,000	6	353	353	382	30	-27	57	0.9%	-0.8%	1.6%	0.9%	-0.8%	1.6%	0%	-91%	191%
50,000 - 20,000	11	277	277	302	25	-29	54	0.9%	-1.2%	1.9%	0.9%	-1.2%	1.9%	0%	-118%	218%
10,000 - 20,000	13	265	265	210	-55	-84	29	-2.4%	-4.0%	1.1%	-2.4%	-4.0%	1.1%	0%	153%	-53%
Lower 10,000	77	498	498	343	-155	-210	55	-3.9%	-5.8%	1.1%	-3.9%	-5.8%	1.1%	0%	136%	-36%
Total	**110**	**1,827**	**1,827**	**1,644**	**-183**	**-441**	**258**	**-1.1%**	**-2.9%**	**1.4%**	**-1.1%**	**-2.9%**	**1.4%**	**0%**	**241%**	**-141%**
For all 110 matched areas in the South																
HCM City	1	2,442	2,442	2,852	410	45	365	1.6%	0.2%	1.5%	1.6%	0.2%	1.5%	0%	11%	89%
200,000 - 500,000	3	674	674	807	133	11	122	1.9%	0.2%	1.7%	1.9%	0.2%	1.7%	0%	8%	92%
100,000 - 200,000	6	505	505	640	135	15	121	2.5%	0.3%	2.3%	2.5%	0.3%	2.3%	0%	11%	89%
50,000 - 100,000	8	461	461	594	133	25	107	2.7%	0.6%	2.2%	2.7%	0.6%	2.2%	0%	19%	81%
50,000 - 20,000	24	611	611	760	149	-7	156	2.3%	-0.1%	2.4%	2.3%	-0.1%	2.4%	0%	-5%	105%
10,000 - 20,000	43	687	687	620	-67	-180	113	-1.1%	-3.2%	1.6%	-1.1%	-3.2%	1.6%	0%	269%	-169%
Lower 10,000	25	215	215	212	-3	-41	39	-0.1%	-2.3%	1.7%	-0.1%	-2.3%	1.7%	0%	1461%	-1361%
Total	**110**	**5,595**	**5,595**	**6,485**	**890**	**-133**	**1,023**	**1.6%**	**-0.3%**	**1.8%**	**1.6%**	**-0.3%**	**1.8%**	**0%**	**-15%**	**115%**

Table 10: Urban Growth and Its Components in the 1979-1989 and the 1989-1999 Inter-Censal Periods by Region

Population in the Censal Years	N	Prior censal pop (000)		Next censal pop (000)	Inter-censal pop change (000)			Annual change rate						Components of growth		
								(a)			(b)			(a)		
		Changed boundary (a)	Consistent boundary (b)		Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Growth	Net mig.	Natural inc.	Annex	Net mig.	Natural inc.
For all 386 matched areas: 79-89																
Red River Delta	65	1,837	2,452	2,144	307	-627	319	1.6%	-4.4%	1.7%	-1.4%	-3.1%	1.3%	200.4%	-204%	104%
Northeast	83	967	1,188	1,114	147	-254	181	1.5%	-3.2%	1.8%	-0.7%	-2.5%	1.5%	150.4%	-173%	123%
Northwest	21	169	216	208	39	-44	35	2.2%	-3.1%	2.0%	-0.4%	-2.4%	1.6%	121.5%	-111%	89%
Northern Central	53	628	853	793	165	-194	133	2.5%	-3.9%	2.0%	-0.8%	-2.7%	1.5%	136.5%	-117%	81%
Central Coast	37	961	1,048	1,241	281	-15	234	2.7%	-0.2%	2.3%	1.8%	-0.1%	2.1%	31.2%	-5%	83%
Central Highlands	16	182	260	324	142	-5	69	6.1%	-0.3%	3.4%	2.3%	-0.2%	2.5%	54.9%	-3%	48%
Southeast	34	3,510	3,592	4,216	706	13	611	1.9%	0.0%	1.7%	1.7%	0.0%	1.7%	11.6%	2%	87%
Mekong River Delta	77	1,687	1,800	2,021	335	-124	346	1.9%	-0.8%	2.0%	1.2%	-0.8%	1.8%	33.8%	-37%	103%
For all 527 matched urban areas: 89-99																
Red River Delta	85	2,178	2,475	3,030	852	239	317	3.3%	1.0%	1.4%	2.0%	0.9%	1.2%	34.8%	28%	37%
Northeast	121	1,194	1,373	1,670	476	85	212	3.4%	0.7%	1.6%	2.0%	0.6%	1.4%	37.5%	18%	45%
Northwest	28	222	233	257	34	-9	32	1.4%	-0.4%	1.4%	0.9%	-0.4%	1.3%	32.4%	-26%	94%
Northern Central	68	822	916	1,166	345	78	173	3.5%	0.9%	1.9%	2.4%	0.8%	1.7%	27.3%	23%	50%
Central Coast	45	1,275	1,406	1,709	433	53	249	2.9%	0.4%	1.8%	1.9%	0.4%	1.6%	30.2%	12%	58%
Central Highlands	31	332	438	653	321	84	131	6.8%	2.3%	3.3%	4.0%	1.8%	2.6%	33.2%	26%	41%
Southeast	53	4,208	4,876	6,165	1,957	518	770	3.8%	1.2%	1.7%	2.3%	1.0%	1.5%	34.2%	26%	39%
Mekong River Delta	96	2,138	2,262	2,595	456	29	304	1.9%	0.1%	1.3%	1.4%	0.1%	1.3%	27.0%	6%	67%

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