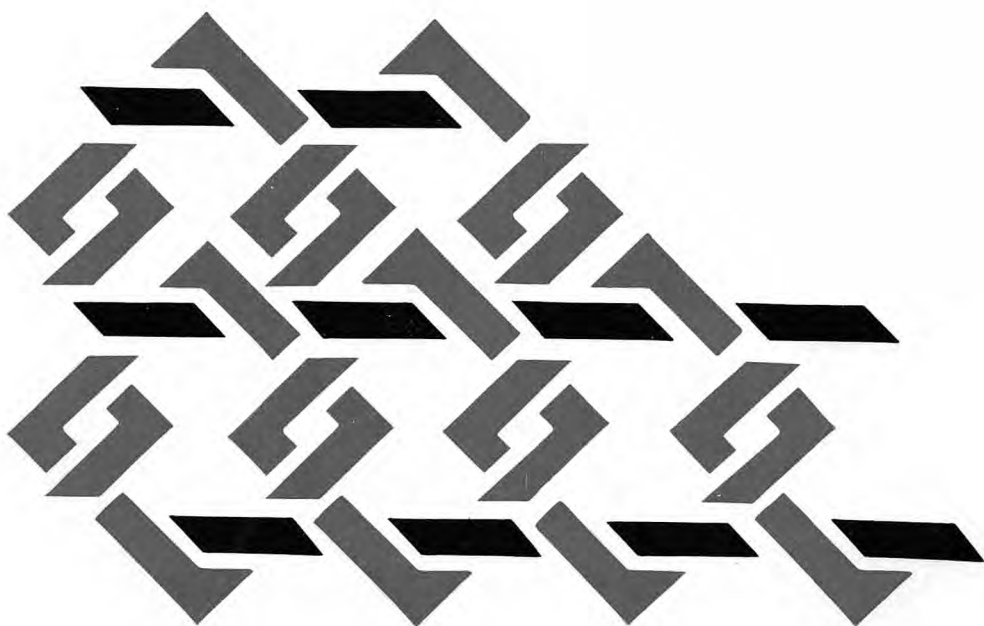




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Vietnam Population Dynamics and Prospects

JUDITH BANISTER





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Preface

I would like to thank my colleagues in the Vietnam population field, who have so graciously and promptly shared with me their papers, data, comments, and insights on the demography of this important country. May I express my special appreciation to Sheila Macrae who, as the Vietnam Representative of the United Nations Population Fund (UNFPA), has done so much to support the gathering and dissemination of reliable demographic data for Vietnam. My thanks go also to the specialists at the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), who provided expert technical assistance to Vietnam for its 1988 demographic survey and 1989 census.

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At the Center for International Research of the U.S. Bureau of the Census, my colleagues Eduardo Arriaga and Peter Johnson gave valuable assistance in demographic analysis. Andrea Miles created the tables, graphics, and charts and carried out the calculations for this report. Jack Gibson produced the topographical map. Richard Turnage produced the ethnic concentration map. The following scholars gave helpful comments on drafts of this report: Barbara Boyle Torrey, Barry Kostinsky, Eduardo Arriaga, Richard Forstall, and Christina Wu Harbaugh.

Any remaining shortcomings in this report are the responsibility of the author. The analysis and perspectives in this report are those of the author and do not represent the policies of the United States government or the U.S. Bureau of the Census.

Summary

Vietnam, with a population of 70 million in 1992, is the world's thirteenth most populous country, and the population is still growing at about 1.9 percent a year. Our estimates and projections are as follows:

	1980	1992	2000
Population	54,233,753	70,448,876	80,533,280
Birth rate	34	29	23
Death rate	10	08	07
Population growth rate	2.2%	1.9%	1.4%
Life expectancy	61 years	65 years	67 years
Total fertility	5.3	3.6	2.8

The country has a family planning program, but today it is still poorly funded and supplied, with the result that there is considerable unmet need for birth control techniques of acceptable quality. Meanwhile, the government is putting pressure on the people to further limit their childbearing. Vietnam's socialist economy continues to be in serious trouble, providing a per capita income of only US\$200 per year. The dismal economic situation, in combination with continuing population growth, is slowing improvements in the standard of living.

The following demographic facts are highlighted in this report:

- The fertility level in Vietnam dropped from 5.3 births per woman at the beginning of the 1980s to 4.0 in 1987–1988.
- Of reproductive-age women in Vietnam, more than half are reportedly practicing birth control, and they use the most readily available methods, which are the intrauterine device, withdrawal, and periodic abstinence.
- Women said in a 1988 survey that they want an average of 2.5 births, yet they averaged 4.0, which suggests considerable unmet demand for birth control techniques.
- The level of mortality is low in Vietnam. Life expectancy is

estimated to be around 65 years today, with infant mortality just below 50 infant deaths per thousand live births.

- However, evidence is inconclusive regarding whether health and mortality conditions in Vietnam today are improving, stagnating, or even deteriorating.

- Both the 1979 and 1989 censuses of Vietnam slightly undercounted the population. Incomplete counts were a problem among young children and young adults.

- There is a shortage of adult men in Vietnam, presumably as a result of warfare and emigration. The imbalance of males and females is slowly improving.

- Vietnam reports that the disabled constitute 13 percent of its population, which implies about 9 million handicapped people. The 1989 census counted 1.14 million people in the ages 13–64 who were outside the labor force because they were invalids.

- Annual net emigration from Vietnam (totaling more than 100,000 per year in recent years) has been a mix of legal emigrants in the Orderly Departure Program and refugees fleeing the country overland and by boat.

- The government has moved more than 3 million urban and delta residents, plus almost 2 million hill-dwelling minority citizens, to new economic zones.

- Vietnam's 56 minority groups constituted only 13 percent of the total population in 1979 and 1989. They have a higher fertility rate than the Vietnamese (Kinh) ethnic majority, so their population should have grown faster, but such growth was offset by the continuing flight of the Hoa (Chinese) minority from Vietnam.

- The urban proportion of Vietnam's population did not increase between 1976 and 1989. In the late 1970s to 1982, net emigration from urban areas was engineered by the government. Deurbanization of Vietnam's larger urban places continued throughout the 1980s, but the population of small towns grew rapidly.

- Vietnam's population is highly literate. No improvement in the level of literacy for each cohort was seen from 1979 to 1989, but older, less literate cohorts were dying off while younger, more literate cohorts were growing up, thus raising the adult population's proportion literate.

- Education at the primary school level is widespread in Vietnam, but limited at the secondary and college levels.
- A very high proportion of Vietnam's adult population is employed, but the vast majority is in agriculture.
- In early 1989, 6 percent of Vietnam's labor force was unemployed; rural areas had 4 percent unemployment, urban areas 13 percent. The problem of unemployment has worsened considerably since then. Unemployment was and is concentrated among urban young adults.
- The April 1989 census counted 1.04 million people in "special enumeration groups," which apparently means all citizens of Vietnam who were *temporarily* abroad at census time. They were primarily military personnel, workers sent to Soviet bloc and Arab countries, students, diplomats, businesspeople, and perhaps some emigrants who have retained their Vietnamese citizenship. The number remaining abroad today is much smaller.
- Vietnam's population is expected to continue growing from 70 million in 1992 to about 122 million in 2050, and the age structure will shift gradually. While the number of children is expected to remain approximately constant, the number in working ages will increase sharply until about 2020, then the number of elderly will grow quickly.

Although economic and political conditions in Vietnam remain backward, some demographic, social, and cultural aspects of the society are favorable and hopeful. Culturally, the people of Vietnam are hard-working and disciplined. Because of the overwhelming numerical dominance of the rather homogeneous Kinh ethnic group, Vietnam is not in danger of splintering along ethnic, racial, religious, or language lines. Socially, the people of Vietnam are highly literate and educated at a basic level. Demographically, they have achieved low mortality, and their fertility level has been dropping rather quickly. As soon as the economic and political framework of the society permits the Vietnamese people to increase their living standards through their own efforts, rapid economic development is likely to begin.

Map 1. Topographical Map of Vietnam



Population Dynamics and Prospects in Vietnam

Vietnam (the Socialist Republic of Vietnam or SRV) is the thirteenth most populous country in the world. Beyond that fact, not much information has been available and accessible on the fertility, mortality, migration, urbanization, marriage patterns, ethnic groups, and other demographic aspects of this Southeast Asian country. It is now possible to correct this dearth of knowledge about Vietnam, because the country has conducted two censuses and a nationwide survey on fertility and family planning, all with international assistance and advice from competent organizations and individuals. The analysis in this report is timely, because data from the 1988 fertility survey and the 1989 census have recently become available.

Background

Vietnam is a tropical coastal country at the southeastern corner of the Asian landmass, bounded by China on the north and by Laos and Cambodia on the west (see map 1). Most of the country consists of forested mountains (about 40 percent) and hills (40 percent); only 20 percent of the land is level. The level land includes a narrow strip of coastal lowlands and two deltas where most of the country's population resides. About three-quarters of the population in the northern half of Vietnam lives in the Red River delta, while about half of the south's population resides in the Mekong River delta.

The ancestral home of the Vietnamese people is the Red River delta in the north, where a distinct Vietnamese ethnic group evolved during the first millennium B.C. from intermarriage of Indonesian, Thai, and southern Chinese people. The Red River delta was annexed by China's Han dynasty in 111 B.C., and Vietnam was under Chinese control for more than a thousand years [Buttinger, 1972; Nguyen Van Thai and Nguyen Van Mung, 1958; Shah, 1960]. Chinese influence can be seen

in Vietnam's language, Confucian culture, and intensive agriculture and water control systems [LePoer, 1989, pp. 3–14; Shinn, 1989, pp. 95, 102–105].

Repeated uprisings finally expelled the Chinese in A.D. 939, and Vietnam embarked upon more than nine hundred years of independence. Population growth led to excessive population density in the tilled areas of the Red River delta, so the Vietnamese cleared jungles, swamps, and forests. Vietnam also expanded its territory southward by conquering empires to the south and settling the Mekong River delta. Vietnam attained approximately its present boundaries in 1757.

In the late nineteenth century, France gradually conquered Vietnam, Cambodia, and Laos. Vietnam's French colonial period, 1883–1954, distorted Vietnam's economic development, according to most English-language accounts; possibly the historical assessments written in French would be more favorable [Ennis, 1936; International Chamber of Commerce, 1946; Buttinger, 1968 and 1972; Fforde and Vylder, 1988, pp. 23–25; Beresford, 1988; LePoer, 1989, pp. 32–35]. To produce primary products for export, agriculture was developed in the form of large estates worked by landless peasants, and coal mining was expanded. Railroads and harbors were built to facilitate trade. But industrialization reportedly was confined to products such as cement and textiles that would not compete with French industries.

One great benefit of European influence was the romanization of the written Vietnamese language by Portuguese and French missionaries. By the end of the nineteenth century, this new system had become the common method of writing Vietnamese [Shinn, 1989, p. 95]. With this transcription, which uses the Western European alphabet rather than Chinese characters or ideographs, it has become relatively easy for the population to become literate. French influence also resulted in the Westernization of Vietnam's educational system, the spread of Catholicism to a small minority of the population, and the dominance of trade and business in the south by the ethnic Chinese minority, who were promoted as middlemen by the French.

Insurrections against French rule were frequent. Ho Chi Minh began his resistance movement in 1925 and five years later founded the Indochina Communist Party, which by 1940 had become the strongest faction in Vietnam's nationalist movement. During World War II, Vietnam was under joint Japanese-French rule, and after Japan's defeat, the Viet Minh, a united front organization led by Ho Chi Minh, proclaimed Vietnam's independence in Hanoi. But the emergence of a united Vietnam under Communist control, which could have happened in the

vacuum left by Japan's defeat, was postponed for thirty more years by French and later by U.S. intervention.

The Viet Minh defeated French armies in 1954, using weapons supplied by the recently victorious Communist government of China. But Ho Chi Minh was forced by an international conference to accept the division of Vietnam with an anti-Communist regime in the south. The United States assisted a succession of South Vietnamese governments in resisting the reunification of Vietnam under Communist control. The confrontation between these two forces escalated into full-scale war during 1965–1975.

The economic modernization of Vietnam was impossible during these decades of war. During the 1950s, North Vietnam's economy was socialized, agriculture was collectivized, and rapid industrialization was attempted with aid from other Communist countries. But wartime bombing of the north and south was so massive that the economic infrastructure was badly crippled, and when the war ended in 1975, Vietnam was a battered nation whose subsistence agricultural economy had been disrupted by war and could not feed the whole population. The human cost of the French colonial period, the Japanese occupation, and thirty years of civil and international war included the untimely deaths of millions of Vietnamese people and the wounding of millions more.

Politics and the Economy since 1975

Since 1975, the government of Vietnam has been one of the more ideologically rigid Communist governments in the world. This stance has had serious consequences for the economy and for Vietnam's relations with other countries. In many instances, moderates in the government have attempted to introduce economic adjustments to improve the economy or political adjustments to ease Vietnam's international isolation, only to see such innovations watered down or undermined by the ideological conservatives in the collective leadership. For example, a 1988 policy decision to reestablish the family farm as the rural economy's basic unit was contradicted in 1989 by reaffirmation of the central role of agricultural cooperatives [Young, 1990, p. 8]. This partial stalemate at the center continues today [Chanda, 1991a; Pike, 1991; Wain, 1991b], though genuine progress has been made on some fronts in recent years.

As of 1975, Vietnam, though devastated by war, had a reservoir of good will and support from those people and governments who had opposed U. S. involvement in Vietnam. Much of this foreign friendship

was lost in succeeding years. China had aided Vietnam greatly during the war and continued to do so after 1975. But Vietnam began harassing its ethnic Chinese minority (Hoa) so badly that more than 550,000 Hoa fled from Vietnam during 1975–1979 [Banister, 1985, p. 13; Hiebert, 1991d]. By 1979, Vietnam and China were engaged in military skirmishes along Vietnam's northern border, and relations between these two Communist countries have been strained ever since.

In the late 1970s Vietnam antagonized neighboring countries and potential donors by its apparent policy of expansionism. In 1978, Vietnam invaded Cambodia to topple the bloody, genocidal regime of the Khmer Rouge, which had been attacking Vietnam's southern provinces. But then, instead of withdrawing its military from Cambodia and Laos, Vietnam consolidated its military hold over both countries. Most foreign aid from the United Nations and from capitalist developed countries was frozen or withdrawn at that time, and the flow of assistance from these sources did not resume until a decade later. Vietnam has depended heavily on the Soviet Union and Eastern European countries for both military and economic assistance.

Vietnam's economy was seriously depressed from the end of the war until 1981. Real per capita income was stagnant or declining throughout the period and by 1980 was only 91 percent of the 1976 level [Vo Nhan Tri, 1990, pp. 58–124]. Food shortages were chronic, particularly in the northern and central provinces. This sad state of affairs was caused by war devastation, the cessation of foreign aid from most countries and international agencies, continuing diversion of resources to military expenditures, the attempt to collectivize agriculture and get rid of private business in the southern half of the country, and general gross mismanagement by the government [Marr and White, 1988; Cima, 1989; Thai Quang Trung, 1990].

The state of the economy was so unacceptable by 1981 that the government, in an attempt to raise production incentives, decided to allow farmers more control over their own production, greater retention of the food they produced, and increased individual enterprise in the rest of the economy [Branigin, 1982, p. A18; Jones, 1982, p. 788]. The introduction of a contract quota system in agriculture was given much of the credit for increasing aggregate foodgrain production from 14.4 million metric tons in 1980 to 15.1 million in 1981 and 16.3 million in 1982. After the more pragmatic economic policies were introduced, Vietnam achieved real aggregate growth of 5 to 8 percent annually in the gross domestic product (GDP), the equivalent of 3 to 6 percent growth per capita each year during 1981–1984 [unpublished estimate from the International Monetary Fund; Kimura, 1989].

But in the mid-1980s, Vietnam's economy ran into serious problems. The GDP growth rate fell each year, from 8.4 percent in 1984 to 2.6 percent in 1987. To get the economy moving, the government adopted some economic reforms and, in 1985, a price-wage-currency reform (later officially referred to as a "blunder"); these measures were not very effective and led to severe inflation [Vo Nhan Tri, 1990, pp. 164–169]. Consumer prices escalated rapidly during the three years 1986 through 1988; retail prices increased 487 percent in 1986, 400 percent in 1987, and 492 percent in 1988 [Asian Development Bank, 1990, pp. 222, 230]. Following advice from international financial organizations, Vietnam was able to slow down the runaway inflation:

After a period of strong economic growth in the early 1980s, primarily as a result of improvements in agriculture and industry, the economy of the Socialist Republic of Viet Nam stagnated. Between 1985 and 1988, Viet Nam suffered from major macroeconomic problems and imbalances and, despite some economic reforms, growth was minimal. The most severe problem was hyperinflation exacerbated by shortages of rice, the major food crop. Under such conditions, the standard of living declined and an adequate level of saving and investment became difficult to sustain. In addition, the economy was plagued by limited export growth, a high debt-service burden, underutilization of existing capital and large budget deficits.

The economic reforms and macroeconomic adjustment policies adopted in 1988 and 1989 have been comprehensive and consistent and have addressed the critical problems affecting economic performance. With these reforms, growth has revived. However, while there has been some success in slowing the rate of inflation and encouraging growth, the reforms have not been free of adverse effects, such as high unemployment and the worsening of income distribution. [Asian Development Bank, 1990, p. 119]

By late 1989, Vietnam had reportedly moved far in the direction of market-oriented economic reform, including abolishing some central planning and subsidies [Fforde, 1989, p. 76]. Agricultural production improved in 1989, then inched up modestly in 1990 and declined in early 1991, with resulting food shortages [Vietnam Foreign Trade, 1991, p. 55; Viet An, 1991, pp. 38–40]. Industry has been hard hit. Real GDP growth, which had rebounded to 5.7 percent in 1988 and 5.5 percent in 1989, as estimated by the Asian Development Bank, reportedly slowed in 1990 to only 2.4 percent [Asian Development Bank, 1991, p. 278].

To make matters worse, the Soviet Union slashed its aid to Vietnam in response to its own economic deterioration. Vietnam's weak economy had been propped up by Soviet aid, and now that support has rapidly diminished [Cosslett and Shaw, 1989]. The World Bank

reported that the cutback in Soviet aid might spark another round of hyperinflation:

Vietnam's leadership is hoping that foreign investment will be one of the principal means of rescue from the deepening economic crisis—precipitated by the downgrading of economic and trade relations with the Soviet Union. The latter is insisting that all its commodity exports to Vietnam, such as oil, steel, cotton, and fertilizer, be paid for in hard currency at world market prices. Concern about how Vietnam will pay for its commodity imports has sparked price rises and inflation, expected to reach 300 percent this year. It has also led to renewed currency speculation. At this time last year, the dong had stabilized at 4,000 to the dollar; it has now fallen to about 8,000. [World Bank, 1991, p. 14]

By September 1991, the value of the dong had fallen to 11,000 per dollar, but the inflation rate had slowed to below 3 percent a month during the period March through August 1991 [Hiebert, 1991e, p. 68]. For 1991 as a whole, financial damage was apparently minimized; a preliminary estimate of Vietnam's 1991 inflation rate was 60 percent, lower than had been feared [*Indochina Chronology*, Oct.–Dec. 1991, p. 19].

In recent years, Vietnam's economic and diplomatic involvement in the international system has grown substantially. Vietnam's disengagement from Cambodia has opened the door to assistance and investment from international organizations, developed countries, and businesses. The official dong-dollar exchange rate, which was completely unrealistic through 1987, has been radically adjusted to come close to the rate on "unofficial markets." Since 1988, Vietnam has decentralized foreign trade controls, removed some quotas, and decontrolled import and export prices. Exports greatly increased each year 1988 through 1990; major exports are rice and other agricultural products, oil and coal, and metal and mineral ores. Imports, meanwhile, increased more slowly, in part because of the drastic decline in aid from and trade with Soviet-bloc countries. Though imports still exceeded exports as of 1990, the trade deficit declined from US\$1.5 billion in 1988 to \$800 million in 1990. Vietnam's debt-service ratio is high, however; by 1990, 60 percent of export earnings went to debt-service payments. Since a liberal Foreign Investment Law was enacted in 1988, more than two hundred foreign investment projects have been licensed, promising to provide nearly US\$1.7 billion in private foreign investment to Vietnam [Asian Development Bank, 1991, pp. 121–127, 275–277, 289–290, 294–295, 297–298, 300–302; *Hanoi Moi*, 1991, p. 48].

Vietnam is still among the world's poorest countries. Its per capita income was estimated by the U.S. government at US\$198 for 1987 [Young, 1990, p. 1]. The Asian Development Bank estimated Vietnam's

1988 and 1989 per capita GNP as US\$200 [Asian Development Bank, 1990, p. 223; Asian Development Bank, 1991, p. 279]. Vietnam today still relies on subsistence agriculture. Half its gross domestic product comes from agriculture, and of total agricultural production, only one quarter reaches the market. Average yields for most crops are reportedly low [Bakker-Arkema and Smith, 1989, p. 3; Asian Development Bank, 1991, p. 283].

The economic situation remains chaotic and weak. Transforming the current poorly organized Communist economic structure into a functioning market economy is a daunting challenge. However, Vietnam does have certain advantages that many other developing countries lack. Vietnam has a good resource base, much basic infrastructure (still in a bad state of disrepair), an advantageous climate, a disciplined and educated population, and a large potential domestic market [Fforde and Vylder, 1988, p. 57]. The tropical climate gives Vietnam a growing season that covers most of the year. Yields in the delta areas could be much higher than they are. Vietnam's potential for forestry and timber production is still huge. It has coal, hydropower, and petroleum reserves. There are many mineral resources. Vietnam has a rudimentary transport network, urban centers, post and telecommunications services, and some industry, which could serve as a foundation for a modern state. Vietnam's existing capital stock and human resources are poorly utilized, but they need not be in the future. If the government can reform and restructure the economy, rapid economic modernization is possible [Fforde and Vylder, 1988].

Population Overview

When Vietnam was reunified in 1975, the northern part of the country had about 24 million people and the southern part, 23 million [Banister, 1985, pp. 5, 22]. Official estimates from the SRV government showed the birth rates and death rates in the north to be much lower than in the south. This pattern is plausible, because the north had had a widespread preventive public health system for decades, and family planning had been promoted in the north since 1962. After 1975, the birth rate in the north reportedly leveled out at about 31 births per thousand population per year, while the birth rate in the south dropped precipitously from about 42 to 34 by the end of the decade [Banister, 1985, pp. 13–23].

Official vital rates for the country as a whole are given in appendix D, table D-1. They come from various sources and are often somewhat contradictory. Birth rates estimated from censuses and surveys tend to

be slightly higher than those derived from birth registration. During 1979–1990, reported birth rates have been in the range 27–34. During this period, death rates from death registration have been 6–7, while the 1988 demographic survey and 1989 census produced estimated death rates in the range 7–9. Reported population growth rates have ignored net emigration from Vietnam and have been based entirely on the calculated rate of natural population increase; the population growth rate has been reported as 2.1–2.6 percent per year.

Comparative Census Coverage

The first nationwide census in October 1979 counted a total population of 52.74 million. The second national census, conducted in April 1989, enumerated 64.41 million people. Based on these counts, the intercensal population growth rate averaged 2.1 percent per year.

Population figures from complete tabulation of 1979 census questionnaires were reported in five-year age-sex groups (appendix A, table A-1). From the 1989 census, we now have a reported single-year age-sex structure based on a 5-percent sample of enumeration areas. Though the age data for each sex came from this sample, the control totals for males, females, and the total population were derived from manual tabulation of 100 percent of the questionnaires. Appendix A, table A-2 gives the reported age-sex structure from the 1989 census in five-year age groups.

Using techniques described in appendix A, we have assessed the consistencies and inconsistencies between the 1979 and 1989 census age-sex structures and have adjusted both censuses in light of our findings. (Those readers interested in the technical details of these procedures might wish to read appendix A before proceeding to the conclusions given here.)

We have modeled Vietnam's population change from 1979 through 1989 and into the future. Table 1 gives our adjusted 1979 census population. We estimate that in the 1979 census about 7 percent of men in the age group 20–24 were missed, and about 5 percent of women in the ages 35–54 were not counted. In addition, we estimate that there was approximately a 4 percent undercount of children ages 0–4 in 1979. All together, our preliminary conclusion is that males were undercounted by about 1.3 percent, females by 1.4 percent, and the total population by 1.3 percent. Because we have adjusted the 1979 census population only in those age groups where the justification was clear and compelling, these estimates are conservative.

Table 1
Vietnam, October 1, 1979, Population as Adjusted

Age group	Total	Male	Female	Sex ratio	Percent by age
Total	53,446,120	25,909,736	27,536,384	94.09	100.00
0-4	8,017,398	4,102,396	3,915,002	104.79	15.00
5-9	7,690,318	3,928,795	3,761,523	104.45	14.39
10-14	7,039,329	3,632,555	3,406,774	106.63	13.17
15-19	6,014,884	2,954,333	3,060,551	96.53	11.25
20-24	5,055,253	2,454,155	2,601,098	94.35	9.46
25-29	3,717,784	1,742,277	1,975,507	88.19	6.96
30-34	2,491,975	1,177,320	1,314,655	89.55	4.66
35-39	2,119,781	966,580	1,153,201	83.82	3.97
40-44	2,075,242	919,291	1,155,951	79.53	3.88
45-49	2,135,887	994,602	1,141,284	87.15	4.00
50-54	1,806,598	825,356	981,242	84.11	3.38
55-59	1,553,537	680,996	872,541	78.05	2.91
60-64	1,204,286	540,920	663,366	81.54	2.25
65-69	978,891	419,164	559,727	74.89	1.83
70-74	718,358	284,003	434,355	65.38	1.34
75-79	496,304	183,222	313,082	58.52	.93
80-84	200,141	64,153	135,988	47.18	.37
85+	130,157	39,620	90,537	43.76	.24

SOURCE: Adjusted at the Center for International Research, U.S. Bureau of the Census. See text.

In modeling Vietnam's population growth from 1979 to 1989, we utilized the considerable amount of data now available on Vietnam's age-specific and total fertility rates during this intercensal period, as well as data on international migrants and on age-specific mortality patterns and the level of mortality. Our reconstructions and sensitivity analysis showed that Vietnam's population probably grew faster than the annual average 2.1 percent rate implied by the two census counts. For this intercensal growth rate to be correct, our model would have to be wrong in one of the following unlikely ways: either the true fertility levels were lower than reported in the 1988 nationwide fertility survey and the 1989 census, or mortality was considerably worse than we have assumed, or there were a million and a half more emigrants from Vietnam than detected by the United Nations High Commissioner for Refugees data collection system.

Table 2 gives our reconstructed population age-sex structure for Vietnam as of April 1, 1989. A comparison of these two 1989 age structures suggests several conclusions, or at least hypotheses. First, we estimate that males were undercounted by about 3.1 percent in the 1989 census and females by approximately 1.8 percent, for an overall undercount of about 2.4 percent. Men were particularly undercounted in the age groups 15–19 and 20–24, women to a lesser extent in those ages. Young children ages 0–4 were slightly undercounted in the 1989 census, but more young girls were missed than boys, especially girls ages 1, 3, and 4. In the 1989 census, both sexes were apparently undercounted in their late thirties and early forties and at the oldest ages, eighty and above. But these latter age-specific undercounts could be spurious if the 5-percent sample did not fully represent the total population. In addition, the mortality pattern we used from Vietnam's official 1979 life tables may have underestimated the death rates among the elderly compared to other age groups.

Some of our projected 1989 age-sex groups are larger than officially estimated from the census, and some are smaller, though we used the 1989 census age-sex structure as a guide when estimating the age-sex structure of the emigrant population and when fine-tuning levels of fertility and mortality. We found it impossible to match the reported 1989 age-sex structure using reasonable assumptions about how to adjust the 1979 count and about what happened during the intercensal period with fertility, mortality, and international migration. This difficulty suggests that the age structure of the 5-percent sample may not be totally representative of the age structure of the complete census population.

We concluded that the actual population growth rate between 1979 and 1989 was slightly higher than derived from the counts, 2.2 percent a year on average. Both censuses appear to have undercounted the population to a moderate extent, which means that Vietnam's population is larger than derived from the 1989 census total.

If the 1989 census count was slightly less complete than the 1979 count, how could this be explained? One possibility is that the population was more mobile and many more people were away from their place of usual residence in April 1989 than in October 1979 because of the loosening of controls under the economic reforms. People on the move are harder to enumerate than people in residence at their location of permanent registration. Although the undercount appears to have been greater in 1989 than in 1979, in many other ways the 1989 census was a vast improvement over that of 1979. The questionnaire design was much better, so that in 1989 the right questions were asked to elicit the desired information. Accuracy was enhanced through careful

Table 2
Vietnam, Reconstructed April 1, 1989, Population

Age group	Total	Male	Female	Sex ratio	Percent by age
Total	65,995,899	32,323,671	33,672,228	96.00	100.00
0-4	9,289,875	4,770,328	4,519,547	105.55	14.08
5-9	8,432,912	4,322,127	4,110,785	105.14	12.78
10-14	7,556,869	3,855,289	3,701,580	104.15	11.45
15-19	7,369,861	3,752,717	3,617,144	103.75	11.17
20-24	6,680,385	3,425,752	3,254,633	105.26	10.12
25-29	5,608,517	2,716,521	2,891,996	93.93	8.50
30-34	4,730,054	2,264,449	2,465,605	91.84	7.17
35-39	3,509,295	1,625,549	1,883,746	86.29	5.32
40-44	2,337,233	1,093,404	1,243,829	87.91	3.54
45-49	1,973,690	890,636	1,083,054	82.23	2.99
50-54	1,910,804	834,174	1,076,630	77.48	2.90
55-59	1,917,293	872,559	1,044,734	83.52	2.91
60-64	1,538,251	677,701	860,550	78.75	2.33
65-69	1,214,156	503,782	710,374	70.92	1.84
70-74	829,562	343,279	486,283	70.59	1.26
75-79	564,184	211,810	352,374	60.11	.85
80-84	324,236	106,042	218,194	48.60	.49
85+	208,722	57,552	151,170	38.07	.32

NOTE: The 1989 population of Vietnam was projected from the adjusted 1979 census population using available data on fertility, mortality, and international migration.

SOURCE: Modeled at the Center for International Research, U.S. Bureau of the Census. See text.

mapping before the census and detailed quality control and checking of questionnaires in the field. The use of sampling with a long form in 1989 allowed the census to get important information on fertility, mortality, and housing and facilitated prompt release of results within a year after enumeration. As this report shows, the world is learning much more about the population of Vietnam from the 1989 census than was possible from the 1979 census.

Population Age-Sex Structures

Because mortality has declined while fertility has remained fairly high, Vietnam has a young population similar to other countries in Asia. We estimate that in 1979 half of Vietnam's population was under age

19. By 1989, though fertility declined during the 1980s, the population remained a young one, with half the population under age 21 (tables 1 and 2). Vietnam's urban population has a slightly older structure; in 1989, half the urban population was reported to be under age 23 [Vietnam 1989 Population Census, 1990, Table 1.2A].

Both censuses have shown that there are more females than males in Vietnam (tables 1, 2, A-1, and A-2). There is no shortage of male children; in fact, there are many more boys than girls, as would be expected from a typical sex ratio at birth of 105–106 boys per 100 girls born. It is reassuring that the 1989 census 5-percent sample reports a sex ratio of 105.6 male per 100 female infants (children under exact age one), reflecting without distortion a sex ratio at birth in the expected range. The 1989 census also reports normal sex ratios at birth of 105 boys per 100 girls born in urban areas and 106 boys per 100 girls born in rural areas [Vietnam General Statistics Office, 1991, pp. 87–88]. In 1979, there was a shortage of men compared to women in the age groups 15–19 and above. Most of the missing males presumably were lost through death or emigration during the previous turbulent decades. The dearth of adult males also was reflected in the 1989 census.

The 1989 census results suggested another negative effect of the war decades. The census asked adults their employment and occupational status. Those neither working nor seeking employment were asked why they were outside the labor force. One possible answer was disabilities severe enough to prevent the individual from working at all. As shown in table 3, those who were not economically active because they were invalids constituted 3 percent of the population ages 13–64. Male invalids as a percent of their age group outnumbered female invalids in all the age groups 15–19 through 55–59. These figures do not include those disabled persons who were able to work part-time or full-time, or who were unemployed and seeking work, or who were students, or whose primary responsibility was housework. Therefore, it is a low estimate of disabled adults in Vietnam. A 1990 official Vietnamese source estimated that, of Vietnam's total population of 65 million, 13 percent (implying about 9 million) were disabled [Hanoi VNA, 1990e, p. 72].

Mortality

As shown in appendix D, table D-1, Vietnam reported that its population's expectation of life at birth was 58 years in 1975, rising to 60 years in 1978 and 63 years in 1983. Completely inconsistent with those figures was the life expectancy of 66 years for 1979 (64 years for males and 68 for females) reported in the published volume on

Table 3
Vietnam, Persons outside the Labor Force because Disabled, 1989 Census

Age group	Total outside labor force because disabled	Percent of total population in age group	Males outside labor force because disabled	Percent of male population in age group	Females outside labor force because disabled	Percent of female population in age group
Total	1,144,605	3.0	577,272	3.2	567,333	2.8
13-14	13,379	.4	6,894	.4	6,485	.4
15-19	40,767	.6	22,308	.7	18,459	.5
20-24	42,786	.8	24,556	1.0	18,230	.6
25-29	44,129	.8	25,820	1.0	18,309	.6
30-34	47,725	1.0	29,729	1.4	17,996	.7
35-39	52,390	1.6	33,235	2.2	19,155	1.1
40-44	63,687	2.9	36,158	3.6	27,529	2.3
45-49	84,826	4.4	47,486	5.5	37,340	3.5
50-54	146,276	7.6	70,476	8.2	75,800	7.0
55-59	260,545	13.3	126,595	13.8	133,950	12.8
60-64	348,095	22.1	154,015	21.6	194,080	22.6

NOTE: This table excludes elderly invalids ages 65 and above and includes only those in the working ages 13-64. This table underestimates the actual disabled population in the working ages in Vietnam. It excludes those who were able to work part-time or full-time, holding a temporary or permanent job in spite of their disabilities. It excludes unemployed invalids who had not given up hope of finding work. It also excludes disabled persons who reported they did housework or were students. So this table focuses primarily on the severely disabled. This table refers only to the Vietnamese population who were in Vietnam at census time and excludes the 1.04 million Vietnamese citizens who were temporarily residing abroad.

SOURCE: Vietnam 1989 Population Census, 1990, Appendix Table 3.1.

Vietnam's 1979 census. For reasons unclear, lower estimates of life expectancy by sex (60 years for males and 62 for females) were given in 1989. It is not known what data sources were used for most of these estimates. But in its 1979 census volume, Vietnam reported male and female life tables for 1979 based on the census age structure and registered deaths. Only the expectation of life for each single year of age and sex was reported; the other columns of the life tables were not given. The volume included notes with equations showing how Vietnam's life tables were calculated, from which we recreated the 1979 life tables shown in appendix D, tables D-2 and D-3.

These empirical life tables have life expectancies of 64 years for males and 68 years for females. The patterns of mortality by age seem reasonable. Male mortality at each age is higher than female, as would normally be expected, though the male-female differential in infancy is reported to be smaller than usually seen.

We compared Vietnam's reported 1979 mortality patterns for both sexes with those in model life tables of the United Nations general pattern and in life tables from another Asian Communist country, the People's Republic of China in the 1970s. As seen in figures 1 and 2, Vietnam's mortality patterns by age are generally plausible, although its reported mortality pattern has some distinctive elements when compared to model life tables with the same life expectancy at birth or at other ages. Compared to most families of model life tables, represented in the figures by the UN general pattern, reported infant mortality in Vietnam's life tables is slightly lower than expected, but mortality among children ages 1-4 through 15-19 is higher. Adult mortality is fairly typical, though mortality in Vietnam is reported to be lower than the UN general pattern in middle age. The male pattern of mortality at older ages in Vietnam is also not unusual. But for women in their late forties and older, mortality in Vietnam is lower than most model life table patterns would predict, if these 1979 Vietnam mortality patterns are correct. Vietnam's reported pattern of mortality by age is similar to that reported for the People's Republic of China during 1973-1975, as shown in figures 1 and 2 [Rong Shoude et al., 1981]. In both countries, during the 1970s at least, low infant mortality was followed by unexpectedly high mortality among children for countries with such low mortality overall.

We tried using Vietnam's unadjusted life tables from the 1979 census to make component population projections from 1979 to 1989, but this attempt was unsuccessful. Mortality from the life tables was too low to be correct. It produced crude death rates of 7.6-7.8 deaths per thousand population per year. Yet the 1989 census recorded deaths

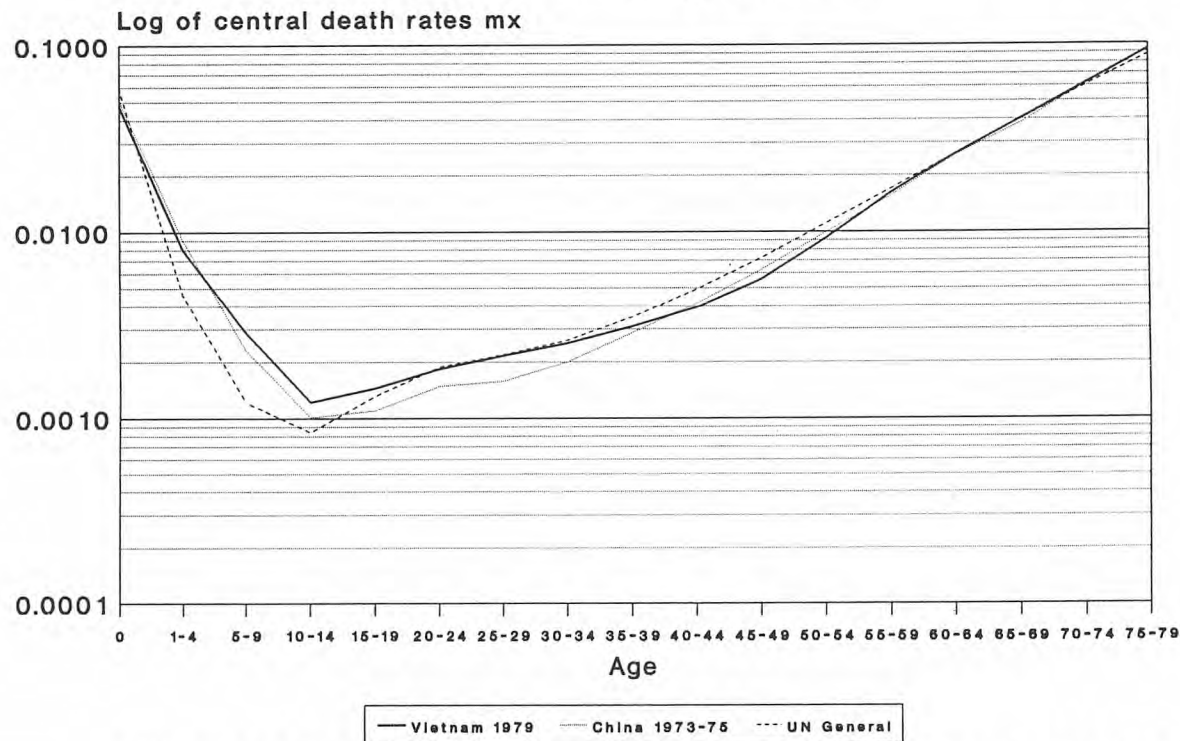
equivalent to a crude death rate of 8.4 per thousand population in the year before the census. Therefore, using the pattern of the 1979 census life tables, we adjusted the level of mortality to come close to the 1989 census death rate.

All this, however, does not answer the question whether mortality conditions in Vietnam are improving, staying the same, or deteriorating. All these scenarios are possible, and we do not have strong evidence in support of one hypothesis over another. Vietnam has a widespread preventive and primary health care system, with clinics (commune health centers) and health workers in the villages [Quinn-Judge, 1986; UNFPA, 1989, pp. 36–43]. However, because few modern medicines are produced in Vietnam and the lack of foreign exchange and international assistance has inhibited procurement of pharmaceuticals, since 1975 there has been a severe shortage of medicines of almost every kind.

Recent evidence on mortality and health in Vietnam is sparse. We expect that life tables from the full tabulation of 1989 census questionnaires will be the most accurate and complete life tables ever available for Vietnam. Meanwhile, adjusted 1979 life tables are adequate for purposes of modeling male and female mortality patterns and trends from 1979 to the present and into the future.

There is some information suggesting that health and mortality conditions in Vietnam may have stagnated or gotten worse. An official 1983 report stated: "During the past several years, as a result of the economic difficulties of the entire country and shortcomings on the part of the health sector, the quality of public health activities has declined somewhat" [Dang Hoi Xuan, 1983, p. 48]. A recent report discussed the country's "deteriorating health system" [Hiebert, 1991a, p. 16]. For instance, one official reported: "The quality of many hospitals at the central, provincial, and district levels has declined" [Vo Chi Cong, 1991, p. 71]. The health delivery system is in financial crisis, with an acute shortage of funds making it impossible to pay for services at the previously available level [UNDP, 1990; cited in Allman et al., 1991]. More than half the children in Vietnam are said to be suffering from malnutrition [Vo Nhan Tri, 1990, pp. 163–164; Nguyen Thanh Van, 1990, p. 52]. In the late 1980s, there was a reported resurgence of malaria, though the number of detected cases was still small [Hanoi VNA, 1989b, p. A10]. The disease continues to spread; in the first five months of 1991, the total number of cases reported nationwide reached 229,000, with high rates of acute malaria and a high mortality rate reported for infected persons [Vietnam TV, 1991b].

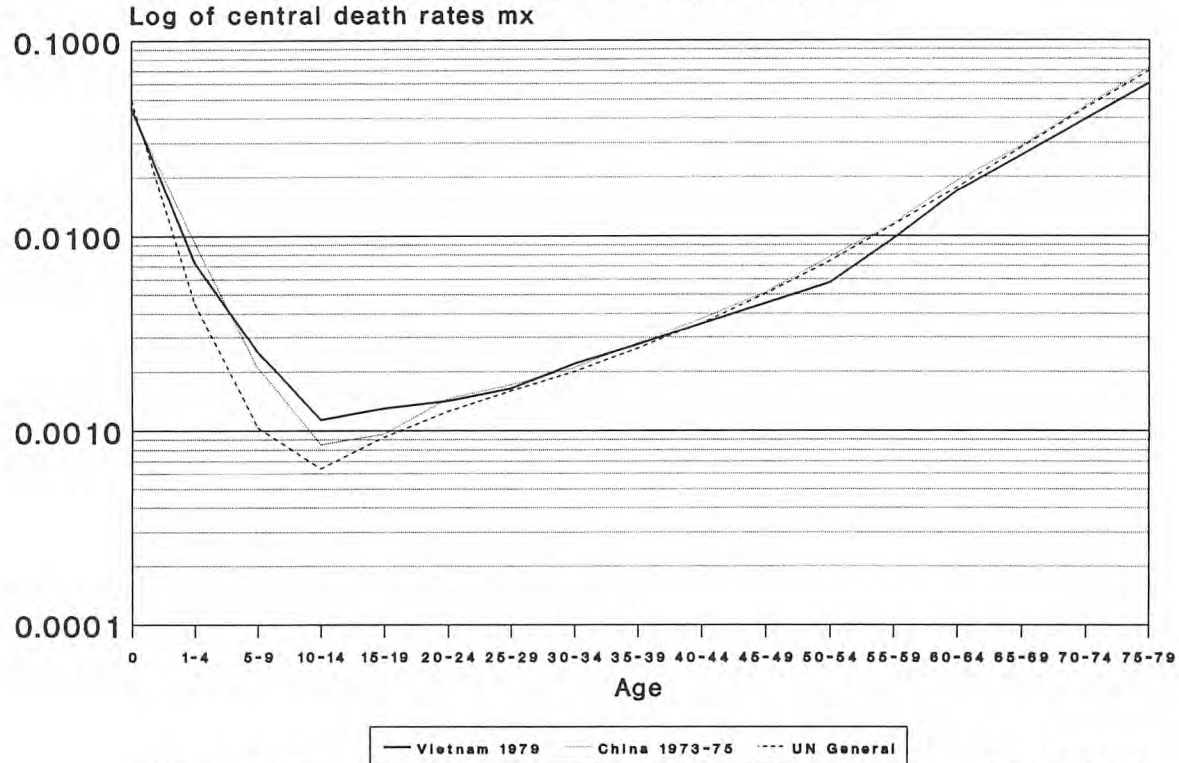
Figure 1. Vietnam, Male Mortality Pattern, 1979



NOTE: The UN General Model life table has a life expectancy of 64 years. Vietnam and China life tables are as reported.

SOURCE: Table D-2; Rong Shoude et al., 1981, pp. 25-26; UN, 1982, p. 216.

Figure 2. Vietnam, Female Mortality Pattern, 1979



NOTE: The UN General Model life table has a life expectancy of 68 years. Vietnam and China life tables are as reported.

SOURCE: Table D-3; Rong Shoude et al., 1981, p. 26; UN, 1982, p. 239.

In contrast, there is also anecdotal evidence of improved health conditions during the 1980s. According to an official source, the number of hospital beds and physicians in Vietnam increased greatly between 1975 and 1989. The number of hospital beds grew from 141,600 in 1975 to 223,500 in 1989, and the number of physicians (mostly "general doctors" or "medecins") from 8,400 in 1975 to 21,500 in 1989 [UNFPA, 1989, p. 38; Bakker-Arkema and Smith, 1989, pp. 7-15; Nguyen Quan, 1990, p. 71]. In the early 1980s, the density of health networks, paramedics, doctors, basic health stations, pharmacies, and hospitals reportedly increased, while preventive efforts drastically decreased the incidence of epidemic diseases such as cholera and plague [Dang Hoi Xuan, 1985, pp. 95-98]. In the late 1980s, accessibility of medical care was further enhanced. By 1990, about half the rural population could get to the nearest district hospital in less than an hour, and 80-90 percent within two hours. In addition, a system of polyclinics was set up in which a group of 5-8 rural communes established an intercommunal health center to provide medical specialties not available in each commune's clinic. By 1988, there were 1,352 polyclinics for the whole country, about 1 per 7-8 communes [ESCAP, 1991, pp. 20-35].

After serious food shortages in the late 1970s, the increased food production of the 1980s ameliorated hunger but did not fully solve the problem of providing adequate food supply. Foodgrain production increased from a record 16.3 million metric tons in 1982 to 21.4 million tons in 1989, 21.5 million in 1990, and an estimated 21.4 million in 1991 [Hanoi VNA, 1991b, p. 75; *Indochina Chronology*, Oct.-Dec. 1991, p. 8].

A 1989 study of Vietnamese health care concluded that nutrition was improving and that medicines were more widely available than in earlier years because of sales on the free market [Hiebert, 1991a, p. 17]. (However, these "free" or black-market sales may benefit only the minority with enough money to afford the black-market prices.) Major efforts have been devoted to the control of diarrheal diseases [Allman, 1991, p. 309]. Also of great importance, in the late 1980s Vietnam was assisted by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) in carrying out a massive immunization program, with the result that about 80 percent of Vietnam's youngest children are now vaccinated against six serious diseases of childhood. International assistance has also been used to improve rural water supplies [Hanoi VNA, 1987, p. 113; Hanoi VNA, 1991a, p. 55]. According to official reports, Vietnam has so far resisted the import and spread of AIDS (acquired immune deficiency syndrome) with considerable, but not total, success. Widespread testing of high-risk persons

discovered one HIV carrier in the country in December 1990 [Hanoi VNA, 1990d, p. A-12; Hanoi International Service, 1991, p. 55]. By November 1991, blood tests of 67,600 people in Vietnam's southern provinces had detected 50 who tested positive for the AIDS virus; 30 foreign residents of Vietnam have also tested positive [*Indochina Chronology*, Oct.-Dec. 1991, p. 8].

Improvement in infant mortality is suggested by the indirect estimates given in table 4, which are based on 1989 census data on the number of children ever born and children surviving as reported by each woman. These data give estimates of a 1975 infant mortality rate in the range 56-64, which declined to 53-60 by 1978 and to 48-53 by 1981. This technique suggests that infant mortality in Vietnam dropped to 44-48 by 1985. The apparent rise in the infant mortality rate by 1987 may be spurious, possibly because the younger women at ages 20-24 reported their number of children ever born and children surviving more accurately than older women did or because their experience with infant deaths may not be representative of the overall infant mortality rate. Our own modeling produced infant mortality rate estimates slightly higher in each period than those derived in table 4, but we accepted the evidence of gradual improvement in the 1980s. We estimate that Vietnam's infant mortality rate dropped from about 60 infant deaths per 1,000 live births in 1979 to 55 in 1984 to 50 in 1989. This is unusually low infant mortality for a developing country. Infant mortality in Vietnam is reported to be higher in the south than the north and much higher for infants of illiterate mothers than mothers with some education [Vietnam 1988 Demographic Survey, 1990, pp. 54-58]. But reporting of infant mortality is so incomplete in all sources that the difference between urban and rural infant mortality is unknown.

In our reconstruction of Vietnam's mortality trends, we assumed slow improvement in overall life expectancy and in mortality at each age, including infancy. For the 1980s decade, we assumed expectation of life at birth in the low sixties, as reported in appendix D, table D-1. For 1988 and 1989, we estimated a death rate slightly higher than that reported from the 1989 census. We estimated that by 1990, Vietnam's population had a life expectancy at birth of about 64 years—62 for males and 66 for females. Finally, we assumed that in 1995 Vietnam will achieve the mortality conditions that were reported in the 1979 census.

Marriage

Vietnam is a society in which, in the past, almost everyone eventually married. For example, according to Vietnam's 1989 census, the

Table 4
Vietnam, Indirect Estimates of Infant Mortality, 1989 Census

Age group of women	Average number of children ever born	Average number of children surviving	Proportion dead of children ever born	Corresponding estimates of infant mortality rates					
				Reference date	United Nations models		Reference date	Coale-Demeny models	
					Far East	General		West	East
20-24	.653	.621	.050	May 1987	.047	.047	June 1987	.048	.050
25-29	1.731	1.641	.052	Dec. 1985	.045	.044	Sept. 1985	.044	.048
30-34	2.765	2.605	.058	Nov. 1983	.046	.046	July 1983	.046	.050
35-39	3.638	3.400	.065	Apr. 1981	.049	.049	Jan. 1981	.048	.053
40-44	4.358	4.015	.079	May 1978	.054	.054	Apr. 1978	.053	.060
45-49	4.934	4.475	.093	Jan. 1975	.057	.059	Mar. 1975	.056	.064

NOTE: "Reference date" means the appropriate date to which the infant mortality estimates on that line refer. The proportion dead of the children of younger women tells us about recent infant mortality, while the proportion dead of children born to older women tells us about infant mortality in earlier years.

SOURCE: Vietnam 1989 Population Census, 1990, Table 5.1.

proportion of people ages 45–49 who had ever married was 96.5 percent for females and 98.5 percent for males. Among younger women, however, many have never married—18 percent of those ages 25–29, 11 percent of women ages 30–34, and 9 percent at ages 35–39 [Vietnam 1989 Population Census, 1990, p. 34]. It may be primarily a shortage of adult males that has prevented more of the women from marrying [Vu Qui Nhan et al., 1991, pp. 2–3]. A much higher proportion of women in the south than in the north remains unmarried at each age. At ages 25–29, for example, 9 percent of women in the north but 22 percent of women in the south have never married [Vietnam 1988 Demographic Survey, 1990, p. 19].

Legal minimum marriage ages in Vietnam are 18 for women and 20 for men [Marriage Law, 1987, p. 110]. The 1988 demographic survey of Vietnam provided direct estimates of the median age at first marriage for women over time (“median” signifies that half the women who ever marry married before this age and half after). Women who were ages 45–49 in 1988 had a median age at first marriage of 19.9 years. They married in the late 1950s and the 1960s. But then there was a slight increase in female marriage age, and for all the 1988 cohorts of women ages 25–29 through 40–44, the median age at first marriage held steady at 21.2–21.3 years old. In recent decades, urban women have married 2–3 years older than rural women. For the younger cohorts of women, a small postponement of first marriage seems to be taking place. For example, of the women 20–24 in 1988, 31 percent had married before age 20, compared to 37 percent of the age 25–29 cohort [Vietnam 1988 Demographic Survey, 1990, pp. 22–23].

Data from the 1989 census on marital status of men and women provide an indirect estimate of the average ages at marriage in Vietnam. Based on the 5-percent sample tabulation, among the cohort ages 20–24, 37 percent of men and 57 percent of women had already married. From the tabulation on marital status by single years of age (which was not published), the Central Census Steering Committee calculated that the singulate mean age at marriage in Vietnam was 23.2 years for women and 24.5 years for men [Vietnam 1989 Population Census, 1990, pp. 31–34, Appendix Table 1.3]. Singulate mean age at marriage is an estimate of the average number of years lived in the single state by those who marry before age 50.

The 1989 census 5-percent sample estimated that there were 11.9 million men and 12.5 million women currently married. In a country such as Vietnam, dominated by monogamous marriage, where polygamy is very rare, the numbers of currently married men and women should be about equal. The disparity in Vietnam may be

caused in part by the bigger undercount of males. In addition, some husbands may have moved abroad permanently, so they were not counted in the census, while their wives remain in Vietnam and naturally reported themselves as married [Vietnam 1989 Population Census, 1990, p. 32].

Family Planning

The northern part of Vietnam has had a family planning program since 1962, the southern part since 1975 [Nguyen Huyen Chau, 1988]. Family planning statistics were poor in quality and coverage until data became available from the Vietnam Demographic and Health Survey conducted in May and June 1988 under the auspices of the National Committee for Population and Family Planning. According to the survey, about 95 percent of currently married women know of at least one modern birth control method, usually the intrauterine device (IUD), abortion, and/or female sterilization [Vietnam 1988 Demographic Survey, 1990, p. 36]. The only widely available contraceptive technique is the IUD. Vietnam's family planning program has promoted only the IUD, to the exclusion of other methods [Vu Quy Nhan, 1989, pp. 4-5; David, 1990, pp. 2-3]. The family planning program is poorly funded, and most kinds of contraceptive supplies and operations are hardly available and of low quality [UNFPA, 1991, pp. 36-37]. A 1990 broadcast from Hanoi complained of "inadequate investments from the central government and local authorities, and the ineffective use of funds provided by the United Nations Fund for Population Activities (UNFPA)" [Hanoi VNA, 1990c, p. 59].

Given the lack of contraceptive availability and convenience in Vietnam's family planning program, birth control practice is reported to be surprisingly widespread. As shown in table 5, the 1988 demographic survey found that 53 percent of currently married women ages 15-49 said they were practicing some contraceptive method. Of married women of reproductive age in Vietnam, 38 percent were using a modern contraceptive method (primarily IUDs), while 15 percent were using an unreliable traditional method (rhythm or withdrawal).

The high reported contraceptive use rate could be interpreted several ways. It may mean that the demand for birth control is high but the supply of modern methods is limited, hence, strong reliance on traditional methods. We could then conclude that there is much unmet need for birth control in Vietnam [ESCAP, 1991, p. 4]. This conclusion is supported by the information that married women prefer an average of 2.6 children, yet were bearing an average of 4.0 children as of

Table 5
 Vietnam, Contraceptive Use by Age Group, 1988 Demographic Survey
 (percent of currently married women in each age group)

	Derived number of MWRA mid-1988	Currently using any method	IUD	Rhythm	Withdrawal	Female or male sterilization	Condoms	Pills	Other methods	Not using
15-19	154,845	5.3	3.5	1.8			1.8			94.7
20-24	1,670,645	31.7	19.1	4.9	7.0		.5	.2		68.3
25-29	2,350,688	52.2	34.3	7.8	7.7	.7	1.2	.1	.4	47.8
30-34	2,101,437	59.8	37.8	9.6	7.5	2.5	1.9	.3	.2	40.2
35-39	1,504,330	68.9	41.4	10.1	8.0	6.7	.9	.9	.4	31.2
40-44	993,460	65.4	38.3	11.2	6.7	6.4	1.6	.5	.8	34.6
45-49	916,121	47.1	29.0	5.6	4.3	6.4	.3	1.0	.5	52.9
15-49	9,931,348	53.2	33.1	8.1	7.0	3.0	1.2	.4	.3	46.8
15-44	8,990,680	53.9	33.6	8.4	7.3	2.6	1.3	.3	.3	46.1

SOURCE: Vietnam 1988 Demographic Survey, 1990, p. 41. The number of MWRA (married women of reproductive age) is derived from the survey and from the reconstruction of Vietnam's 1988 population structure by the Center for International Research, U.S. Bureau of the Census.

1987–1988 [Vietnam 1988 Demographic Survey, 1990, pp. 28, 50]. In addition, 60 percent of currently married women report they want no more children, compared to 53 percent who are using contraception both to space births and to cease childbearing [Vietnam 1988 Demographic Survey, 1990, p. 49]. These data suggest that many women who want no more children are not practicing family planning, yet presumably would be receptive if acceptable techniques were made available [ESCAP, 1989, pp. 1–16].

An alternative explanation for the reported high contraceptive use rate of 53 percent is that this figure is an exaggeration of true family planning practice. Perhaps because the interviewers in the 1988 survey were health workers, female respondents may have stated more contraceptive use than really exists in order to please the interviewers, causing a "courtesy bias" in the results [Allman, 1991, p. 312]. Another potential source of upward bias is that women may have claimed they were practicing family planning so they would appear to comply with the government's insistence that they limit births [Vu Quy Nhan and Hanenberg, 1989, p. 10].

During Vietnam's economic crisis of the last decade and a half, authorities have felt that they could not afford to fund birth control supplies, operations, and user-friendly service delivery, yet they have escalated the demands on the Vietnamese people to tightly control their fertility [Hull, 1991, pp. 14–17, 27]. In the early 1980s, Vietnam's policy of encouraging couples to stop at two children was occasionally forced upon people at the local level. The media included reports of such instances, repudiation of these tactics, and examples of scholars and officials urging strong, restrictive administrative measures to stop couples from having more than two children [Banister, 1985, pp. 18–21]. In the mid-1980s, national organizations including the Communist Party released statements urging strict birth control regulations, population targets, and a system of family planning incentives and disincentives [Banister, 1989a, pp. 158–161; 1989b; Fraser, 1988]. A new Law on Marriage and the Family, implemented January 1987, included the following clauses: Article 2, "A couple has the duty to produce children in accordance with a plan"; and Article 11, "Wife and husband have the obligations to be faithful to each other, to respect, care for, and help each other to make progress and practice planned parenthood together" [Marriage Law, 1987].

Many instances of compulsion in family planning were reported in the 1980s, with required IUD use and limitation of the total number of children backed up by inspection, financial penalties, job loss, and physical intimidation [Hanoi Moi, 1987, p. 107; Nguyen Le Minh, 1987,

pp. 100–103; Lam Thanh Liem, 1987, pp. 321–336; Richburg, 1988, p. A33; Banister, 1989a, pp. 158–161]. In contrast, most visitors to Vietnam who are there to observe the family planning program (all of whom are strong supporters of family planning programs to reduce fertility) report that the program appears to be voluntary [Burkhart, 1988, pp. 5–6; Allman et al., 1991, p. 314].

Then in late 1988, Vietnam's government issued a formal policy decision stating that most couples in the country are allowed to have no more than two children. Council of Ministers Decision 162, reproduced in its entirety in appendix C, specifies financial and work penalties to be meted out to couples who have more than two children. The compulsory tone of the 1987 Marriage Law and the 1988 Council of Ministers Decision have caused some concern that Vietnam means to follow the model of China's compulsory family planning program.

Perhaps in response to this concern, Vietnam's National Assembly in June 1989 passed a Health Law that included the following statements: Article 4, "All acts of preventing or forcing the implementation of family planning are prohibited"; and Article 2, "Institutions of the State, collectives or individuals must respect everyone's desire to use the method of birth control of their own choosing." Vietnam's National Committee for Population and Family Planning summed it up as follows: "Thus, the 1989 National Health Law gives legal force to the individual's right to choose or not to choose to limit births and provides a recourse to justice if there is any attempt to violate this right" [Vietnam 1988 Demographic Survey, 1990, p. 14].

The Council of Ministers decision and the National Health Law appear to contradict one another, so that both laws cannot be simultaneously implemented. Observers should be alert to evidence that shows which of these laws is the operative one, if indeed either law is being implemented. Perhaps the draconian-sounding regulations are being ignored by officials below the national level, and little compulsion is being practiced. Alternatively, it is possible that a program of required family planning is being carried out, and the reassurances about voluntarism contained in the Health Law are meaningless and directed to foreigners only.

As of 1990, a reporter stated that the Vietnamese government had backed off from its former intent to force people to stop at two children: "The government has toyed with more draconian methods, including Chinese-style punishments for families with more than two children; but it gave up when people showed themselves clearly hostile to the idea" [*Economist*, 1990, p. 30].

We would expect that the unavailability or poor quality of contraceptive supplies and techniques, in combination with strong demand for fertility control by the people and/or by the government, would lead to frequent use of menstrual regulation or induced abortion to stop child-births. This is the case in the former Soviet Union and Eastern European countries, for example. In Vietnam, it was reported that there were only 170,562 abortions performed nationwide in 1980 [Jones, 1982, p. 801], which was approximately one abortion for every eleven births. According to the demographic survey of 1988 (table 6), only 7 percent of ever-married women said they had ever had a pregnancy terminated using menstrual regulation or abortion.

There are several possible explanations for this figure. First, perhaps abortion use was underreported, as is often the case in surveys. It is not clear why abortion experience would be hidden by respondents, since abortion has been legal in Vietnam for more than twenty years. Both doctors and nurses provide abortions, and there is apparently very little illegal abortion [Burkhart, 1988, p. 6]. However, there is a widespread attitude that abortion is immoral. Therefore, perhaps a large proportion of women who have had an abortion would be unwilling to admit it.

Recent service statistics from the family planning program indicate increased use of abortion: "Abortions are an important factor in fertility regulation in Vietnam, since estimates from local sources indicated that nearly 1 million women had recourse to either menstrual regulation or pregnancy termination in 1988" [Allman, 1991, p. 312, based on NCPFP, 1990, p. 13]. A UN source also estimated that there were all together more than one million menstrual regulations and pregnancy terminations in 1988 and again in 1989 [UNFPA, 1991, p. 24]. This would correspond to one abortion for every two births. Another Vietnamese source suggested that the practice of abortion is widespread because of poor provision of contraceptive methods: "Consolidated data indicate that the practice of endometrial aspiration and abortion is double that of contraception, which is unacceptable!" [Nhan Dan, 1990, p. 46]. Women in Vietnam apparently do know what abortion is and where to get this operation. Of ever-married women ages 15-49, 49 percent of 1988 survey respondents said they knew about menstrual regulation and 68 percent about abortion. Those women who had heard of each method reported there was no problem of unavailability or inconvenience in getting these procedures if desired, and all but 11 percent could specify where these techniques were available [Vietnam 1988 Demographic Survey, 1990, pp. 35-39].

Table 6
 Vietnam, Proportion of Ever-Married Women Who
 Have Ever Used Menstrual Regulation or Abortion,
 1988 Demographic Survey
 (percent of ever-married women in the age group)

Age group	Has used menstrual regulation	Has used abortion
15-19	3.1	1.6
20-24	2.7	1.3
25-29	2.9	2.3
30-34	4.4	4.6
35-39	3.2	3.8
40-44	3.0	5.4
45-49	1.1	5.2
15-49	3.1	3.5

NOTE: The proportion of ever-married women who have ever used menstrual regulation or abortion totaled 6.6 percent. Of currently married women, the proportion was 6.9 percent.

SOURCE: Vietnam 1988 Demographic Survey, 1990, p. 40.

Second, if the survey data are correct and abortion is not widespread, maybe this signifies that the people of Vietnam are content with or accepting of their current number of births and do not wish to limit childbearing much more. Third, though the government of Vietnam is now talking a tough line with regard to required family planning, perhaps Vietnam's family planning program does not include the forced abortion of unapproved pregnancies.

Fertility

In the early 1970s, women of Vietnam were still bearing more than six children on average, judging from the large number of children counted at ages 5-9 in the 1979 census [ESCAP, 1988, pp. 4-5]. But fertility in Vietnam has declined since then [Hull, 1990, p. 3]. The 1988 demographic survey has documented this trend, as shown in table 7. Vietnam's total fertility rate was down to 5.3 births per woman by the beginning of the 1980s, 4.7 by the mid-1980s, and about 4.0 in 1987 and 1988. The latter estimate comes from both the 1988 demographic survey and the 1989 census.

Table 7
Vietnam, Age-Specific and Total Fertility Rates

Age group of women	1978-1982	1983-1987	1986-1987	1987	1988
15-19	.013	.007	.016	.020	.026
20-24	.150	.151	.199	.235	.192
25-29	.285	.264	.254	.243	.221
30-34	.268	.237	.186	.151	.167
35-39	.187	.160	.105	.085	.110
40-44	(.119)	.084	.051	.051	.057
45-49	[.041]	(.029)	.019	.011	.019
TFR	5.315	4.660	4.150	3.980	3.960

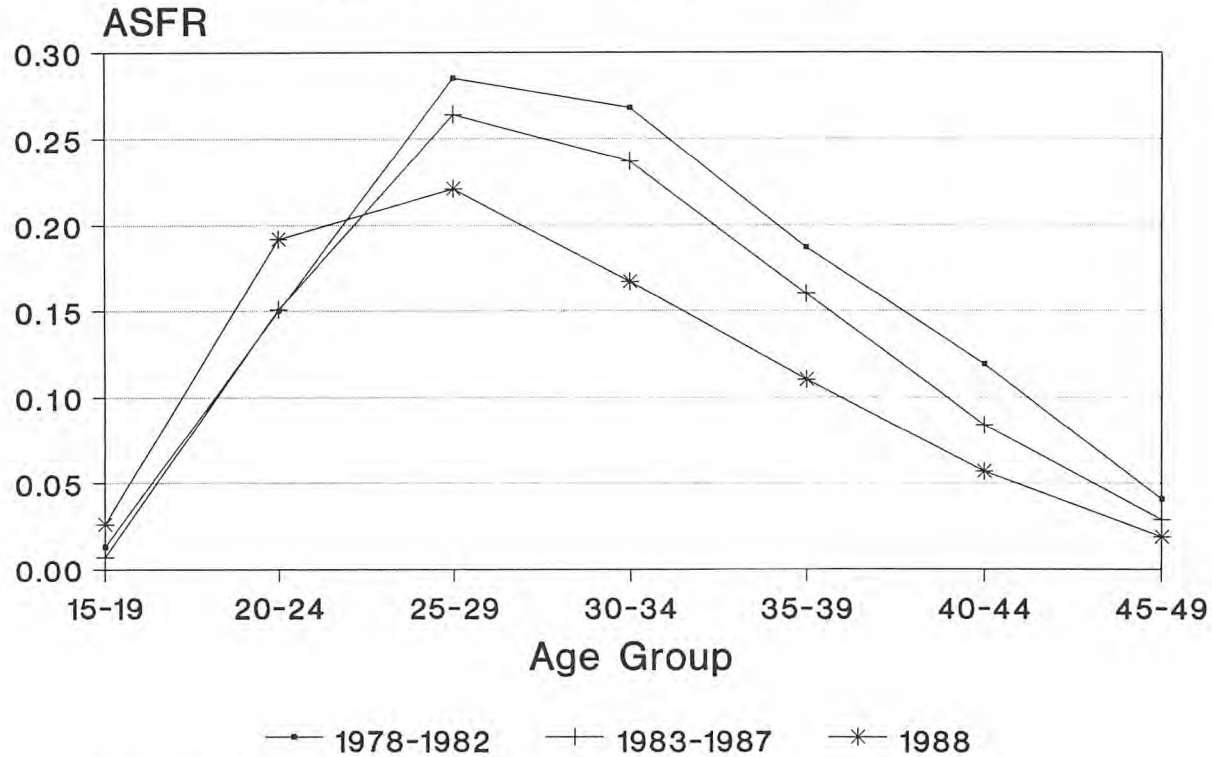
NOTES: Figures in parentheses are estimates provided in the source. The figure in brackets was estimated by the author.

SOURCES: Age-specific and total fertility rates for the years 1978-1982 through 1987 are from Vietnam 1988 Demographic Survey, 1990, pp. 27-29. Fertility data for 1988 are from Vietnam 1989 Population Census, 1990, p. 36, and refer to the period April 1, 1988, to April 1, 1989.

The pattern of fertility shifted slightly during the 1980s. As shown in figure 3, during the late 1980s the women of Vietnam reduced the number of children they bore from their late twenties through their late forties, suggesting control of fertility through earlier cessation of child-bearing. At the same time, age-specific fertility rose slightly in the late teens and early twenties. This was not caused by a drop in marriage age. On the contrary, the median age at first marriage for women, after holding steady at around age 21.3 years for two decades, rose slightly during the 1980s [Vietnam 1988 Demographic Survey, 1990, p. 22]. Perhaps better nutrition increased the fecundity of young adults.

We have derived the levels of fertility implied by the 1988 demographic survey and the 1989 census statistics on children ever born by age of mother [Arriaga, Johnson, and Jamison, 1992, vol. 1, pp. IV-51 to IV-53 and vol. 2, pp. IV-73 to IV-81]. The children-ever-born data from women in their twenties and early thirties produce a total fertility rate of 3.9-4.1 births per woman from the survey and 4.1-4.2 from the census, compared to the reported total fertility rate of 4.0 from both sources. This constitutes very good agreement between reported age-specific fertility data and children-ever-born data and suggests rather complete reporting of births in recent years by the respondents in both enumerations. The only age group whose fertility seems to have been

Figure 3. Vietnam, Pattern of Childbearing



SOURCE: Table 7.

more than marginally underreported in the year before the 1989 census and the year before the 1988 fertility survey was women ages 15–19.

As might be expected, the fertility of the urban population is much lower than that of rural people. By 1986–1987, urban women had a total fertility rate of only 2.2 births per woman, compared to 4.6 births per woman in rural areas [Vietnam 1988 Demographic Survey, 1990, p. 28; Vu Qui Nhan et al., 1991, p. 2].

International Migration

Since the establishment of the Socialist Republic of Vietnam in 1975, there has been constant net emigration from the country. Periodically, there has been a great surge of refugees as the government of Vietnam has made life there intolerable for certain groups. For example, the mass exodus of the Hoa (Chinese) minority peaked in 1978 and 1979; 483,000 Hoa reportedly left Vietnam in those two years [Banister, 1985, p. 13]. But at the same time as the Vietnamese government effectively forced people to flee, it forbade emigration; this contradiction made people risk their lives to leave, pay bribes to get away, leave their belongings behind, and depart in unsafe ways such as in leaky boats.

Since the mid-1970s, this situation has been a constant irritant in Vietnam's relations with the countries nearby, which have had to cope with these desperate refugees. In response, the United Nations and affected countries receiving the refugees negotiated with Vietnam an Orderly Departure Program (ODP) whereby the Vietnamese government would allow some would-be emigrants to leave legally and fly to the countries that had agreed to receive them.

Table 8 pulls together fragmentary available data on both legal and illegal departures from Vietnam from 1979 to 1991; the trends are illustrated in figure 4.¹ In 1980 and 1981, the number of emigrants was about one-third that of 1979, but most still had to leave illegally. In 1984 for the first time, the number of ODP (legal) emigrants exceeded those who fled by sea. The ODP program faltered for a while but in 1990 and 1991 seemed to become solidly established again.

Meanwhile, the stream of illegal emigrants has never ceased. The number of refugees who left Vietnam peaked in 1979 through 1981, hit a low in 1986, surged again to a peak in 1989, and seems to be declining once more. People who try to leave Vietnam have a variety of

¹ In addition to the migration figures reported in table 8, there have been fragmentary reports that hundreds of thousands of Vietnamese may have moved to Cambodia and settled there after December 1978. No data are available on the numbers of such settlers.

reasons for doing so, including political persecution, the dismal economy, and personal or family reasons. Usually, they are not wanted or welcomed by the "first asylum" countries where they land, and often it is difficult to find a country willing to accept the refugees permanently. In recent years, many boat people have been forced to return to Vietnam. The number of returnees is listed under "repatriation to Vietnam" in table 8. As of November 1991, Hong Kong began sending back to Vietnam the approximately 60,000 emigrants from Vietnam living in Hong Kong refugee camps who have not been granted refugee status. This repatriation is expected to take several years to complete [Deane, 1991, p. A31; Branigin, 1991b, p. A46]. Hong Kong's action is expected to pave the way for other Southeast Asian countries, especially Thailand, Malaysia, and Indonesia, to repatriate to Vietnam the more than 56,000 Vietnamese living in camps with no prospect of resettlement elsewhere [Branigin, 1991a, p. A47].

The United Nations High Commissioner for Refugees does not report data on the age-sex structure of the emigrant population. It is thought that there are more male than female emigrants from Vietnam and that most are young adults. In our reconstruction of Vietnam's demographic trends, we have weighted the emigrant stream this way. In agreement with our assumptions about the emigrant population as a whole, the age structure of those refugees from Vietnam who have entered the United States "is particularly remarkable for its excess of males over females, which is pronounced among persons in their teens and twenties" [Gordon, 1989, pp. 219-222, 225].

Urbanization and Internal Migration

Since 1975, Vietnam's most visible population policy has been concerned not with population growth but with population redistribution [Jones and Fraser, 1982; Desbarats, 1987; Thrift, 1987]. The government has had a goal of massively resettling millions of people in lightly populated parts of the country called "new economic zones." One stated rationale for this policy has been to counter the great disparities in population distribution and density throughout the country. Vietnam's population is highly concentrated in the deltas and coastal plains, while there are enormous areas of potentially arable highlands, forests, jungles, and swamps that could be cultivated if people settled there. Also, for historical reasons, the Red River delta of the north is more densely populated than the Mekong River delta of the south, so the government has moved millions of people out of the Red River delta [Fraser, 1985, pp. 4-6].

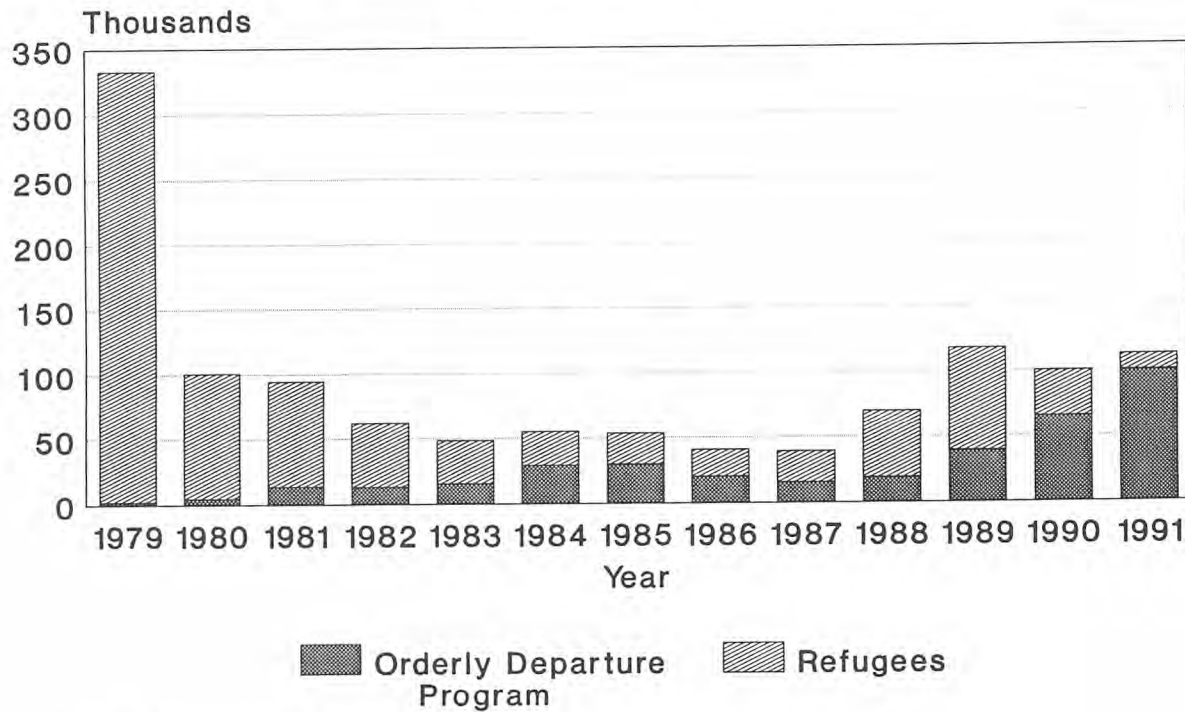
Table 8
Vietnam, International Migration, 1979–1991

Year	Net emigration	Orderly Departure Program (ODP)	Refugee arrivals by sea		Estimated lost at sea	Overland to China or Thailand	Repatriation to Vietnam
			Fiscal year	Calendar year			
1979	332,919	1,979		205,200	67,740	58,000	
1980	101,046	4,706		74,100	13,240	9,000	
1981	91,855	9,815		74,400	6,740	900	
FY1981	94,527	13,305	81,222				
FY1982	62,355	13,041	49,009		312		7
FY1983	48,611	15,631	32,847		135		2
FY1984	55,133	29,036	26,097	24,783			0
FY1985	53,601	29,796	23,815	22,258			10
FY1986	40,648	20,053	20,597	19,538			2
FY1987	39,082	15,370	23,619	28,056	94		1
FY1988	69,977	19,088	50,459	45,530	449		19
FY1989	117,789	39,082	78,191	73,399	797		281
FY1990	100,006	65,220	39,057	32,444	350		4,621
FY1991 (3 mos.)		19,267	4,902				
FY1991 (4 mos.)							2,804
1991 (proj.)	112,000	100,000	20,000				8,000

NOTES: Fiscal year data are for October 1 through September 30. For example, FY1981 figures cover from October 1, 1980, through September 30, 1981. Estimates for persons lost at sea 1979–1981 were based on interviews with arriving boat people regarding those who died en route, supplemented by weather data. Recent estimates for persons lost at sea have not been attempted. Figures for FY1987–1990 include only those reported dead or missing by refugees arriving in Malaysia and Thailand. Figures for 1982 and 1983 include only those reported killed or abducted by pirates.

SOURCES: Calendar year data 1979–1981 from Banister, 1985, p. 13, based on data supplied by the Office of Refugee Affairs, U.S. Department of State. Reported data for fiscal years 1981–1991 were compiled by the Bureau of Refugee Programs, U.S. Department of State. The projected figure for 1991 ODP departures is based on promised acceptance by countries of settlement: "More Refugees, Immigrants to Leave Under ODP," Foreign Broadcast Information Service, *Daily Report*, no. FBIS-EAS-90-214, Nov. 5, 1990, p. 71. Victims of pirates in 1982 and 1983 were reported in William Branigin, "Turning Away of Boat People Mars Improved Refugee Situation," *Washington Post*, Feb. 4, 1984, p. A15. Boat people arrivals for calendar years 1984–1990 provided by the United States Office of the United Nations High Commissioner for Refugees.

Figure 4. Emigration from Vietnam, 1979–1991



NOTE: Figures for 1991 are projected.

SOURCE: Table 8.

The authorities have also targeted urban populations and minority ethnic populations for resettlement in new economic zones. As of 1975, the SRV government noted that the cities and towns of Vietnam, especially southern Vietnam, were swollen with refugees from the rural areas who had fled warfare and bombing [Charny and Spragens, 1984, pp. 17–71]. In addition, the Communist leadership was ideologically opposed to urban population concentration and growth [Desbarats, 1987, pp. 43, 49–50, 53]. Official policy was to reduce the urban population to a manageable number by sending workers and their families from urban to rural areas. As shown in table 9, the policy of deurbanization was successful, in that the absolute size of Vietnam's urban population declined from 1976 to 1979, while the rural population grew at 2.7 percent a year. Net out-migration from urban areas continued to 1982, judging from the very slow urban population growth in the early 1980s. But since 1982, Vietnam's urban population has grown faster than the rural population, suggesting net migration into urban areas.

The result of these trends is that the urban proportion of Vietnam's population dropped from 20.6 percent in 1976 to a low of 18.5 percent in 1982 and rose to 20.1 percent of the population inside the country as of the 1989 census (table 9). The definition of "urban" population has been vague in Vietnam until recently. As of the 1989 census, Vietnam's urban population included those residing in the quarters or precincts (*quan*) of cities, those living in urban towns or townships (*thị xã*), and people living in small towns (*thị trấn*) only when the small towns have all the following characteristics: (1) the total town population is 2,000 or more; (2) 50 percent or more of the workforce is in nonagricultural sectors; and (3) the town is an administrative or industrial center of a district [Vietnam 1989 Population Census, 1990, p. 73; Forbes, 1990, pp. 1–2]. Persons who live just outside the city precinct boundaries of big cities but inside the municipal boundaries are excluded from the population defined as "urban."

During the five-year plan period 1976 through 1980, Vietnam relocated 1.47 million people, mostly from cities, in new economic zones, but only about 1.2 million of them stayed, according to official reports [Banister, 1985, pp. 6–9]. Undaunted, the Vietnamese government continued its policy of forcibly relocating workers and their families in new economic zones, but the pace slowed down because of financial and practical problems with making the moves successful. During the decade 1981 to 1991, another 2.3 million people were sent to new economic zones [Hanoi Voice of Vietnam Network, 1991a, p. 71], but we do not know what proportion of them has stayed. Some observers estimate that as many as half the migrants to new economic zones

Table 9
 Vietnam, Urban and Rural Population Growth, 1976–1989
 (official population in thousands)

Year	Total population	Urban population	Urban population growth rate (annual percent)	Rural population	Rural population growth rate (annual percent)	Calculated percent urban	Reported percent urban	
							Tran Van Chien	Forbes
1976	49,160	10,127		39,033		20.60	20.6	20.6
1977	50,413	10,108		40,305		20.05	20.1	20.1
1978	51,421	10,130		41,291		19.70	19.7	19.7
1979	52,462	10,094		42,368		19.24	19.5	19.2
1979, Census	52,742	10,115		42,626		19.18		
1976–1979			–.04		2.71			
1980	53,722	10,301		43,421		19.17	19.1	19.1
1981	54,927	10,223		44,704		18.61	18.6	18.6
1982	56,170	10,363		45,807		18.45	19.2	18.5
1979–1982			.88		2.62			
1983	57,373	10,981		46,392		19.14	19.1	19.1
1984	58,653	11,102		47,551		18.93	19.1	18.9
1985	59,872	11,360		48,512		18.97	19.2	19.0
1982–1985			3.06		1.91			

1986	61,109	11,817		49,292		19.34	19.3	19.3
1987	62,452	12,271		50,181		19.65	19.7	19.7
1988							19.9	
1989, Census	64,412	12,740		50,627		20.11	20.1	19.8
1985–1989			3.06		1.14			
1979–1989			2.43		1.81			

NOTE: In the 1989 census, the total population figure includes those temporarily abroad, but the urban and rural totals exclude them. So we have calculated the urban population as a percent of the total population in the country at the time of the census.

SOURCES: Annual total and urban population data from the permanent population registration system, along with a column listing the urban percent of the total population, were reported in Forbes, 1990, p. 6. His data were based on Vietnam General Statistics Office, 1989, p. 15. The urban percent of the total population each year was also reported in Tran Van Chien, 1990, p. 306. Urban population data from the 1979 census were reported in Census of Vietnam 1979, p. 75. Urban population data from the 1989 census were reported in Vietnam 1989 Population Census, 1990, Appendix Table 1.2.

return to their original homes or to cities, most of them leaving the zones illegally [Desbarats, 1987, pp. 61–63].

The migrants to rural zones have reclaimed land for food crops, developed rubber and coffee plantations, and worked in forestry. The policy of sending settlers to new economic zones has continued in recent years [Hanoi Domestic Service, 1989, p. 74]. In 1991, the government planned to relocate 100,000 workers with 140,000 family members to new economic zones, about the same number as were targeted for moves in 1990, though only 70 percent of the plan for 1990 was achieved [Tran Dinh Hoan, 1991a, p. 41].

Table 10 shows the growth or loss of urban population in each city and town in Vietnam whose total (urban plus rural suburbs) population was 20,000 or more in the 1979 and 1989 censuses. (Statistics for each town whose population was between 2,000 and 20,000 have not been reported.) The urban population of the 56 cities and towns whose figures were reported from both censuses grew from 7.9 million in 1979 to only 8.5 million in 1989, an urban population growth rate of only 0.9 percent a year. Natural population increase in Vietnam's cities and towns was much higher than that low rate during this period, implying that there was net out-migration from these cities and towns during the intercensal decade. Map 2 shows the locations of the leading cities in Vietnam.

Urban population growth was extremely slow in Vietnam's largest cities of Ho Chi Minh city (Saigon) and Hanoi, based on the data in table 10. Haiphong city even lost urban population, as did two other cities of more than 100,000 urban population, while three more urban places of this size grew less than 1 percent a year in urban population. Unless these figures are affected by changes in the urban boundaries of these cities, we conclude that they experienced net out-migration in the intercensal decade. Only 20 of the 56 cities and towns had an increase in their urban populations averaging 2.0 percent a year or more, which probably means that they had zero net migration or positive net in-migration. Therefore, the majority of Vietnam's larger urban places (total population 20,000 or more) may have experienced net urban outflow during the 1980s.

There is, however, some confusion regarding urbanization in the three province-level municipalities of Hanoi, Haiphong, and Ho Chi Minh city. Preliminary 1989 census data released in September 1989, six months earlier than the special tabulation used for table 10, showed 1989 urban populations of 1,089,000 for Hanoi, 3,169,000 for Ho Chi Minh city, and 456,000 for Haiphong. If these are the correct census figures, rather than those in table 10, then the intercensal average

annual growth rates of urban population were 1.7 percent for Ho Chi Minh city, 2.0 percent for Hanoi, and 1.8 percent for Haiphong. These would still be considered modest population growth rates for Vietnam's leading cities.

The statistical confusion above may derive from vacillation in government circles regarding who should be called urban population and where urban boundaries should be. For example, within the boundaries of the province (municipality) of Ho Chi Minh city, some center city residents have been moved to a "green belt" surrounding the built-up area. People in the green belt engage in agriculture (to feed the population of the city) and manufacturing or processing industries [Desbarats, 1987, pp. 52, 56]. Should these migrants now be called urban or rural people? The ideologically correct answer in Vietnam is "rural." It is possible that the first 1989 census figure on the urban population of Ho Chi Minh city utilized a longstanding urban-rural boundary but that a subsequent decision was made to exclude the green-belt population from the urban population, thus lowering the 1989 urban total to that given in tables 10 and D-5.

Analysis of urban population changes is hampered by the frequent boundary changes (including changes in provincial, district, and city boundaries) promulgated by the Vietnamese government, "a seemingly never ending process that keeps rendering obsolete maps of the place" [*Indochina Chronology*, July–Sept. 1991, p. 6]. For example, in August 1991, one city district of Hanoi, one township, and five municipal districts were administratively transferred to two adjacent provinces [SRV National Assembly, 1991, p. 76].

Between 1979 and 1989, there were sixteen towns and one city that were either established as new urban places or whose urban plus rural suburb populations passed 20,000. Even if these are included in the 1989 list, Vietnam's urban population in cities and towns of 20,000 or more grew only 1.4 percent a year. Yet Vietnam's total urban population grew an average of 2.4 percent a year in the intercensal decade. This means that urban population growth was faster in urban places of 2,000–20,000 total (urban plus rural suburbs) population than in larger urban places. These smaller towns increased in population from 2.22 million in 1979 to 3.66 million in 1989, or 5.3 percent a year.

During this period, Vietnam's government appears to have succeeded in its goals of severely constraining the growth of urban population in large cities and towns while enhancing the population growth in small towns [Forbes, 1990, pp. 4–5]. Meanwhile, 80 percent of Vietnam's people have remained in or been sent to rural areas. Urban and rural lifestyles, customs, and daily routines combine poverty and

Table 10
Vietnam, Growth of City and Town Populations, 1979 to 1989

City or town	1979 urban population	1989 urban population	Absolute increase in the urban population	Annual percent increase
Ho chi minh city	2,700,849	2,796,229	95,380	.4
Ha noi city	897,500	905,939	8,439	.1
Hai phong city	385,210	351,919	-33,291	-1.0
Da nang city	318,653	369,734	51,081	1.6
Bien hoa city	182,856	273,879	91,023	4.3
Can tho city	187,254	208,078	20,824	1.1
Nha trang city	172,663	213,460	40,797	2.2
Hue city	165,710	211,718	46,008	2.6
Buon me thout town	71,815	97,044	25,229	3.2
Nam dinh city	160,179	165,629	5,450	.4
Long xuyen town	112,485	128,814	16,329	1.4
Quy nhon town	127,211	159,852	32,641	2.4
Vinh long town	71,505	81,620	10,115	1.4
Vinh city	159,753	110,793	-48,960	-3.9
Thai nguyen city	138,023	124,871	-13,152	-1.1
Tuy hoa town	46,617	54,081	7,464	1.6
Rach gia town	81,075	137,784	56,709	5.6
Phan thiet town	75,241	114,236	38,995	4.4
My tho city	101,493	104,724	3,231	.3
Ca mau town	67,484	81,901	14,417	2.0
Vung tau-Con dao	81,694	123,528	41,834	4.4
Hon gai town	114,573	123,102	8,529	.8
Cam pha town	76,697	105,336	28,639	3.3
Thanh hoa town	72,646	84,951	12,305	1.6
Play ku town	58,088	76,991	18,903	3.0
Thai binh city	79,566	57,640	-21,926	-3.4
Viet tri city	72,108	73,347	1,239	.2
Da lat city	87,136	102,583	15,447	1.7
Thu dau mot town	40,759	43,849	3,090	.8
Hai duong town	54,579	53,370	-1,209	-.2
Ben tre town	28,672	44,768	16,096	4.7
Kon tum town	28,378	34,063	5,685	1.9
Tan an town	43,364	50,288	6,924	1.6
Sa dec town	73,104	50,733	-22,371	-3.8
Quang ngai town	41,119	34,402	-6,717	-1.9
Chau doc town	45,245	50,935	5,690	1.2
Soc trang town	74,967	87,899	12,932	1.7
Hoa binh town	51,187	69,323	18,136	3.2
Dong ha town	28,796	34,853	6,057	2.0
Bac giang town	54,506	50,879	-3,627	-.7

(continued)

(table 10, continued)

City or town	1979 urban population	1989 urban population	Absolute increase in the urban population	Annual percent increase
Uong bi town	34,400	49,595	15,195	3.9
Ha dong town	37,378	38,859	1,481	.4
Yen bai town	40,017	58,645	18,628	4.0
Hoi an town	23,490	25,462	1,972	.8
Dong hoi town	39,521	22,254	-17,267	-6.0
Bac ninh town	40,017	33,849	-6,168	-1.8
Tra vinh town	44,020	47,785	3,765	.9
Lang son town	20,204	24,379	4,175	2.0
Son la town	14,810	22,020	7,210	4.2
Tuyen quang town	22,279	24,315	2,036	.9
Bim son town	14,810	41,767	26,957	10.9
Tay ninh town	32,151	32,881	730	.2
Lao cai town	18,618	15,364	-3,254	-2.0
Phu tho town	22,273	15,970	-6,303	-3.5
Cao bang town	26,741	27,785	1,044	.4
Vinh yen town	9,590	21,691	12,101	8.6
Subtotal	7,871,079	8,547,766	676,687	.9
Minh hai town	72,517			
Tam ky town		45,843		
Phan rang town		71,111		
Cao lanh city		54,349		
Bac lieu town		83,482		
Son tay town		31,574		
Vinh an town		31,492		
Kien an town		25,011		
Go cong town		17,434		
Sam son town		15,213		
Tam diep town		21,654		
Ninh binh town		26,454		
Hung yen town		14,218		
Song cong town		14,368		
Ha nam town		18,747		
Do son town		18,611		
Ha giang town		14,467		
Lai chau town		21,257		
Total	7,943,596	9,073,051	1,129,455	1.4

NOTES: The cities and towns listed above the subtotal are those that existed with the same name at both censuses. Those urban places listed below the subtotal were reported in one census but not the other.

SOURCES: Tables D-4 and D-5.

Map 2. Administrative map of Vietnam



hard work with hope for a better future [*National Geographic*, 1989, pp. 556–621; Cohen, 1990, pp. 18–29, 87–104].

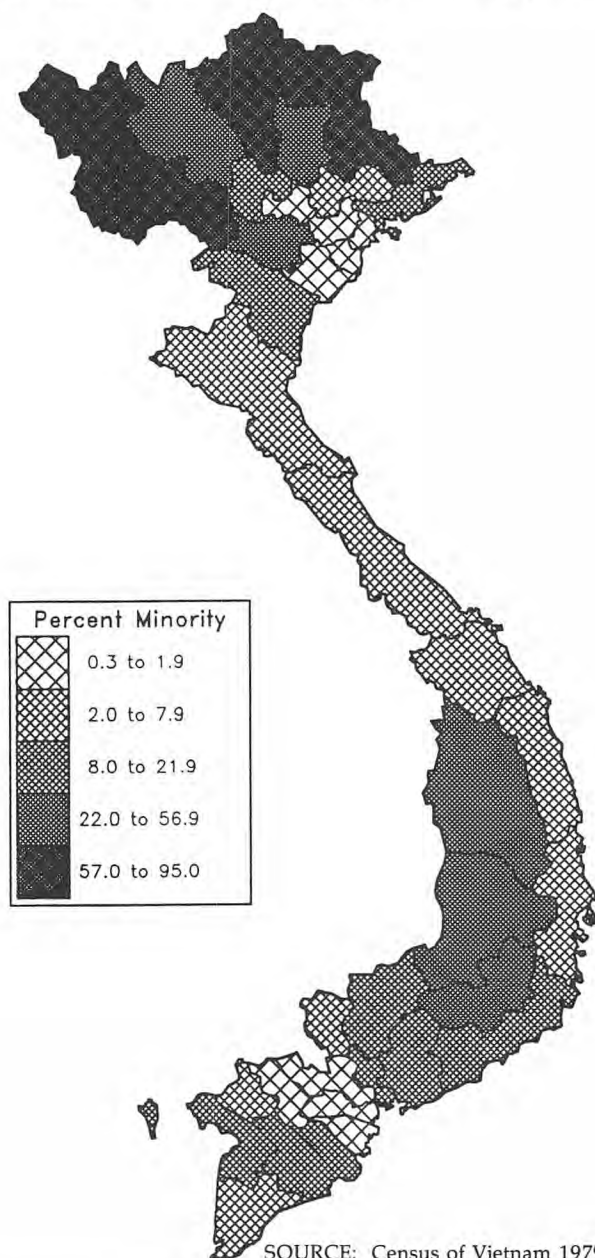
Ethnic Groups

According to the 1979 census, Vietnam had 46.1 million ethnic Vietnamese (Kinh) people and 6.7 million members of 56 minority groups; the ethnic minorities constituted 12.7 percent of the country's total population. Except for the Hoa (Chinese) minority, which congregates in cities and towns, many of the other minority groups have made their homes in the mountains and hills. About 3.4 million minority people are said to be "nomadic" hill people, meaning they depended on "slash-and-burn" agriculture for their livelihood, and when their newly cleared land eroded or lost its fertility, they moved on. Vietnamese government policy since 1975 has been to try to persuade the hill minority groups to settle down in one place and practice more productive agriculture; more than half (1.9 million) have reportedly done so. A 1990 report said that "up to now, 40 percent of them have gotten self-sufficient in food production and the rest still need assistance from the state" [Hanoi VNA, 1990b, pp. 56–57]. But more recent reports have painted a less positive picture of the effort to settle the mountain "nomads": "Resettlement undertaken single-handedly by the government was not very successful in the past years because of lack of money" [Hanoi VNA, 1991c, p. 69]. Map 3 shows that minority nationalities constitute a large proportion of the population in some mountainous provinces, especially on Vietnam's northern and northwestern borders.

The 1.9 million hill minority people who have been settled in agricultural communities are in addition to the 3–4 million urban and delta residents resettled in new economic zones [Desbarats, 1987, p. 50]. One reason given for settling the minority "nomads" is that the slash-and-burn agriculture of the ever-increasing minority population destroys forests and contributes to erosion of the topsoil on hills and mountainsides [Thai Ninh, 1987, p. 28]. But at the same time as some hill minorities have settled down to more ecologically acceptable forms of agriculture, the lowlanders sent to new economic zones have deforested the land and have even been allowed to engage in growing "slash-and-burn upland rice" over broad areas [Desbarats, 1987, pp. 68–70].

In addition to the government-sponsored resettlement of members of the hill minority groups, spontaneous migration of these minorities has taken place. Vietnamese officials do not approve of uncontrolled migration. "The problem of unplanned migration, which began in 1976, has

Map 3. Vietnam, ethnic minority proportions by province, 1979



SOURCE: Census of Vietnam 1979, pp. 106-124.

increased in intensity in recent years" [Vietnam TV, 1991a, p. 75]. Minority people from the northern tier of mountainous provinces have migrated southward, for example, to Song Be province in the south, "without planning" [Hanoi Domestic Service, 1991b, p. 72]. The government notes that these "compatriots do not have enough land to work on" and they "lead an extremely miserable life"; therefore, "they do not have any alternatives other than leaving their homes for somewhere else." But at their chosen destinations in the southern and central highlands, they suffer from food shortages, cut down forests, contract malaria, and experience some social problems like drug addiction. Schools and health care facilities are lacking. Official policy is to carry out orderly resettlement of northern mountain minority groups in their home provinces, thereby discouraging further unplanned migration. The government also hopes to improve the health and food situations where previous spontaneous migrants have settled [Vietnam TV, 1991a, p. 75].

Table 11 gives the ethnic group population counts so far available from the 1989 census, along with comparable data from the 1979 census. The Kinh majority remains 87 percent of Vietnam's total population. The minority groups increased their numbers to 8.3 million people and marginally increased their proportion of the population to 12.9 percent. The intercensal population growth rates of most minority groups appear to have been higher than that of the Kinh, probably reflecting higher fertility.

The Hoa minority grew so slowly during this decade that their net emigration after October 1, 1979, must have been large. For instance, if the Hoa minority had a fertility level as low as the Kinh, we would have expected its population in Vietnam to increase by 2.1–2.3 percent a year in the absence of emigration. This would have produced a Hoa population of 1.14–1.16 million in 1989. The 1989 count of Hoa suggests that 180,000–200,000 Hoa left Vietnam during the intercensal period. About 100,000 Hoa had already departed between the 1979 census and midyear 1982 [Banister, 1985, p. 13]. The 1989 census count suggests that the Hoa minority has remained a sizable portion of the emigrants from Vietnam, although Hoa no longer constitute the majority of those leaving. Very recently, treatment of the Chinese minority has reportedly improved; in Ho Chi Minh city, officials have permitted Hoa residents to resume small business activity [Hiebert, 1991d, pp. 24–25].

Table 11
Major Ethnic Groups in Vietnam, 1979 and 1989

Ethnic group	Oct. 1, 1979, population	April 1, 1989, population	Percent of 1989 total population	Annual average growth rate
Total	52,741,766	64,411,713	100	2.1
Kinh	46,065,384	56,101,583	87	2.1
Tay	901,802	1,145,235	2	2.5
Thai	766,720	992,809	2	2.7
Hoa	935,074	961,702	1	.3
Kho-me	717,291	872,372	1	2.1
Muong	686,082	874,195	1	2.6
Nong	559,702	696,305	1	2.3
Others and not stated	2,109,711	2,767,512	4	2.9

SOURCES: Census of Vietnam 1979, pp. 104–105; Vietnam 1989 Population Census, 1990, Appendix Table 2.1.

Education and Literacy

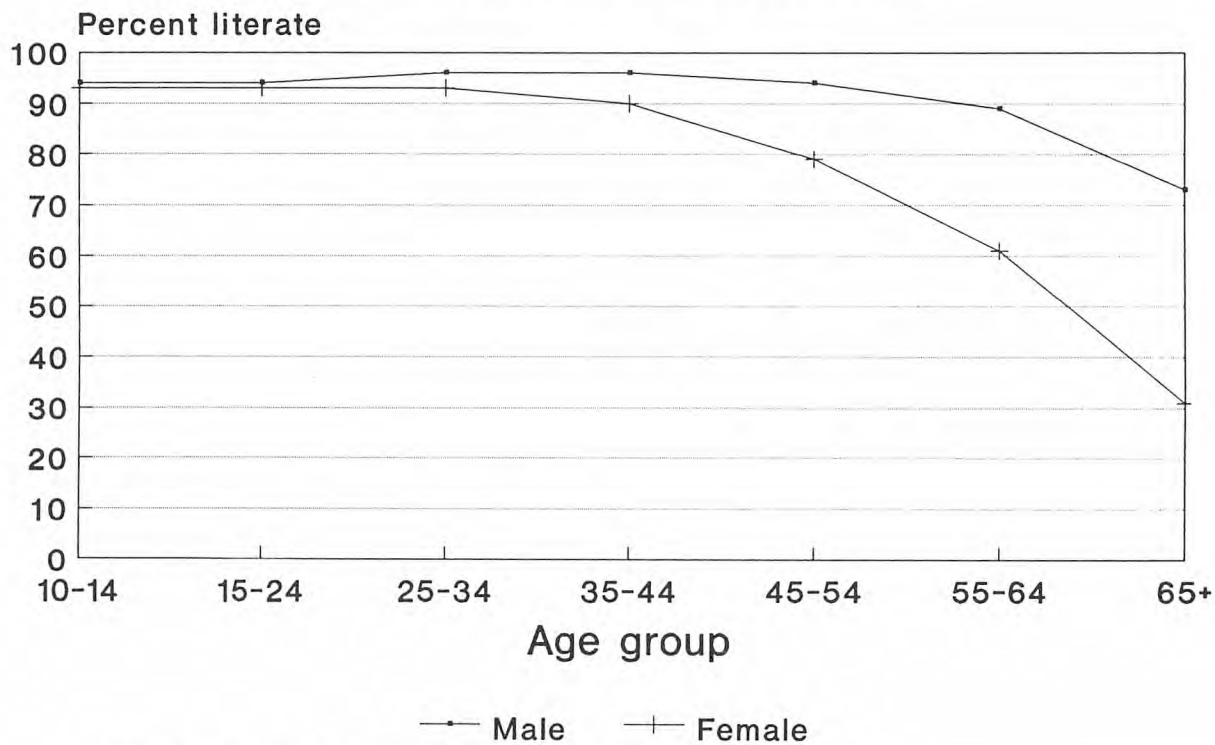
In its struggle for economic development, one of Vietnam's greatest assets is the high level of literacy of its population. In the 1989 census, respondents were asked the simple question whether or not they were literate, meaning they knew how to read and write and could understand simple sentences in their national language, Vietnamese, or a foreign language [Vietnam 1989 Population Census, 1990, p. 69]. It is clear from figure 5 that in the past, males had much more access to basic literacy training than did females. Among today's elderly, fully 73 percent of men claim to be literate, but only 31 percent of women. Over time the male-female differential in literacy has shrunk to almost nothing for the young adult cohorts. Among teenagers and those in their early twenties, 94 percent of males and 93 percent of females report themselves or are reported by their household respondents to be literate. Therefore, as Vietnam's young cohorts age and today's old people die, we expect that the literacy of the total population will rise and the literacy differential between men and women will almost disappear.

This process of aging of highly literate cohorts accounts almost completely for the rising level of literacy of Vietnam's population in the 1980s. Among the population age 10 and above, the literacy rate rose from 90 percent of males in 1979 to 93 percent in 1989 and from 81 percent of females in 1979 to 84 percent in 1989. But a tracing of each cohort separately by sex from 1979 to 1989 shows essentially no reported improvement in the proportion literate during the intercensal decade. The only exceptions to this generalization were a slight increase in the literacy rate for both sexes as they grew from ages 10–14 to 20–24, very small increases (1 percent or less) in reported literacy of men as they aged from 30–50 in 1979 to a decade older in 1989, and a big jump in the reported literacy rate of older men from 72 percent literate in 1979 (at age 51 and older) to 78 percent in 1989 (at age 60 and above).² The apparent lack of improvement in proportion literate for most cohorts of women and some of men may be partly spurious because the 1979 census definition of "literate" may have been broader than the 1989 census definition.

As of 1989, the level of literacy was far higher in the urban than in the rural population. Of the population age 10 and above, 94 percent of the urban population and 87 percent of the rural population were

² Perhaps illiterate older men have higher mortality than literate and educated older men; if so, this would contribute to an increased level of literacy for the survivors over time.

Figure 5. Vietnam, Percent Literate by Age, 1989 Census



SOURCE: Vietnam 1989 Population Census, 1990, p. 45.

literate. The male-female disparity was greater in rural than urban areas. In the urban population age 10 and above, 97 percent of males and 92 percent of females were literate. In rural areas, 92 percent of males but only 82 percent of females were literate [Vietnam 1989 Population Census, 1990, pp. 44–46].

Though the level of literacy in Vietnam's population compares well with that in most of the world's poor developing countries, the government is trying to further improve the situation. In early 1990, Vietnam launched a nationwide anti-illiteracy campaign in coordination with UNDP and UNICEF as part of International Literacy Year–1990. The goal was to eradicate illiteracy by the year 2000. The government allocated funds targeted for the basic literacy education of about a million people under age 35 in the early 1990s [Hanoi VNA, 1990a, p. 67].

The broad achievement of basic literacy and the widespread availability of primary education are impressive for a poor, developing country. The vast majority of the people experience some formal education. Specific information is worth noting.

Based on the data in table 12, it appears that in recent years among young adults, about 36 percent of men and 41 percent of women experienced some primary school education but dropped out before they completed primary school. Unfortunately, a high proportion of these dropouts never progressed from first to second grade or from second to third [Fraser, 1990, pp. 11–14].

As of the 1989 census of Vietnam, 7 percent of children ages 10–14 had never attended school (6.5 percent of boys and 7.5 percent of girls). Of those who attended, many entered school late and left early, especially girls in rural areas. The percent of children at each age who were attending school as of April 1, 1989, was 78 percent at age 7, peaked at 85–88 percent at ages 8–11, then dropped off rapidly to 58 percent at age 14 [Vietnam 1989 Population Census, 1990, pp. 47–52, Tables 2.5, 2.5A, 2.5B]. In 1991, Vietnam passed a law requiring universal compulsory primary education, but its feasibility was in doubt [Hanoi Voice of Vietnam Network, 1991b, p. 52; 1991c, p. 54].

In addition to those who never attend school or only briefly attend, another 40 percent of men and 35 percent of women complete primary school (which was not defined in the sample census volume but seems to refer to nine years of "general basic education") but get little subsequent formal education. Therefore, more than three-quarters of men and of women in Vietnam experience some formal education, but at the "basic" level only. In addition, about 17 percent of men and 15 percent of women graduate from regular or vocational secondary school [Rubin, 1988]. By their late twenties, only 2 percent of men and women have

Table 12
 Vietnam, Educational Attainment, 1989 Census
 (percent of each age group)

Age group	Entered but have not completed primary school	Completed primary school	Completed secondary school	Completed vocational secondary school	Completed college or graduate school
MALES					
10-14	87.6	5.2	X	X	X
15-19	48.6	36.5	7.7	.2	—
20-24	39.8	36.0	15.9	2.1	.8
25-29	35.9	40.3	13.3	3.5	2.4
30-34	36.1	39.0	12.8	4.1	3.8
35-39	39.4	35.0	11.1	5.0	5.0
40-44	41.9	30.2	10.5	6.4	6.2
45-49	48.0	24.2	8.4	6.5	6.6
50-54	57.7	19.2	5.2	5.3	5.1
55-59	63.9	14.6	3.5	3.8	3.0
60+	61.2	7.7	2.0	1.4	1.2
FEMALES					
10-14	85.7	6.4	X	X	X
15-19	47.9	36.3	8.3	.3	—
20-24	43.7	33.0	12.6	3.1	.8
25-29	41.3	34.6	9.5	5.5	2.2
30-34	44.4	32.7	6.8	5.9	2.6
35-39	49.4	25.5	4.7	7.3	3.3
40-44	54.8	18.7	3.0	7.8	2.7
45-49	64.7	9.4	1.6	3.5	1.3
50-54	65.8	4.5	.6	1.4	.5
55-59	58.6	2.5	.3	.5	.2
60+	32.8	.8	.2	.1	.1

X Not applicable.

— Represents zero or negligible.

NOTES: Percentages do not add to 100% because some have never entered primary school, and there were some "not stated" responses. The source did not report how many years of education constitute primary school. We assume that "primary school" refers to 9 years of "general basic education." "General education" in Vietnam includes 12 years through graduation from secondary school. These data include the "special enumeration groups" (Vietnamese citizens temporarily living abroad).

SOURCE: Vietnam 1989 Population Census, 1990, Appendix Table 2.3.

completed college or graduate work, but in the past, eventually 7 percent of men and 3 percent of women have graduated from college or graduate school [Marr, 1988].

There have been many reports that the quality of education in Vietnam has been harmed by the severe economic problems. Teachers are said to be underpaid and demoralized [Shinn, 1989, pp. 128–132]. Classrooms are crowded and unequipped. Most students attend school in shifts [Hiebert, 1988]. Because of a shortage of funds and teachers, families must pay a greater share of the costs of education. School fees have been introduced, and teachers have been allowed to set up private classes. The Ministry of Education discussed providing only primary school free, while supplying just part of the budgets for secondary education [Hanoi VNA, 1989a, p. A9]. Private colleges are being set up because of “the deteriorating quality of state-run educational institutions” [FEER, 1989, p. 14].

In summary, the population of Vietnam is unusually literate, and, as noted, the vast majority of the people experience some formal education. But the quality of education is mixed, and a very small proportion of the population experiences college-level education. Part of this is by design, because the government emphasizes types of education considered relevant to Vietnamese conditions, such as vocational secondary school.

Labor Force and Occupation

Before Vietnam’s 1989 census, statistics on the country’s labor force, employment, and unemployment were sparse, confused, and poor in quality [Banister, 1985, p. 27]. But the questions asked in this latest census were designed to determine who was employed most of the year, who was employed a small part of the year, who was unemployed (wanted work but had no work), and who was outside the labor force for what reason. Unfortunately, these questions were apparently not asked of the Vietnamese temporarily living abroad, most of whom were adult males in working ages and probably employed, except for students (appendix B). So the figures may underreport the true size of Vietnam’s labor force.

Of the domestic population age 13 and above, 28.7 million (70 percent) were reported to be permanently or temporarily employed in April 1989. The employment participation rates were 72 percent for men age 13 and above and 67 percent for women, very high rates in international perspective. The participation rates would probably be even higher if Vietnamese temporarily abroad were included in the data.

Of those employed at census time, a surprisingly high proportion (96 percent of the employed population of each sex) said that they had worked more than six months of the year before the census. Another 3 percent said that they had worked less than six months in the previous year but had recently found permanent work. Only 1 percent of those employed at the census date considered the job to be temporary [Vietnam 1989 Population Census, 1990, pp. 55–65, Table 3.1]. It seems that underemployment in Vietnam, to the extent that it exists, is not manifest as infrequent, sporadic employment. More likely, the underemployed of Vietnam are engaged in regular work in the fields or elsewhere, but at an extremely low or marginal level of productivity. Sporadic employment is found more in urban than rural areas. In April 1989, 94 percent of those employed in urban areas said they had worked for more than six months in the previous year. Six percent of the employed population said they had worked less than half of the year before the census; 3 percent of those working said their current jobs were permanent, even though they had been without employment for much of the preceding year. But another 3 percent of employed people said their jobs were temporary and they had been working less than six months in the previous year. The level of urban underemployment measured in these categories was the same for men and women [Vietnam 1989 Population Census, 1990, Tables 3.1A and 3.1B].

Vietnam is at a very early stage of economic development, so a high proportion of its employed population is in agriculture, as shown in table 13. Fully 69 percent of male workers and 73 percent of female workers are engaged in agriculture and forestry, with low levels of mechanization. Rice is by far the main crop.

Industry employs 12 percent of the working population age 13 and above—14 percent of men and 10 percent of women. There is little heavy industry (primarily coal mining, cement, and some machine building). Major light industries are food processing, textiles, pesticides, paper, and footwear [Paxton, 1990, p. 1588]. Just over half the industrial workers are in urban areas [Vietnam 1989 Population Census, 1990, Appendix Tables 3.2A, 3.2B].

Trade and business employ 7 percent of the workforce, and here women predominate, as shown in table 13. Only 4 percent of male workers are in business, compared to 9 percent of female. This sector probably is concentrated in retail trade. There are twice as many women as men working in education, and women are also much more numerous than men in social services. Construction, transport, and officialdom are heavily dominated by men, but the proportions of the employed population in these sectors are small.

The category "unemployed" was narrowly defined in the 1989 census. If a person had been without work for less than a month but had been working before that, he or she was classified as employed in temporary work. But if the person had been without work for more than a month and was actively seeking or available for work at the time of the 1989 census, the category "unemployed" was assigned [Vietnam 1989 Population Census, 1990, p. 58].

In April 1989, 1.8 million people constituting 6 percent of the economically active population of Vietnam at age 13 and above were reported to be unemployed. Unemployment in Vietnam is primarily an urban phenomenon. At least this was the case at census time, which was probably a busy farming season. In rural areas, 4 percent of economically active adults of each sex was reported available for work but not employed. In urban areas, however, 13 percent of the economically active population of both sexes was unemployed. Unemployment is concentrated among teenagers and young adults and drops off rapidly for those in their twenties. Among the economically active population, 27 percent of those available for work at ages 13–14 were unemployed, 17 percent of those ages 15–19, 7 percent of those ages 20–24, 3 percent of those ages 25–29, and 2 percent of those ages 30–34. The key problem seems to be a dearth of urban entry-level jobs for youth trying to enter the workforce [Vietnam 1989 Population Census, 1990, Appendix Tables 3.1, 3.1A, 3.1B]. One reason for Vietnam's policy of promoting net out-migration from and deurbanization of the larger cities and towns is to reduce urban unemployment [Desbarats, 1987, pp. 48, 53–54, 68].

Since the census of 1989, Vietnam's unemployment situation has apparently worsened. The tough austerity measures recommended by the International Monetary Fund and adopted by the Vietnamese government in March 1989 succeeded in cutting inflation but also forced dozens of state enterprises out of business and "left half a million workers idle" [Chanda, 1989, p. 86]. More shocks to the economic system threw more people out of work in 1990, according to this 1991 report: "Unemployment increased sharply last year as thousands of workers returned from the Soviet Union, Eastern Europe and Iraq, as soldiers were demobilized, and as more than 2,000 small private enterprises went bust after the collapse of hundreds of credit cooperatives" [Hiebert, 1991b, p. 52]. The following August 1991 report suggests that the employment situation deteriorated further: "Vietnam already has reduced its army to 400,000 from one million, and the number of civilians on the government payroll has been reduced to 3.5 million from 4.1

Table 13
 Vietnam, Employed Population by Economic Sector, 1979 and 1989

Economic sector	1979					
	Total	Percent	Males	Percent	Females	Percent
Total employed*	23,035,490	100.00	11,221,635	100.00	11,813,855	100.00
Agriculture and forestry	16,240,020	70.50	7,584,008	67.58	8,656,012	73.27
Industry	2,407,209	10.45	1,178,569	10.50	1,228,640	10.40
Trade and business	1,105,704	4.80	373,245	3.33	732,459	6.20
Scientific research, education, culture, sports, public health, and social welfare	1,018,169	4.42	461,736	4.11	556,433	4.71
Construction	1,013,562	4.40	719,397	6.41	294,165	2.49
Transport and communications	460,710	2.00	357,929	3.19	102,781	.87
Management of state, party, organizations	403,120	1.75	283,800	2.53	119,320	1.01
Housing, community, tourism services	193,498	.84	146,243	1.30	47,255	.40
Finance, credit, and insurance	55,285	.24	25,750	.23	29,535	.25
Other productive branches or not stated	138,213	.60	90,958	.81	47,255	.40

Economic sector	1989					
	Total	Percent	Males	Percent	Females	Percent
Total employed*	28,745,201	100.00	13,815,812	100.00	14,929,389	100.00
Agriculture and forestry	20,470,925	71.22	9,580,609	69.35	10,890,316	72.95
Industry	3,367,345	11.71	1,913,481	13.85	1,453,864	9.74
Trade and business	1,879,974	6.54	548,308	3.97	1,331,666	8.92
Scientific research, education, culture, sports, public health, and social welfare	1,098,896	3.82	401,390	2.91	697,506	4.67
Construction	581,285	2.02	430,137	3.11	151,148	1.01
Transport and communications	576,232	2.00	476,875	3.45	99,357	.67
Management of state, party, organizations	305,054	1.06	217,377	1.57	87,677	.59
Housing, community, tourism services	190,696	.66	98,811	.72	91,885	.62
Finance, credit, and insurance	90,411	.31	41,064	.30	49,347	.33
Other productive branches or not stated	184,383	.64	107,760	.78	76,623	.51

*The 1979 and 1989 census definitions may not be comparable. The 1979 census volume listed the "active population" in the "social labor force" by economic sector, not mentioning the ages covered or the definition of "active." The 1989 census definition is limited to those age 13 and above who were employed at the time of the census, and does not include the one million Vietnamese temporarily abroad at census time.

SOURCES: Census of Vietnam 1979, 1983, pp. 258–259; Vietnam 1989 Population Census, 1990, Appendix Table 3.2.

million. As a result of the cutbacks, Vietnam's unemployment rate is believed to exceed 20%" [Chanda, 1991b, p. 18].

It would be prudent to treat this estimate of 20 percent unemployment with caution. It is unsubstantiated and may refer only to urban areas, or it may include part-time workers who technically should be called underemployed rather than unemployed. Sources differ on the size of the military after demobilization; some state that by mid-1991, regular armed forces personnel, including army, air force, and navy, totaled 600,000 [Wain, 1991b, p. 3; Hiebert, 1991c, p. 26].

Vietnam's 1992 Population

As a result of the hardships of previous decades, the 1992 population age structure (figure 6) shows a dearth of people, especially men, in their forties and fifties. Fertility was probably depressed in the war years of the late 1930s and the 1940s when they were born. They were young adults during the Vietnam war of the 1960s and early 1970s, and men especially were lost to warfare.

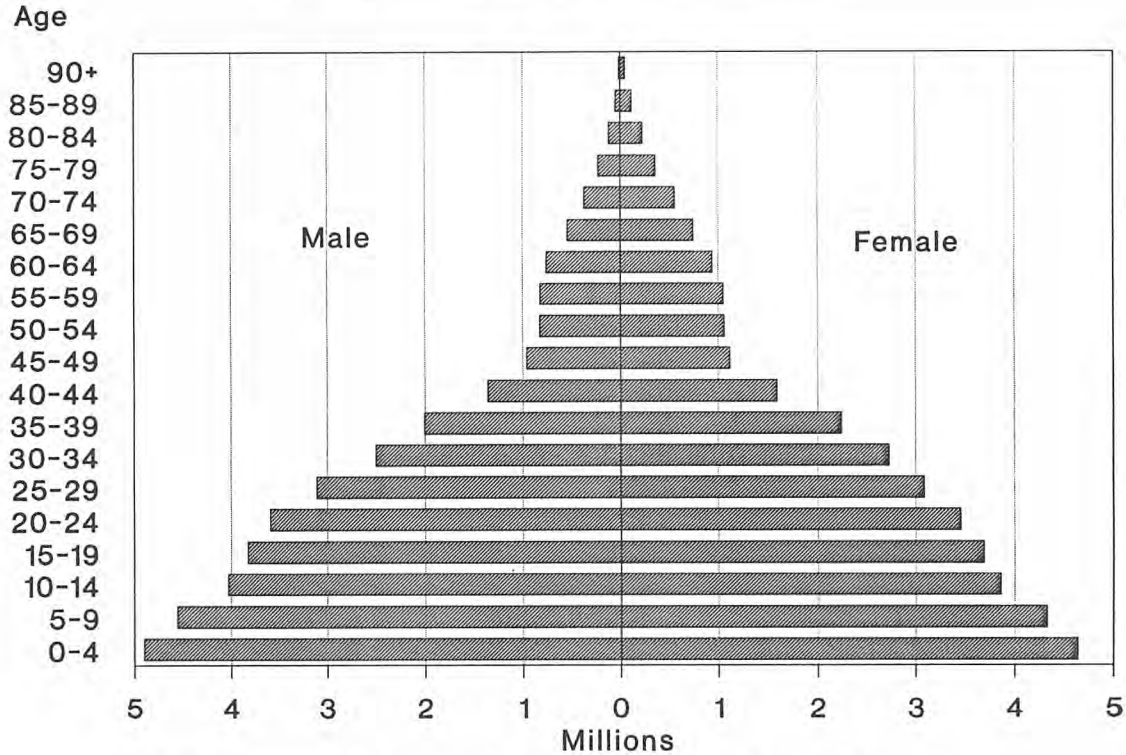
Vietnam's age structure looks like a top, with a broad base from birth to the late thirties. Cohorts born since the early 1950s are large, because fertility was high and apparently not seriously depressed by the war between the north and the south. Recent fertility decline has slightly squeezed the younger cohorts of the population pyramid.

Vietnam's age structure pyramid is skewed toward the female side at ages 30–34 and above and toward the male side from birth through ages 20–24. As cohorts age up the pyramid, the shortage of males should diminish.

Future Population Trends

For projecting Vietnam's population into the future, we began with our adjusted 1979 census population and projected to 1989 using 1989 census data as guideposts, then continued the projection to 2050. We assumed slow improvement in mortality for both sexes throughout the projection. After utilizing age-specific and total fertility rate figures from the 1988 fertility survey and the 1989 census, we assumed slow continuation of the 1980s fertility decline thereafter. A total fertility rate of 4.0 births per woman in 1988 was projected to decline to 3.6 in 1992, 3.2 in 1995, 2.8 in the year 2000, 2.3 in 2010, and 2.0 in 2030 and beyond. We assumed that Vietnam would have net emigration of 112,000 persons per year from 1991 through 2000, declining slowly to

Figure 6. Vietnam 1992 Population Age Structure



SOURCE: Projected at the Center for International Research, U.S. Bureau of the Census.

50,000 a year by 2020 and beyond. Details of the projection are given in table 14.

It would be possible for fertility to decline faster than assumed here if there is improved availability of contraceptives. Also it is possible that fertility decline will stall for a while when the fertility level has reached about three children per couple; this tendency was seen in South Korea and China in earlier years.

If fertility declines gradually as projected here, Vietnam's population growth rate will drop slowly from about 1.9 percent in 1992 to maybe 1.4 percent at the turn of the century. Meanwhile, the population is expected to grow from approximately 70 million in 1992 to 81 million in 2000. Official Vietnamese sources project about 80 million people at the turn of the century, while UN alternate scenarios project 80–85 million at that time [Hanoi VNA, 1991d, p. 70; *Indochina Chronology*, July–Sept. 1991, pp. 3–4; UN, 1991, pp. 374–375]. Vietnam will still have a young age structure, with only 5 percent of the population at age 65 and above in the year 2000.

Given the youthfulness of Vietnam's population and the government's struggle to universalize basic education, pressure on the education system is expected to continue for some time. As of 1992, there are 16.8 million children ages 5–14, not all of whom are in school. The 1989 census reported that 70 percent of children in this age range were attending school at that time [Vietnam 1989 Population Census, 1990, Appendix Table 2.5]. The size of this age group will increase to 17.7 million by 1995, peak at 18.3 million in 1999–2000, and begin decreasing in size thereafter as a result of fertility decline. As shown in figure 7, Vietnam can look forward to many decades when the number of children ages 5–14 is rather steady; this stability should facilitate the maintenance of educational facilities and provide the opportunity to raise the quality of education rather than focus entirely on quantity supplied.

In 1992, there are 9.3 million women in the peak childbearing ages 20–24 through 30–34. This number will increase rapidly to 9.8 million in 1995 and 10.3 million in the year 2000. Continuing increase is expected to 11.8 million in 2010, and the peak number of around 12.7 million will be reached in about 2020.

The size of Vietnam's labor force age groups will keep increasing for some time (figure 7). Vietnam's population ages 15–64 includes 41 million people as of 1992, but the number will increase to 49 million in 2000, 61 million in 2010, and 71 million in 2020. Then the size of the labor-force age groups will grow more slowly, to about 79 million at midcentury. Therefore, one of the main challenges brought about by

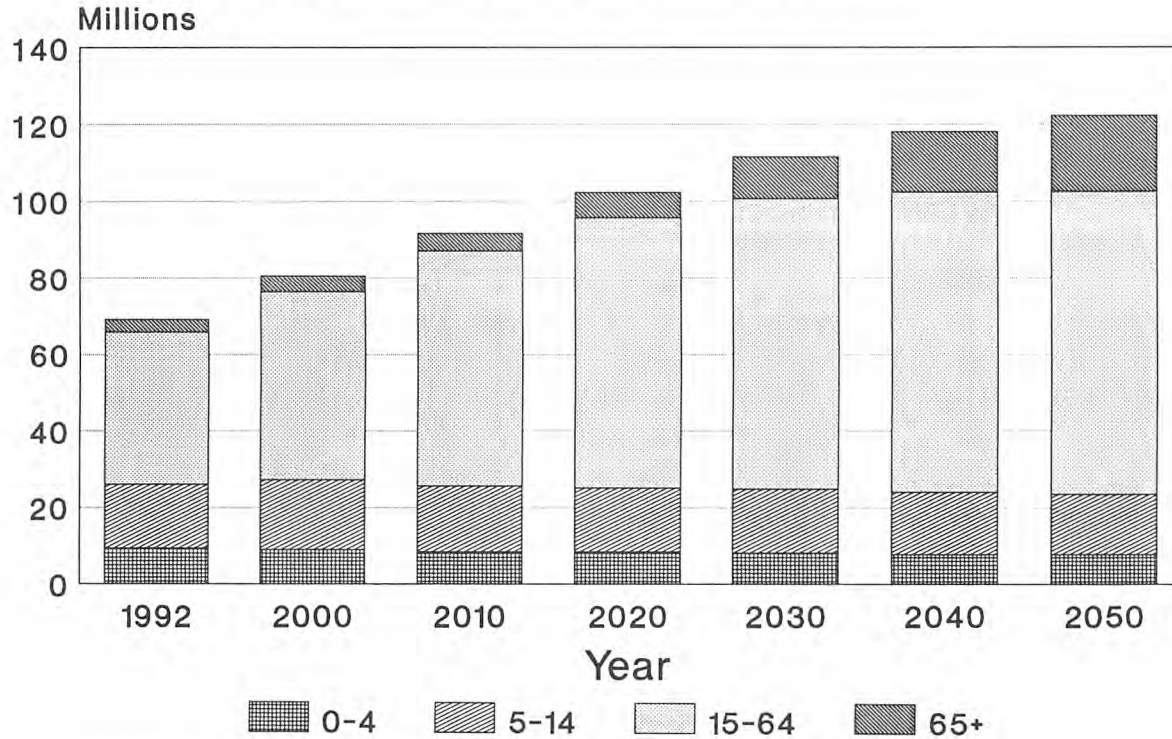
Table 14
Vietnam, Population Estimates and Projections, 1980–2050

Year	Midyear population size	Birth rate	Death rate	Natural increase rate	Population growth rate	Total fertility rate	Expectation of life at birth			Infant mortality rate		
							Total	Male	Female	Total	Male	Female
1980	54,233,753	33.73	9.80	23.93	2.21	5.32	61.28	59.51	63.14	58.6	60.1	57.0
1985	60,768,961	32.31	9.11	23.20	2.23	4.30	62.71	60.85	64.67	53.9	55.3	52.5
1990	67,718,186	30.32	8.38	21.94	2.05	3.80	64.19	62.23	66.26	49.3	50.4	48.1
1992	70,448,876	28.81	8.08	20.73	1.91	3.56	64.80	62.80	66.92	47.4	48.4	46.3
1995	74,393,324	26.25	7.60	18.65	1.71	3.21	65.72	63.66	67.91	44.6	45.5	43.6
2000	80,533,280	22.90	7.02	15.88	1.45	2.80	67.09	64.93	69.37	39.9	40.8	39.0
2010	91,728,620	19.15	6.46	12.69	1.18	2.31	69.62	67.30	72.07	31.6	32.5	30.6
2020	102,359,258	16.94	6.53	10.41	.99	2.11	71.88	69.43	74.48	24.6	25.5	23.6
2030	111,542,614	14.88	7.26	7.62	.72	2.04	73.87	71.30	76.59	18.9	19.9	17.9
2040	118,196,410	13.56	8.64	4.92	.45	2.01	75.58	72.92	78.40	14.5	15.5	13.5
2050	122,290,448	12.86	10.07	2.79	.24	2.00	77.04	74.31	79.94	11.2	12.1	10.1

NOTES: Birth, death, and natural increase rates are events per thousand midyear population per year. The population growth rate is percent growth. The total fertility rate is births per woman. Expectation of life at birth is expressed in years. The infant mortality rate is deaths of children under exact age one per thousand live births.

SOURCE: Projected at the Center for International Research, U.S. Bureau of the Census.

Figure 7. Vietnam, Projected Age Structure, 1992–2050



SOURCE: Center for International Research, U.S. Bureau of the Census.

continuing population growth in the coming decades will be to create increased employment opportunities for the rapidly growing labor-force age groups.

We have seen that Vietnam's unemployment problem is concentrated in the entry-level age groups. Providing work opportunities for young adults will continue to be a problem. Fortunately, numbers in this age group are not increasing rapidly because people of smaller birth cohorts are now entering these ages. For example, the population ages 15–24, which includes 14.6 million people in 1992, will grow to 15.7 million in 2000. The growth of this group will be slower than the growth of the population as a whole.

Because mortality and fertility have changed gradually in Vietnam, the future aging of the population will be a gradual process too, as shown in figure 7. The proportion of the population age 65 and above will still be only 5 percent in the year 2010, unless fertility drops well below replacement level or mortality at upper ages improves much faster than projected here. After 2010, the proportion elderly is likely to increase to only about 7 percent in 2020 and thereafter more rapidly to 10 percent in 2030 and 16 percent in 2050. By that time, many of today's developed and newly industrialized countries will already have experienced such a comparatively old age structure. In dealing with an aging population, Vietnam will have the opportunity to learn from the policy successes and mistakes of numerous other countries whose populations aged in earlier decades.

Vietnam's total population will very likely continue to increase this whole time. From 70 million in 1992, we can expect the population to grow to about 81 million in 2000, 92 million in 2010, and about 122 million in 2050.

Conclusions

Just a few years ago, studying Vietnam's population situation was frustrating and inconclusive. Now, thanks to the greater openness of the Vietnamese government and the assistance of international organizations, we have the results of two censuses and one demographic survey to work with, and their quality is good. These data sources give us useful information on Vietnam's population size, growth, age-sex structure, mortality, and fertility.

Based on these sources, we have estimated that Vietnam has a population of about 70 million people in 1992, 49 percent male and 51 percent female. It is a young population: half is under age 21. Mortality is rather low, but we cannot be sure of mortality trends at this time.

With the government promoting family planning and putting pressure on couples to limit births, fertility declined to 4.0 births per woman by 1987–1988. Our projection indicates that the numbers of children will not change radically in future decades, the elderly population will increase slowly, but the population of labor-force ages will increase greatly before leveling off.

Vietnam's population is highly literate and broadly educated at the primary level. The employed population constitutes a very high proportion of adults, and the vast majority said they worked more than six months in the year before the 1989 census. They worked overwhelmingly in agriculture. Unemployment reportedly exists in rural areas, but it is worst in urban areas among young adults.

Vietnam's cities and large towns have either lost population since the unification of Vietnam in 1975 or their urban populations are growing very slowly, suggesting continuing net out-migration. The urbanization that has occurred in Vietnam since about 1982 has been concentrated in small towns with populations between 2,000 and 20,000. About 80 percent of Vietnam's population lives in rural areas.

Vietnam's demographic transition is at a much more advanced stage than its economic development process. The extreme concentration of the workforce in agriculture and of the population in rural areas, as well as the subsistence-level per capita income, suggests that the economic development of Vietnam has barely begun. However, Vietnam has strengths and advantages that could fuel rapid modernization whenever political orthodoxy can be overcome and the economic structure changes to give people greater production incentives [Banister, 1989b]. The low mortality, declining fertility, high literacy, and high proportion of the population with formal education show a population modernizing well ahead of the economy in which they live.

APPENDIX A

Evaluating Comparative Census Coverage

The procedures used to assess the completeness of both the 1979 and the 1989 censuses of Vietnam are detailed in this appendix. Tables A-1 and A-2 give the census age-sex structures as reported. Age reporting appears to be reasonably accurate [Vietnam General Statistics Office, 1991, p. 8]. There is little evidence of age heaping from the single-year age structures of the 1989 census; some exaggeration of age at the oldest ages (eighties and older) is seen in the 1979 census age structure [Feeney, 1990, pp. 17–18].

Figures A-1 and A-2 show the comparative age structures from the two censuses, graphed by date of birth. In general they fit together, showing, for example, a pronounced dearth of persons in the cohorts born during 1935–1945. Possible reasons for this dearth are reduced fertility under harsh wartime conditions during World War II and increased infant and child mortality, especially during the 1945 famine as Japanese rule waned.

However, some problems and inconsistencies are visible from the figures. The 1989 census shows a shortage of males in the age groups 15–19 and 20–24. This suggests that emigrants from Vietnam during 1979–1989 may have been concentrated among men in these ages. But there is also the possibility that the 1989 census undercounted young adult men or simply that the 5-percent sample areas did not have as high a proportion of young men as the full census tabulation will show.

Another problem seen in these graphs is that some cohorts have nearly the same number of people in 1979 and 1989. The points are practically on top of each other, suggesting that hardly anybody died during the decade. Table A-3 compares each age-sex group counted in 1979 with the number of survivors ten years older estimated from the 1989 census 5-percent sample. If the 1989 census estimated almost the same number as were counted a decade earlier when they were a decade younger, this may mean the group was undercounted in 1979. For instance, men ages 20–24 were apparently not all counted in 1979. We draw this conclusion because the number of males estimated at ages

Table A-1
 Vietnam, October 1, 1979, Census Population as Reported

Age group	Total	Male	Female	Sex ratio	Percent by age
Total	52,741,766	25,580,582	27,161,184	94.18	100.00
0-4	7,712,696	3,946,224	3,766,472	104.77	14.62
5-9	7,690,318	3,928,795	3,761,523	104.45	14.58
10-14	7,039,329	3,632,555	3,406,774	106.63	13.35
15-19	6,014,884	2,954,333	3,060,551	96.53	11.40
20-24	4,882,269	2,281,171	2,601,098	87.70	9.26
25-29	3,717,784	1,742,277	1,975,507	88.19	7.05
30-34	2,491,975	1,177,320	1,314,655	89.55	4.72
35-39	2,070,666	966,580	1,104,086	87.55	3.93
40-44	2,004,049	919,291	1,084,758	84.75	3.80
45-49	2,108,359	994,602	1,113,757	89.30	4.00
50-54	1,727,763	825,356	902,407	91.46	3.28
55-59	1,553,537	680,996	872,541	78.05	2.95
60-64	1,204,286	540,920	663,366	81.54	2.28
65-69	978,891	419,164	559,727	74.89	1.86
70-74	718,358	284,003	434,355	65.38	1.36
75-79	496,304	183,222	313,082	58.52	.94
80-84	200,141	64,153	135,988	47.18	.38
85+	130,157	39,620	90,537	43.76	.25

SOURCE: Census of Vietnam 1979, 1983, p. 34.

30-34 in 1989 was unexpectedly large by comparison. Among females, the problem seems to arise especially for those in age groups 35-39, 40-44, and 50-54 in 1979. But at many ages, the curves of the female age structures are so close together that we might suspect a generalized undercount of females in 1979.

Table A-3 provides a closer look at the proportion of each 1979 age group who survived to 1989, based on the two census age structures. Then the calculated survival ratio for that cohort is compared to the survival ratio from the same age-sex group derived from model life tables of the United Nations general pattern. The far right column in the table gives the expectation of life at birth implied by that proportion surviving. Estimates in this table are approximate because the censuses were nine and a half years apart instead of exactly ten. This means that the surviving cohorts are not completely the same group and that the

Table A-2
Vietnam, April 1, 1989, Census Population as Reported

Age group	Total	Male	Female	Sex ratio	Percent by age
Total	64,411,713	31,336,568	33,075,145	94.74	100.00
0-4	9,010,467	4,646,295	4,364,172	106.46	13.99
5-9	8,580,688	4,403,991	4,176,697	105.44	13.32
10-14	7,526,882	3,875,878	3,651,004	106.16	11.69
15-19	6,820,107	3,376,525	3,443,582	98.05	10.59
20-24	5,999,744	2,879,761	3,119,983	92.30	9.31
25-29	5,667,234	2,695,857	2,971,377	90.73	8.80
30-34	4,733,391	2,264,254	2,469,137	91.70	7.35
35-39	3,325,266	1,551,126	1,774,140	87.43	5.16
40-44	2,234,574	1,039,015	1,195,559	86.91	3.47
45-49	1,964,693	881,617	1,083,076	81.40	3.05
50-54	1,942,063	865,427	1,076,636	80.38	3.02
55-59	1,966,503	921,778	1,044,725	88.23	3.05
60-64	1,574,837	714,310	860,527	83.01	2.44
65-69	1,237,645	536,957	700,688	76.63	1.92
70-74	807,769	326,377	481,392	67.80	1.25
75-79	564,688	210,994	353,694	59.65	.88
80-84	289,775	94,865	194,910	48.67	.45
85+	157,776	47,778	109,998	43.44	.24
Not stated	7,611	3,763	3,848	97.79	.01

SOURCE: Vietnam 1989 Population Census, 1990, Appendix Table 1.2.

mortality estimates could be a little too favorable, having missed a half year of deaths.

In general, the survival ratios between 1979 and 1989 do not fit expected patterns. If the two census age-sex structures were complete and accurate, we would expect to see for all cohorts of males about the same expectation of life at birth, and another life expectancy for all cohorts of females, except for cohorts strongly affected by international migration.

Previous work on mortality in Vietnam suggests that life expectancy for each sex since about 1979 has been somewhere in the broad range of 57-70 years, and any estimate much below or above that range is implausible [Banister, 1985, pp. 13-18, 23, Table D-1]. Using this guideline, there is some problem with all the male cohorts who were ages 5-9 through 35-39 and ages 70 and above in 1979. A partial

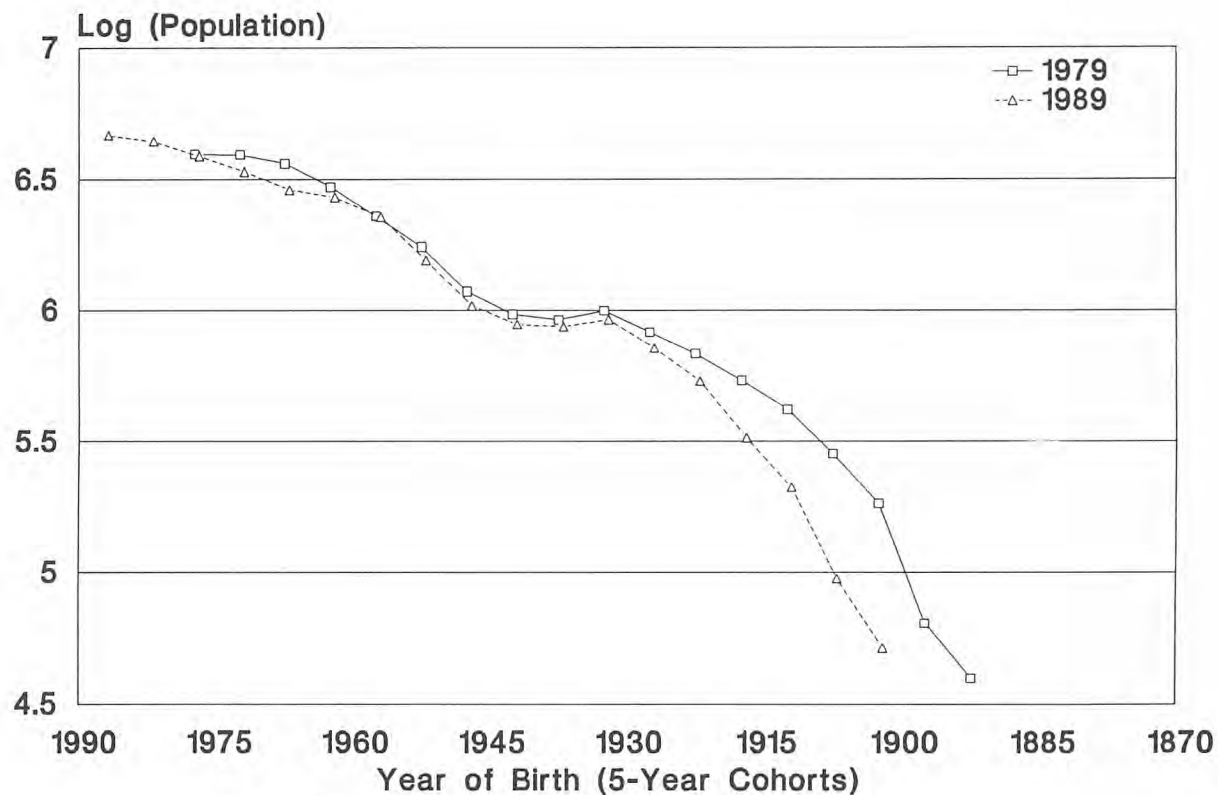


Figure A-1. Vietnam Censuses of 1979, 1989
Log of Male Population by Year of Birth

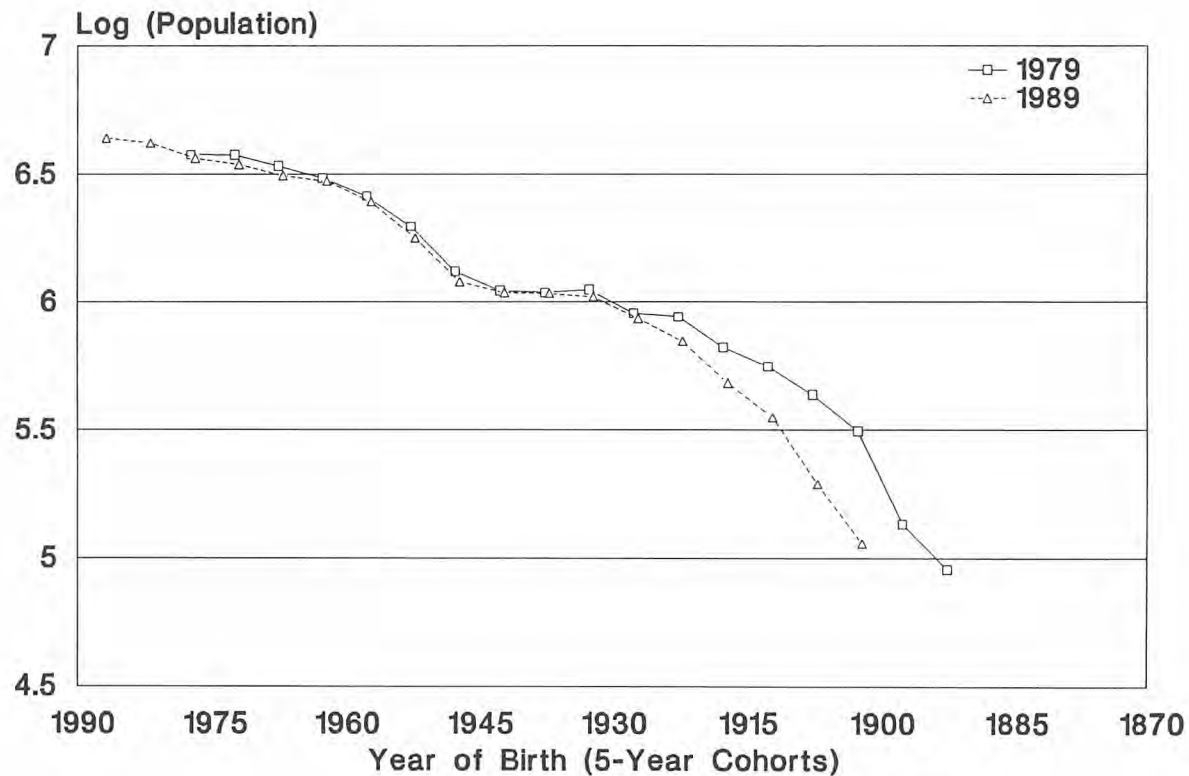


Figure A-2. Vietnam Censuses of 1979, 1989
Log of Female Population by Year of Birth

Table A-3
 Vietnam, Implied Mortality Levels from 1979 and 1989 Censuses

MALES					
Age in 1979	1979 census count	Age in 1989	1989 census 5-percent sample	Survival ratios	Implied life expectancy UN general tables
0-4	3,946,224	10-14	3,875,878	.9822	65 years
5-9	3,928,795	15-19	3,376,525	.8594	under 35 years
10-14	3,632,555	20-24	2,879,761	.7928	under 35 years
15-19	2,954,333	25-29	2,695,857	.9125	37 years
20-24	2,281,171	30-34	2,264,254	.9926	74 years
25-29	1,742,277	35-39	1,551,126	.8903	39 years
30-34	1,177,320	40-44	1,039,015	.8825	42 years
35-39	966,580	45-49	881,617	.9121	54 years
40-44	919,291	50-54	865,427	.9414	67 years
45-49	994,602	55-59	921,778	.9268	70 years
50-54	825,356	60-64	714,310	.8655	67 years
55-59	680,996	65-69	536,957	.7885	67 years
60-64	540,920	70-74	326,377	.6034	56 years
65-69	419,164	75-79	210,994	.5034	59 years
70-74	284,003	80-84	94,865	.3340	54 years
75+	286,995	85+	47,778	.1665	under 35 years

FEMALES

Age in 1979	1979 census count	Age in 1989	1989 census 5-percent sample	Survival ratios	Implied life expectancy UN general tables
0-4	3,766,472	10-14	3,651,004	.9693	62 years
5-9	3,761,523	15-19	3,443,582	.9155	under 35 years
10-14	3,406,774	20-24	3,119,983	.9158	37 years
15-19	3,060,551	25-29	2,971,377	.9709	59 years
20-24	2,601,098	30-34	2,469,137	.9493	54 years
25-29	1,975,507	35-39	1,774,140	.8981	44 years
30-34	1,314,655	40-44	1,195,559	.9094	49 years
35-39	1,104,086	45-49	1,083,076	.9810	75 years
40-44	1,084,758	50-54	1,076,636	.9925	over 75 years
45-49	1,113,757	55-59	1,044,725	.9380	71 years
50-54	902,407	60-64	860,527	.9536	over 75 years
55-59	872,541	65-69	700,688	.8030	64 years
60-64	663,366	70-74	481,392	.7257	66 years
65-69	559,727	75-79	353,694	.6319	68 years
70-74	434,355	80-84	194,910	.4487	65 years
75+	539,607	85+	109,998	.2038	64 years

SOURCES: Tables A-1 and A-2; UN, 1982.

solution is to assume that most emigrants from Vietnam were young adult males, but this assumption does not completely solve any of the anomalies in the two male age structures. It is clear that men ages 20–24 were undercounted in the 1979 census, so we have adjusted the count for this error. In the 1989 census 5-percent sample, the numbers of men ages 15–19 through 25–29, 35–39 through 40–44, and 80–84 and older are all underestimated, judging from the low survivorship and very low life expectancy implied by the two census figures. So we expect to project more men in these age groups than were estimated, and this prediction is confirmed.

For females, as shown in table A-3, the calculated survival ratios were excessively high for those cohorts of women who were ages 35–39, 40–44, and 50–54 in 1979. An overcount of women ages 45 to 64 in the 1989 census is not highly plausible, though it is possible that the 5-percent sample of the census population overrepresented women in certain age groups. Because the 1989 count of the survivors from 1979 (extrapolated from the 5-percent sample of the 1989 census) was so large that it implied a life expectancy far above 75 years for the intercensal period, it is likely that the total female population was undercounted in the 1979 census in relation to those reported to be ages 10 and above in the 1989 census. Therefore, we have adjusted the 1979 female count upward in the middle age groups where the count seemed to be deficient.

In contrast, there appears to have been no problem in 1979 with getting a complete count of women ages 55–59 and above. The estimates for their survivors at ages 65–69 and above in 1989 appear reasonable and consistent.

In the 1989 5-percent sample age structure, however, there are not enough surviving females in the age groups 15–19 through 20–24 and 30–34 through 40–44. Even after emigration is accounted for, we project higher numbers of women in most of these age groups as of 1989.

The foregoing techniques give us some hints and evidence regarding which age-sex groups might have been undercounted in either census. Overcounts of five-year age groups are less likely to be the culprit; such overcounts are unusual in censuses. In Vietnam's 1989 census, however, there is the possibility that the 5-percent sample age structure was not fully representative of the complete census age structure. Overestimation of some age groups and underestimation of others could cause erratic implied life expectancies for different cohorts. Even if there are minor problems with the age-sex structure of the 5-percent sample, it was still important to produce the preliminary results of the census as promptly as was achieved [Le Van Toan, 1990]. When the full census

results become available, the representativeness of the sample can be checked and verified. Meanwhile, for purposes of population reconstruction and projection, we have adjusted the 1979 base population based on the foregoing evidence that certain age-sex groups were undercounted.

APPENDIX B

1989 Census Special Enumeration Groups

The April 1, 1989, census of Vietnam enumerated separately a category of persons called "special enumeration groups." The volume of sample results described this category as follows:

Usual residents temporarily overseas, Vietnamese diplomats and military personnel and their families, overseas at the time of the censuses, are included.

In the 1989 census, considerable effort was made to ensure that police, military officials and Vietnamese diplomats temporarily overseas were included in the total population. However, the information sought from these special groups was less detailed than for the rest of the population...

In this report, the more detailed tables exclude certain groups of persons such as the military, the police and Vietnamese diplomats serving overseas. [Vietnam 1989 Population Census, 1990, pp. 24–26]

There is some ambiguity in this description. It appears that all usual residents of Vietnam who had been outside the country for six months or more at census time were included in the Special Enumeration Groups. But it is possible to conclude from the above description that *all* members of Vietnam's armed forces and police force were also included in the special enumeration groups, including those military and police personnel who were in Vietnam on census day. Such inclusiveness also seems implied by the following description by a scholar from the Vietnam General Statistics Office: "The branches of separate enumeration consist of: Ministries of Home Affairs, Foreign Affairs, National Defense, Labour (enumeration of Vietnamese who were nominated for long-term study abroad). Data of the branches of separate enumeration are excluded from the rural and urban population" [Tran Van Chien, 1990, p. 305]. Mr. Tran Van Chien told me that Ministry of Home Affairs means the police, Ministry of Foreign Affairs means embassies abroad, and Ministry of National Defense means soldiers. But this description does not clarify whether all the police and military

or only those temporarily abroad are included in the special enumeration groups.

A careful retranslation from the Vietnamese original (by Dr. Sang Nguyen of the U.S. Bureau of the Census) leads strongly to the conclusion that military and police personnel inside Vietnam at census time were not included in the special enumeration groups. The following analysis is based on that assumption.

The 1989 census included in the enumeration all persons who are "usually resident" in Vietnam. (As retranslated by Dr. Sang Nguyen, "The targets of the two censuses of population are actual permanent residents of Vietnam.") "An important principle was to ensure that all persons in Viet Nam at the time of the census, other than temporary visitors, were assigned to a household of usual residence" [Vietnam 1989 Population Census, 1990, p. 6]. But those Vietnamese citizens who were temporarily abroad on census day and had been out of the country for six months or more were grouped together in the category "special enumeration groups."

According to the 5-percent sample census volume, the special enumeration groups were usual residents of Vietnam who were temporarily overseas, including Vietnamese diplomats and military personnel and their families who were out of the country at census time. Police and military officials who were temporarily overseas were also mentioned as included in the special enumeration groups.

As shown in tables B-1 and B-2, the census counted 1.04 million usual residents of Vietnam who were temporarily abroad on April 1, 1989. Of these, 889,000 were male, only 156,000 female. The Vietnamese temporarily abroad included only token numbers of children and no one over age 65, suggesting that the census enumerated very few families with dependents living abroad. Rather, almost all the usual residents of Vietnam temporarily overseas were adults ages 15 through 65, especially in the age groups 15-34.

Presumably, the census special enumeration groups excluded those who had fled Vietnam by sea or left in the Orderly Departure Program, since these people were no longer usually resident in Vietnam. Similarly, Vietnamese who had settled down across the border in Cambodia were probably categorized as permanent residents of Cambodia and excluded from Vietnam's census. The fact that there were so few children in the special enumeration groups reinforces these conclusions. Excluded by definition from the 1989 count, therefore, would be "the two million people of Vietnamese origin living in 80 countries abroad," one million of whom live in the United States [Wain, 1991a, pp. 1, 18].

Table B-1
Vietnam, 1989 Census Special Enumeration Groups, by Single Years of Age

Age	Total	Male	Female	Age	Total	Male	Female
All ages	1,044,750	888,500	156,250				
0	0	0	0	45	4,700	4,149	551
1	161	79	82	46	4,304	3,775	529
2	36	20	16	47	3,926	3,448	478
3	16	0	16	48	3,022	2,654	368
4	0	0	0	49	3,376	3,077	299
5	33	0	33	50	2,707	2,385	322
6	76	11	65	51	2,201	1,989	212
7	16	0	16	52	2,148	1,972	176
8	33	33	0	53	2,309	2,055	254
9	11	11	0	54	1,658	1,556	102
10	41	24	17	55	1,448	1,393	55
11	18	17	1	56	1,457	1,406	51
12	17	17	0	57	1,359	1,330	29
13	25	23	2	58	1,446	1,385	61
14	21	21	0	59	1,294	1,275	19
15	1,024	927	97	60	1,645	1,619	26
16	1,458	1,391	67	61	480	477	3
17	5,791	5,024	767	62	343	339	4
18	34,643	29,488	5,155	63	171	168	3
19	79,644	67,139	12,505	64	129	128	1
20	102,696	90,984	11,712	65	605	569	36
21	107,867	97,401	10,466	66	0	0	0
22	82,541	72,937	9,604	67	0	0	0
23	66,242	58,229	8,013	68	0	0	0
24	51,681	44,673	7,008	69	0	0	0
25	45,170	37,559	7,611	70	0	0	0
26	36,592	29,197	7,395	71	0	0	0
27	33,215	26,276	6,939	72	0	0	0
28	32,502	25,805	6,697	73	0	0	0
29	41,013	32,938	8,075	74	0	0	0
30	36,435	29,301	7,134	75	0	0	0
31	36,616	30,048	6,568	76	0	0	0
32	31,588	26,260	5,328	77	0	0	0
33	27,113	22,843	4,270	78	0	0	0
34	25,778	21,306	4,472	79	0	0	0
35	24,602	20,207	4,395	80	0	0	0
36	17,943	14,806	3,137	81	0	0	0
37	15,085	12,554	2,531	82	0	0	0
38	11,797	9,680	2,117	83	0	0	0
39	14,040	11,307	2,733	84	0	0	0
40	11,533	8,900	2,633	85+	0	0	0
41	9,715	7,748	1,967	Not stated	359	155	204
42	7,422	6,163	1,259				
43	5,814	4,983	831				
44	5,599	4,866	733				

NOTE: The April 1, 1989, census of Vietnam included all persons who are usually resident in Vietnam. Those persons actually in Vietnam at the time of the count were enumerated in their households of usual residence. But Vietnamese citizens who were abroad at the time of the count were categorized separately. These "special enumeration groups" included Vietnamese diplomats, military, police, and other Vietnamese citizens and their families who were temporarily abroad on census day. These figures are estimates for the total population based on a 5 percent sample of census questionnaires.

Table B-2
Vietnam, 1989 Census Special Enumeration Groups
by Five-Year Age Groups

Age group	Total	Male	Female
All ages	1,044,750	888,500	156,250
0-4	213	99	114
5-9	169	55	114
10-14	122	102	20
15-19	122,560	103,969	18,591
20-24	411,027	364,224	46,803
25-29	188,492	151,775	36,717
30-34	157,530	129,758	27,772
35-39	83,467	68,554	14,913
40-44	40,083	32,660	7,423
45-49	19,328	17,103	2,225
50-54	11,023	9,957	1,066
55-59	7,004	6,789	215
60-64	2,768	2,731	37
65-69	605	569	36
70-74	0	0	0
75-79	0	0	0
80-84	0	0	0
85+	0	0	0
Age not stated	359	155	204

NOTE: The April 1, 1989, census of Vietnam included all persons who are usually resident in Vietnam. Those persons actually in Vietnam at the time of the count were enumerated in their households of usual residence. But Vietnamese citizens who were abroad at the time of the count were categorized separately. These "special enumeration groups" included Vietnamese diplomats, military, police, and other Vietnamese citizens and their families who were temporarily abroad on census day. These figures are estimates for the total population based on a 5 percent sample of census questionnaires.

Then how do we account for the large number of Vietnamese living temporarily abroad in early 1989? Many of them may have been active duty military personnel. For instance, one source reported that the Vietnamese army in Cambodia was about 180,000 troops for most of the decade from 1979 to 1989 but that most Vietnamese combat units were withdrawn from the country in 1988-1989 [Economist Intelligence

Unit, 1991, p. 59]. A U.S. government source on Cambodia stated: "Vietnam's occupation army of as many as 200,000 troops controlled the major population centers and most of the countryside from 1979 to September 1989," but noted that some of the occupation forces were withdrawn beginning in 1986 [Holly, 1990, pp. 4-5]. Vietnam announced on April 5, 1989, that there were 50,000-70,000 of its troops remaining in Cambodia and that they would be withdrawn by the end of September that year [Tasker and Chanda, 1989, p. 10].

Another important category of Vietnamese temporarily out of the country was Vietnamese workers sent to other Communist countries:

During 1980-81, the Vietnamese Government signed several labor cooperation agreements with the Soviet Union, the GDR, Bulgaria, and Czechoslovakia. Vietnam has sent 240,000 workers to these countries and they worked effectively there. . . . This huge army of workers is composed mostly of competent young men. [Bui Ngoc Thanh, 1990, pp. 74-75]

Under the agreement with the Soviet Union, the workers were in the age group 17-35 [Burns, 1982, p. A-7]. As shown in table B-1, most of the Vietnamese temporarily abroad as of April 1989 were indeed men ages 17-35. Vietnam also "began sending . . . technical workers and cadres to Iraq and Algeria in 1986" [Le Nhu Bach, 1989, p. 66]. An official report said that there had been 280,000 Vietnamese workers in Eastern Europe and the Middle East before 1990 [Tran Dinh Hoan, 1991b, p. 55]. The age structure of the special enumeration groups in tables B-1 and B-2 indicates that overseas workers from Vietnam go alone without dependents.

Vietnam sends some students abroad for advanced training. According to a U.S. Government report, "Vietnam annually sends about 15,000-20,000 students to the Soviet Union and other communist countries under various bilateral technical assistance programs" [Young, 1990, pp. 3-4].

We hypothesize that the main groups comprising the 1.04 million Vietnamese citizens temporarily living abroad in April 1989 were laborers, military troops and advisers, and diplomatic personnel. There were also some college and graduate-level students enrolled in universities or conducting research in other countries. But our analysis has accounted for only a little more than half of the 1.04 million persons in the special enumeration groups. Could it be that Vietnam's entire armed forces and police force are included in this figure? It seems unlikely, because it is estimated that Vietnam's active-duty military personnel alone totaled 1.1 million in 1988 [ACDA, 1990, p. 70]. The population in the

special enumeration groups would have been much larger than 1.04 million if the entire active-duty armed forces of Vietnam were included.

Other categories of persons who may have been included in the 1989 census category of special enumeration groups (as noted by Dr. Sang Nguyen of the U.S. Bureau of the Census) are:

- People who are permanent residents in foreign countries (such as Laos, Cambodia, France, Canada, Eastern Europe, and others) but who still keep their Vietnamese citizenship. Most of these people left Vietnam before 1975 and have relatives who are living in Vietnam. These people want to keep their ties with Vietnam so that they may return to Vietnam to visit their relatives and perhaps even retire to their homeland if possible.
- People who are sent overseas for businesses other than police, military, and diplomatic services. These businesses might include import and export trade, banking, communication, etc. For example, in France and Canada, Vietnamese officials own travel offices and stores selling Vietnamese products.
- Civilians such as teachers and specialists sent to Cambodia and Laos for purposes of propaganda and education.

Many of the Vietnamese citizens who were abroad in early 1989 have since returned to Vietnam. In particular, Vietnamese military personnel who occupied Cambodia were for the most part withdrawn in late 1989. Most Vietnamese guest workers have gone home to Vietnam. In Eastern Europe, the collapse of Communist regimes in late 1989 made the situation of many Vietnamese workers untenable. Some chose to return home, some were forced out, and some were recalled by the Vietnam government. According to the Ministry of Labor, as of the beginning of 1991, a total of 138,000 Vietnamese guest workers remained in the former Soviet Union, Germany, Bulgaria, and Czechoslovakia, of whom about 34,000 were expected home in 1991 as their contracts expired [Hanoi Domestic Service, 1991a, p. 63]. Of the 16,000 Vietnamese citizens (mostly workers) in Iraq in mid-1990, all but 2,000 were evacuated either to third countries or back to Vietnam by mid-January 1991 [*Indochina Chronology*, Jan.–Mar. 1991, p. 6]. By April 1991, Vietnam's Labor Minister reported: "Due to the changes in the political and social situation in East Europe and the Middle East last year, two-thirds of the more than 280,000 Vietnamese workers in those two regions have returned home and the return is continuing" [Tran Dinh Hoan, 1991b, p. 55].

The return to Vietnam of so many military personnel and workers since late 1989 has been disruptive for the returnees themselves, their families, and society. Vietnam's economy is ill-equipped to provide jobs for them. As of September 1991, "Vietnam still ha[d] problems finding jobs for some 100,000 demobilized military personnel, half the number withdrawn from Cambodia in December 1989. The unemployment problem [was] further aggravated by the return of nearly 200,000 Vietnamese guest workers from Eastern European countries, where they [were] no longer welcome" [Le Xuan Khoa, 1991, p. 10]. Adding to the employment crisis have been cutbacks in the size of the Vietnamese army and the government civilian payroll.

APPENDIX C

Council of Ministers Decision 162

This is an authoritative U.S. government translation of the Vietnam Council of Ministers family planning decision. The original source is the December 5, 1988, issue of *Giao Vien Nhan Dan* [Teachers of the People], a twice-monthly newspaper published by Vietnam's Ministry of Education and the Vietnam Teachers Trade Union. Published in Joint Publications Research Service, no. JPRS-SEA-89-007, February 8, 1989, pp. 25-27.

Council of Ministers Decision 162 [October 1988] Concerning a Number of Population and Family Planning Policies

Population planning is very important in the socio-economic development of the country and in raising the standard of living.

To rapidly reduce our country's rate of population growth, with the immediate goal being achieving a natural population growth rate of 1.7 percent by 1990 as recorded in the resolution of the 6th Congress of the CPV and the resolution of the second session of the 8th National Assembly, the Council of Ministers has made the following number of specific decisions concerning population and family planning policy:

Article 1—Practicing family planning is the responsibility of all society, of male as well as female citizens, beginning with the ministries and the people's committees on the various levels, whose responsibility it is to provide day to day guidance.

Article 2—The number of children per couple:

(a) Persons in the following categories and persons who live in the following areas are permitted to have a maximum of two children:

- Cadres, manual workers and civil servants at agencies of the party, the state and mass organizations and cadres and soldiers of the armed forces;
- Families who live in a municipality, a city or an industrial zone;

- Families who live in the Red River Delta, the Mekong Delta, the lowlands of the central coastal provinces or the midlands.
- (b) Families of the ethnic minorities in the mountain provinces of the North, the Central Highlands and the Northwest may have a maximum of three children per couple.
- (c) Couples who were married previously, either one or both of whom have children from their previous marriage, who now wish to have a child of their own may have only one child.
- (d) In cases in which twins or triplets are born to the couple first, they may not have another child. Couples who already have one child but then give birth to twins or triplets will not be considered as having exceeded the limit.
- (e) Persons who have two children, both of whom are handicapped, may have a third child.
- (f) The above mentioned families of cadres, members of the armed forces, manual workers and civil servants are families in which both the husband and wife are a cadre, manual worker or civil servant or only one person is a cadre, manual worker, civil servant or member of the armed forces. The place of residence of the mother is used to determine if a family lives in a municipality, city or industrial zone.

Article 3—Child bearing age and the space between children:

- (a) In the case of families residing in municipalities, cities and industrial zones in which the husband or wife is a cadre, a member of the armed forces, a manual worker or a civil servant, child bearing age is 22 years of age or older for women and 24 years of age or older for men. In the other areas, the age is 19 or older for women and 21 or older for men.
- (b) The second child, if any, and the first child must be spaced 3 to 5 years apart. In the case of a woman who gives birth late in life, after 30 years of age, the space can be 2 to 3 years.

Article 4—Registration and childbirth management:

- (a) Couples who already have a child (except couples who have stopped having children) and newly married couples must register with the local administration and pledge to practice family planning in exact accordance with Articles 2 and 3. Cadres, manual workers, civil servants and members of the armed forces are to register at their agency or unit. Civilians are to register at their village, subward or town people's committee.
- (b) Agencies, units and village, subward and town people's committees must routinely keep abreast of the specific situation concerning

the implementation of birth control measures and the birth of children by each couple within their agency, unit or locality.

(c) Agencies and units must report on the family planning situation within their agency or unit and be under the supervision and inspection of the people's committee on the basic level and the population and family planning guidance committee of the precinct, district or town.

Article 5—Measures for promoting population work and family planning:

(a) Efforts must be intensified to provide widespread propaganda and education of every form concerning population and family planning so that everyone clearly understands the benefits to be derived and the responsibility to teach about population and family planning within general schools, colleges, vocational schools and cadre training schools.

(b) It is necessary to strengthen the system of organizations engaged in population and family planning work on the various levels so that they have an adequate number of specialized and semi-specialized cadres. Every agency and unit must put a cadre in charge of population work and family planning.

(c) A full supply of equipment, implements and drugs as well as an adequate force of specialized public health cadres must be prepared in order to promptly meet the needs for gynecological examinations and medical treatment and birth control and abortion services. It is necessary to organize basic public health service units which are convenient to the people and provide instruction in the use of safe and effective birth control measures and methods suited to the habits of each area and to each person.

(d) The Ministry of Finance, the State Planning Commission, economic organizations and the people's committees of the provinces, municipalities, special zones, precincts, wards, districts and cities must provide appropriate funding to the population committee on their level in order to provide the conditions needed for the committee to perform its population and family planning work well.

Article 6—Policies and regulations encouraging population work and family planning:

1. Henceforth, one of the standards to be considered in the allocation of land for the construction of a house and the distribution of housing is that the family have two children.

The same standards apply to families that have only one child as apply to families that have two children.

Families that have more than the allowed number of children (which includes the children they already have) must pay a housing or land rent calculated at a high price for the extra space they request.

2. Henceforth, families with three children or more will not be permitted to move into the urban centers of municipalities, cities and industrial zones.

3. Families that have more than the stipulated number of children must contribute social support funds, which include funds for education and health care and an increased contribution of socially beneficial labor.

4. The state will supply, free of charge, birth control devices, such as intrauterine loops and condoms, birth control pills and public health services for the insertion of intrauterine loops and abortions to eligible persons who are cadres, manual workers, civil servants or members of the armed forces, persons to whom priority is given under policy and poor persons who register to practice family planning.

5. The widespread sale of birth control devices will be permitted in order to facilitate their use by everyone who needs them.

6. If they desire to have children, childless women may receive medical treatment to enable them to bear a child.

7. The state shall adopt regulations offering incentives to encourage persons to cease child bearing by means of vasectomies and tubal ligations.

8. When examining the results of the implementation of their plan, state agencies as well as production and business units must give consideration to another standard, namely, meeting the norms on population and family planning.

9. Couples which do not observe the articles concerning the number of children will be appropriately penalized in accordance with current law by their immediate management agencies.

Article 7—The provisions of this decision become effective 3 months after the day they are signed by the chairman of the Council of Ministers.

On the basis of this decision, the National Population and Family Planning Commission, the ministries and the people's committees of the provinces and the municipalities and special zone directly subordinate to the central level will guide specific enforcement within the scope of their responsibility.

APPENDIX D

Supplementary Tables

Table D-1
Vietnam, Official Vital Rates as Reported, 1975–1990

Year	Crude birth rate	Crude death rate	Natural increase rate	Population growth rate (percent)	Infant mortality rate	Expectation of life at birth	Expectation of life at birth, male	Expectation of life at birth, female
1975							58	
1976	39.5	7.5	32.0	3.2				
1977	36	7	29	2.9	30			
1978	31.4	7.1	24.3	2.43	36.4	60		
1979	32.8	7.1	25.7			66.09* 45	63.66*	67.89*
	32.5	6.3	26.2	2.6 2.3–2.4				
1980	29.3	7.0	22.3	2.23	34.7			
	31.0	6.98	24.0	2.4				
	31.7	7.0	24.7					
1981				2.2 2.4				
	30.02	(6.99)	23.03	2.3				
1982				2.4				
1983		7.4		2.29	20.1	63	62	66
1984	29.48	7.04	22.9	2.2 2.29				
1984–86					37			

1985	28.4	6.9	21.5	2.15			
	28.5	7.4	20.5				
1986	27.8	6.9	20.8	2.08			
	27.82	6.95	20.8				
1987	27.26	6.7	20.56				
	27.43	6.66	(20.77)	2.08			
1988	26.6						
	31-32*	8-9*	22-24*		40		
	31.3*	8.4*	(22.9)*	2.3*	"around 50"*		
1989	30.8	6.3				60	62
1990	30.3	8.4	21.9	2.19			
	33.0						

NOTE: Most of these figures are based on Vietnam's system of birth and death registration. Figures with an asterisk (*) were reported in census volumes or are based on census data.

Table D-1 Notes and Sources

The following abbreviations are used in the source notes:

- CBR, crude birth rate
- CDR, crude death rate
- NIR, natural population increase rate
- IMR, infant mortality rate
- e(o), expectation of life at birth
- m, male
- f, female

Figures in parentheses are derived from other data reported in the table. The CBR, CDR, and NIR are births, deaths, and natural population increase per thousand population. The IMR is deaths in the first year of life per thousand live births. Life expectancy e(o) is given in years.

Sources: Those sources from which many of these data came are referred to by the following symbols:

- a Vietnam Ministry of Health, undated, especially p. 14.
- b UNFPA, 1981, pp. 16–25 and 32.
- c Hoang Dinh Cau, 1982, pp. 57, 61.
- d Jones, 1982, p. 792.
- e Dang Hoi Xuan, 1985, p. 95.
- f Anh Thu, 1985, p. 132.
- g ESCAP, 1985, p. 38.
- h Vu Quy Nhan, 1986, p. 1, Table 1.
- i Tran Van Chien, 1990, pp. 298–299.
- j “Population and Family Planning.” Presented at the Integrated Project Workshop, Hanoi, 1986.
- k *Vietnam Courier*, 1987, p. 105.
- m Vu Kien and Vu Ngoc Binh, 1988, p. 20.
- n “Family Planning in Vietnam.” *Summary of World Broadcasts—Weekly Economic Report*, no. FE/W1449, July 15, 1987, p. i.
- p Pham Song, “Existing Problems in Population and Family Planning.” *Nhan Dan* (Hanoi), Dec. 6, 1988, p. 3. Tr. as “Progress, Problems Reported in Family Planning.” Joint Publications Research Service, no. JPRS-SEA-89-009, Feb. 22, 1989, p. 28.
- r Hoang Hai, “Our Country Now Has 66.3 Million People.” *Quan Doi Nhan Dan* (Hanoi), Mar. 12, 1991, p. 1. Joint Publications Research Service, no. JPRS-SEA-91-015, June 19, 1991, p. 58.

1975—e(o): a.

1976—CBR, CDR: b, c, d. NIR: b, d. Pop. growth rate: c, e.

1977—CBR, CDR: b, c, d. NIR: b, d. Population growth rate: c. IMR: “Population.” Vietnam News Agency, Jan. 2, 1979. Tr. in *Summary of World Broadcasts—Weekly Economic Report*, no. W1016, Jan. 31, 1979, p. 20.

1978—CBR, CDR: b, c, d. NIR: b, d. Pop. growth rate: c. IMR: a. e(o): d.

1979—CBR of 32.8, CDR of 7.1, NIR of 25.7: b, c, d. CBR of 32.5, CDR of 6.3, NIR of 26.2: “Meeting Reviews Achievements, Experience in 1979 Census” *Nhan Dan* (The People) (Hanoi), Sept. 9, 1982, p. 1. Tr. in Joint Publications Research Service, no. 82078, Oct. 26, 1982, p. 33. Vietnam Report, no. 2404. Population growth rate of 2.3–2.4%: “Planned Parenthood.” *Y Hoc Thuc Hanh* (Practical Medicine) (Hanoi), no. 4, July-Aug. 1980, pp. 9–13. Tr. as “Medical Journal Urges Practice of Birth Control.” Joint Publications Research Service, no. 78220, June 3, 1981, p. 28. Vietnam Report, no. 2276. IMR:

- i. e(o), total, m, f: Census of Vietnam 1979, 1983, p. 125. Pop. growth rate of 2.6%: Trinh Quoc Khoi. "A Few Statistics on the Population of Our Country." *Nghien Cuu Giao Duc* (Hanoi), May 1983, pp. 15–16. Tr. in Joint Publications Research Service, no. 84128, Aug. 15, 1983, p. 81. Southeast Asia Report, no. 1325.
- 1980—CBR of 29.3: b, c, d. CDR of 7.0: b. NIR of 22.3: b. Pop. growth rate of 2.23: c; of 2.4: e, f, g. IMR: b. CBR of 31.0, CDR of 6.98, NIR of 24.0: j. CBR of 31.7, CDR of 7.0, NIR of 24.7: m.
- 1981—CBR of 30.02, NIR of 23.03: n. Pop. growth rate of 2.2%: Hoang Dinh Cau, "Planned Parenthood: Each Family Should Have Only Two Children," *Nhan Dan* (Hanoi), Mar. 4, 1982, p. 3. Tr. in Joint Publications Research Service, no. 80671, Apr. 27, 1982, p. 59. Vietnam Report, no. 2361; Pop. growth rate of 2.3%: k; of 2.4%: Thai Ninh, 1987, p. 26.
- 1982—Population growth rate: Dang Thu. "Some Characteristics of the Vietnamese Population," *Khoa Hoc Va Doi Song* (Hanoi), nos. 3 and 4, 1983, p. 5. Joint Publications Research Service, no. 83168, Mar. 31, 1983, p. 188. Southeast Asia Report, no. 1268.
- 1983—All data: Dang Hoi Xuan. 1985. "Our Country's Public Health Sector: Forty Years of Service and Growth," *Tap Chi Cong San* (Hanoi), no. 5, May 1985, pp. 48–53, 69. Tr. in Joint Publications Research Service, no. JPRS-SEA-85-114, July 26, 1985, p. 61.
- 1984—CBR of 29.48, CDR of 7.04, NIR of 22.9 (slightly inconsistent figures): h. Pop. growth rate of 2.2: f, g; of 2.29%: e.
- 1984–1986—IMR of 37: b.
- 1985—CBR of 28.4, CDR of 6.9, NIR of 21.5: m, n. Pop. growth rate of 2.15%: Thai Ninh, 1987, p. 26. CBR of 28.5, CDR of 7.4, NIR of 20.5 (slightly inconsistent figures): j.
- 1986—CBR of 27.8, CDR of 6.9, NIR of 20.8: m. Pop. growth rate of 2.08: k. CBR of 27.82, CDR of 6.95, NIR of 20.8: p.
- 1987—CBR of 27.26, CDR of 6.7, NIR of 20.56: p. CBR of 27.43, CDR of 6.66, pop. growth rate of 2.08: Vietnam General Statistics Office, *Vital Registration and Population Statistics Improvement Project*. Hanoi: Statistical Publishing House, 1989, p. 98.
- 1988—CBR of 26.6: i. CBR of 31–32, CDR of 8–9, NIR of 22–24: Vietnam 1989 Population Census, 1990, p. 39. CBR of 31.3, CDR of 8.4, population growth rate of 2.3%: "Press Conference Held on Sample Census Results." Hanoi VNA in English, Mar. 26, 1990. CBR of 31.3: Le Van Toan, 1990, p. 1. IMR of 40: i. IMR of "around 50" from 1989 census: UNFPA, 1991, p. 18.
- 1989—CBR of 30.8, derived from Thu Ba, 1991, p. 58. CDR of 6.3: Pham Song. "Objectives for Public Health Service Detailed." Hanoi VNA in English, Jan. 22, 1990. Foreign Broadcast Information Service, *Daily Report*, no. FBIS-EAS-90-015, Jan. 23, 1990, p. 70. e(o) m and f: p.
- 1990—CBR of 33.0, population growth rate of 2.19%: "Birth Rate in 1990 Drops to 3.3 Percent." Hanoi Domestic Service in Vietnamese, Mar. 12, 1991. Tr. in Foreign Broadcast Information Service, *Daily Report*, no. FBIS-EAS-91-051, Mar. 15, 1991, pp. 69–70. CBR of 30.3, CDR of 8.4, NIR of 21.9: Thu Ba, 1991, p. 58.

Table D-2
Vietnam, Male 1979 Abridged Life Table, As Reported

Age	lx	Qx	Lx	Tx	dx	Mx	Ex
0-0	100,000	.04581	96,946	6,366,000	4,581	.04725	63.66
1-4	95,419	.03155	376,127	6,269,054	3,010	.00800	65.70
5-9	92,409	.01423	458,238	5,892,927	1,315	.00287	63.77
10-14	91,094	.00608	454,041	5,434,690	554	.00122	59.66
15-19	90,541	.00720	451,130	4,980,648	652	.00144	55.01
20-24	89,889	.00911	447,445	4,529,518	819	.00183	50.39
25-29	89,070	.01074	442,993	4,082,073	957	.00216	45.83
30-34	88,113	.01249	437,882	3,639,080	1,101	.00251	41.30
35-39	87,013	.01528	431,064	3,201,198	1,330	.00308	36.79
40-44	85,683	.01944	424,365	2,770,134	1,666	.00392	32.33
45-49	84,018	.02732	414,673	2,345,769	2,295	.00554	27.92
50-54	81,722	.04479	400,297	1,931,097	3,660	.00914	23.63
55-59	78,062	.07662	376,067	1,530,800	5,981	.01591	19.61
60-64	72,081	.12145	339,725	1,154,733	8,755	.02577	16.02
65-69	63,326	.18089	289,032	815,008	11,455	.03963	12.87
70-74	51,871	.26518	225,622	525,975	13,755	.06097	10.14
75-79	38,116	.37722	154,366	300,354	14,378	.09314	7.88
80-84	23,738	.47281	89,047	145,987	11,223	.12604	6.15
85-89	12,514	.61927	41,599	56,941	7,750	.18630	4.55
90-94	4,765	.77934	13,029	15,342	3,713	.28500	3.22
95+	1,051	1.00000	2,313	2,313	1,051	.45455	2.20

NOTES: The 1979 census volume reported only expectation of life by sex at each single year of age, along with a description of how their life tables were constructed. These official life tables were calculated from nationwide registered deaths in calendar year 1979 and single-year age data from the 1979 census. Peter Johnson created the set of equations used to calculate this life table.

SOURCES: Census of Vietnam 1979, 1983, pp. 19-21, 125-126. Complete life tables reconstructed at the Center for International Research, U.S. Bureau of the Census.

Table D-3
Vietnam, Female 1979 Abridged Life Table, As Reported

Age	lx	Qx	Lx	Tx	dx	Mx	Ex
0-0	100,000	.04387	97,075	6,789,000	4,387	.04520	67.89
1-4	95,613	.02871	376,021	6,691,925	2,745	.00730	69.99
5-9	92,867	.01257	460,870	6,315,904	1,167	.00253	68.01
10-14	91,700	.00566	457,113	5,855,034	519	.00113	63.85
15-19	91,181	.00649	454,460	5,397,921	592	.00130	59.20
20-24	90,589	.00706	451,368	4,943,461	640	.00142	54.57
25-29	89,950	.00816	447,958	4,492,093	734	.00164	49.94
30-34	89,215	.01088	443,749	4,044,135	971	.00219	45.33
35-39	88,245	.01368	438,322	3,600,386	1,207	.00275	40.80
40-44	87,037	.01748	431,551	3,162,063	1,522	.00353	36.33
45-49	85,516	.02233	422,984	2,730,512	1,909	.00451	31.93
50-54	83,606	.02843	412,447	2,307,528	2,377	.00576	27.60
55-59	81,229	.04669	393,575	1,895,081	3,792	.00964	23.33
60-64	77,437	.08166	372,216	1,501,506	6,323	.01699	19.39
65-69	71,114	.12179	334,889	1,129,290	8,661	.02586	15.88
70-74	62,453	.18108	285,007	794,401	11,309	.03968	12.72
75-79	51,144	.26280	222,848	509,393	13,441	.06031	9.96
80-84	37,703	.37354	153,095	286,545	14,084	.09199	7.60
85-89	23,620	.51391	86,377	133,450	12,138	.14053	5.65
90-94	11,481	.67114	36,086	47,073	7,706	.21353	4.10
95+	3,776	1.00000	10,988	10,988	3,776	.34364	2.91

NOTES: The 1979 census volume reported only expectation of life by sex at each single year of age, along with a description of how their life tables were constructed. These official life tables were calculated from nationwide registered deaths in calendar year 1979 and single-year age data from the 1979 census. Peter Johnson created the set of equations used to calculate this life table.

SOURCES: Census of Vietnam 1979, 1983, pp. 19-21, 125-126. Complete life tables reconstructed at the Center for International Research, U.S. Bureau of the Census.

Table D-4
Vietnam, Cities and Towns of 20,000 or More People, 1979

City or town	Total municipal population			Of which, urban area population			Urban area population as percent of municipal population
	Total	Male	Female	Total	Male	Female	
Ho chi minh city	3,419,978	1,622,072	1,797,906	2,700,849	1,259,331	1,441,518	78.97
Ha noi city	2,570,905	1,261,061	1,309,844	897,500	476,954	420,546	34.91
Hai phong city	1,279,067	644,595	634,472	385,210	209,394	175,816	30.12
Da nang city	318,653	160,824	157,829	318,653	160,824	157,829	100.00
Can tho city	246,697	120,187	126,510	182,856	89,856	93,000	74.12
Bien hoa city	245,753	119,289	126,464	187,254	91,551	95,703	76.20
Quang ngai town	220,604	108,937	111,667	41,119	21,049	20,070	18.64
Nha trang city	212,488	103,325	109,163	172,663	84,404	88,259	81.26
Hue city	210,953	112,912	98,041	165,710	91,060	74,650	78.55
Vinh city	207,239	129,744	77,495	159,753	102,681	57,072	77.09
Nam dinh city	193,278	102,451	90,827	160,179	91,149	69,030	82.87
Long xuyen town	185,221	91,080	94,141	112,485	55,860	56,625	60.73
Buon me thout town	176,429	89,452	86,977	71,815	39,190	32,625	40.70
Quy nhon town	165,540	86,958	78,582	127,211	67,163	60,048	76.85
Thai nguyen city	138,023	74,267	63,756	138,023	74,267	63,756	100.00
My tho city	135,276	63,546	71,730	101,493	48,190	53,303	75.03
Hon gai town	120,264	68,973	51,291	114,573	65,672	48,901	95.27
Thanh hoa town	114,928	69,544	45,384	72,646	49,307	23,339	63.21
Viet tri city	112,778	64,336	48,442	72,108	44,408	27,700	63.94
Cam pha town	108,656	64,982	43,674	76,697	47,322	29,375	70.59
Rach gia town	106,675	51,641	55,034	81,075	39,662	41,413	76.00

Minh hai town	103,104	49,881	53,223	72,517	36,112	36,405	70.33
Thu dau mot town	99,426	47,258	52,168	40,759	19,955	20,804	40.99
Da lat city	96,978	48,246	48,732	87,136	43,552	43,584	89.85
Hai duong town	95,899	61,144	34,755	54,579	33,066	21,513	56.91
Vinh long town	94,692	46,220	48,472	71,505	35,493	36,012	75.51
Phan thiet town	93,219	45,333	47,886	75,241	37,679	37,562	80.71
Play ku town	92,470	48,346	44,124	58,088	31,182	26,906	62.82
Vung tau-Con dao	88,978	40,795	48,183	81,694	37,366	44,328	91.81
Ha dong town	81,632	48,084	33,548	37,378	24,454	12,924	45.79
Thai binh city	79,566	51,011	28,555	79,566	51,011	28,555	100.00
Chau doc town	76,652	37,930	38,722	45,245	22,608	22,637	59.03
Soc trang town	74,967	36,124	38,843	74,967	36,124	38,843	100.00
Sa dec town	73,104	36,229	36,875	73,104	36,229	36,875	100.00
Uong bi town	69,771	41,430	28,341	34,400	20,640	13,760	49.30
Kon tum town	67,616	34,375	33,241	28,378	15,279	13,099	41.97
Ca mau town	67,484	32,290	35,194	67,484	32,290	35,194	100.00
Bac giang town	66,349	38,652	27,697	54,506	33,689	20,817	82.15
Ben tre town	65,424	31,326	34,098	28,672	14,115	14,557	43.82
Tuy hoa town	63,667	30,586	33,081	46,617	23,002	23,615	73.22
Hoi an town	64,714	32,295	32,419	23,490	11,316	12,174	36.30
Dong hoi town	63,441	35,611	27,830	39,521	24,260	15,261	62.30
Tra vinh town	55,403	27,012	28,391	44,020	21,611	22,409	79.45
Hoa binh town	54,850	32,895	21,955	51,187	31,183	20,004	93.32
Yen bai town	51,148	26,283	24,865	40,017	21,203	18,814	78.24
Bac ninh town	45,137	24,122	21,015	38,097	20,933	17,164	84.40
Tan an town	43,364	20,856	22,508	43,364	20,856	22,508	100.00
Phu tho town	39,719	20,714	19,005	22,273	12,149	10,124	56.08
Tuyen quang town	38,998	19,723	19,275	22,279	13,033	9,246	57.13

(continued)

(table D-4, continued)

City or town	Total municipal population			Of which, urban area population			Urban area population as percent of municipal population
	Total	Male	Female	Total	Male	Female	
Lang son town	38,127	18,861	19,266	20,204	10,275	9,929	52.99
Son la town	36,585	18,383	18,202	14,810	8,243	6,567	40.48
Tay ninh town	32,151	16,983	15,168	32,151	16,983	15,168	100.00
Cao bang town	30,917	17,185	13,732	26,741	15,325	11,416	86.49
Vinh yen town	30,238	15,992	14,246	9,590	6,373	3,217	31.72
Dong ha town	29,603	15,739	13,864	28,796	15,413	13,383	97.27
Bim son town	29,482	19,529	9,953	29,482	19,529	9,953	100.00
Lao cai town	23,721	12,521	11,200	18,618	10,014	8,604	78.49

NOTES: These data are from the October 1, 1979, census of Vietnam. The total municipal populations include populations designated rural who are outside the urban areas of cities and towns but inside their municipal boundaries.

SOURCE: Census of Vietnam 1979, 1983, pp. 19, 27-29.

Table D-5
Vietnam, Cities and Towns of 20,000 or More People, 1989

City or town	Total municipal population			Of which, urban area population			Urban area population as percent of municipal population
	Total	Male	Female	Total	Male	Female	
Ho chi minh city	3,924,435	1,836,179	2,088,256	2,796,229	1,297,116	1,499,113	71.25
Ha noi city	3,056,146	1,476,016	1,580,130	905,939	447,056	458,883	29.64
Hai phong city	1,447,523	693,212	754,311	351,919	173,064	178,855	24.31
Da nang city	369,734	177,126	192,608	369,734	177,126	192,608	100.00
Bien hoa city	313,816	150,383	163,433	273,879	130,993	142,886	87.27
Can tho city	284,306	135,624	148,682	208,078	98,768	109,310	73.19
Nha trang city	263,093	126,078	137,015	213,460	102,066	111,394	81.13
Hue city	260,489	125,493	134,996	211,718	101,930	109,788	81.28
Buon me thout town	228,519	113,507	115,012	97,044	47,866	49,178	42.47
Nam dinh city	219,615	106,876	112,739	165,629	80,809	84,820	75.42
Long xuyen town	214,037	102,146	111,891	128,814	61,006	67,808	60.18
Quy nhon town	201,912	97,988	103,924	159,852	77,953	81,899	79.17
Vinh long town	184,711	88,105	96,606	81,620	39,169	42,451	44.19
Vinh city	175,167	88,645	86,522	110,793	56,389	54,404	63.25
Thai nguyen city	171,815	85,287	86,528	124,871	61,975	62,896	72.68
Tuy hoa town	158,319	76,009	82,310	54,081	26,081	28,000	34.16
Rach gia town	151,362	70,580	80,782	137,784	64,059	73,725	91.03
Phan thiet town	150,599	71,249	79,350	114,236	53,940	60,296	75.85
My tho city	149,203	69,081	80,122	104,724	48,087	56,637	70.19
Ca mau town	146,846	69,020	77,826	81,901	38,257	43,644	55.77
Tam ky town	142,332	67,377	74,955	45,843	22,135	23,708	32.21
Vung tau-Con dao	133,558	65,130	68,428	123,528	60,321	63,207	92.49
Phan rang town	130,637	62,556	68,081	71,111	34,010	37,101	54.43

(continued)

(table D-5, continued)

City or town	Total municipal population			Of which, urban area population			Urban area population as percent of municipal population
	Total	Male	Female	Total	Male	Female	
Hon gai town	129,394	65,672	63,722	123,102	62,591	60,511	95.14
Cam pha town	127,408	67,836	59,572	105,336	56,381	48,955	82.68
Thanh hoa town	126,942	62,588	64,354	84,951	42,127	42,824	66.92
Play ku town	126,256	62,374	63,882	76,991	37,856	39,135	60.98
Thai binh city	121,037	59,123	61,914	57,640	28,483	29,157	47.62
Cao lanh city	120,498	57,812	62,686	54,349	26,634	27,715	45.10
Viet tri city	116,084	56,995	59,089	73,347	36,466	36,881	63.18
Da lat city	115,959	56,145	59,814	102,583	49,386	53,197	88.46
Bac lieu town	115,900	53,814	62,086	83,482	38,513	44,969	72.03
Thu dau mot town	115,052	53,749	61,303	43,849	20,347	23,502	38.11
Hai duong town	110,846	54,389	56,457	53,370	26,753	26,617	48.15
Ben tre town	100,814	47,181	53,633	44,768	20,746	24,022	44.41
Kon tum town	100,517	49,573	50,944	34,063	16,656	17,407	33.89
Tan an town	100,491	46,244	54,247	50,288	22,674	27,614	50.04
Sa dec town	92,029	42,899	49,130	50,733	23,424	27,309	55.13
Son tay town	90,888	43,484	47,404	31,574	15,392	16,182	34.74
Quang ngai town	89,232	42,761	46,471	34,402	16,553	17,849	38.55
Chau doc town	88,268	41,486	46,782	50,935	23,663	27,272	57.70
Soc trang town	87,899	40,664	47,235	87,899	40,664	47,235	100.00
Hoa binh town	87,873	48,665	39,208	69,323	39,600	29,723	78.89
Dong ha town	85,493	41,715	43,778	34,853	17,741	17,112	40.77
Bac giang town	84,106	42,327	41,779	50,879	26,044	24,835	60.49
Vinh an town	82,574	42,082	40,492	31,492	16,863	14,629	38.14
Uong bi town	79,005	41,265	37,740	49,595	26,723	22,872	62.77
Ha dong town	74,462	36,935	37,527	38,859	19,676	19,183	52.19

Yen bai town	70,400	34,437	35,963	58,645	28,725	29,920	83.30
Hoi an town	69,127	32,833	36,294	25,462	12,119	13,343	36.83
Dong hoi town	65,864	32,196	33,668	22,254	10,931	11,323	33.79
Bac ninh town	64,150	30,796	33,354	33,849	15,907	17,942	52.77
Tra vinh town	61,371	28,121	33,250	47,785	21,730	26,055	77.86
Kien an town	57,492	27,300	30,192	25,011	11,486	13,525	43.50
Lang son town	52,181	25,160	27,021	24,379	11,838	12,541	46.72
Go cong town	50,244	23,097	27,147	17,434	7,873	9,561	34.70
Son la town	50,013	24,782	25,231	22,020	11,012	11,008	44.03
Tuyen quang town	47,982	23,627	24,355	24,315	12,024	12,291	50.68
Sam son town	45,004	22,027	22,977	15,213	7,386	7,827	33.80
Bim son town	44,313	22,549	21,764	41,767	21,338	20,429	94.25
Tam diep town	41,317	20,651	20,666	21,654	11,242	10,412	52.41
Ninh binh town	38,866	19,527	19,339	26,454	13,598	12,856	68.06
Tay ninh town	37,091	17,580	19,511	32,881	15,493	17,388	88.65
Lao cai town	36,909	18,536	18,373	15,364	7,796	7,568	41.63
Phu tho town	36,362	16,974	19,388	15,970	7,422	8,548	43.92
Cao bang town	35,081	17,084	17,997	27,785	13,551	14,234	79.20
Hung yen town	34,876	15,926	18,950	14,218	6,622	7,596	40.77
Song cong town	32,225	16,044	16,181	14,368	7,331	7,037	44.59
Vinh yen town	31,072	14,942	16,130	21,691	10,445	11,246	69.81
Ha nam town	30,395	14,607	15,788	18,747	9,041	9,706	61.68
Do son town	25,679	12,185	13,494	18,611	8,870	9,741	72.48
Ha giang town	25,390	12,420	12,970	14,467	7,036	7,431	56.98
Lai chau town	21,257	10,675	10,582	21,257	10,675	10,582	100.00

NOTES: Urban population figures from the 1989 census of Vietnam exclude the special enumeration groups of people who were abroad at the time of the census count.

SOURCE: Special tabulation from the April 1, 1989, census of Vietnam, provided by Director-General Le Van Toan of the General Statistical Office of Vietnam.

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