



# Population Growth in Viet Nam

WHAT THE DATA FROM 2006 CAN TELL US

With a focus on the 'Sex Ratio at Birth'





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## Executive Summary

This booklet summarizes the major results of the 2006 “Population Change Survey” in Viet Nam and is the third in an annual series. It is based on a longer report prepared between October and November 2006 by an independent consultant, Dr. Gigi Santow. Plus other information now made available by the General Statistics Office (GSO). Dr. Santow is a demographer with considerable international experience including twenty year’s expertise in analyzing data on the Vietnamese population.

This booklet is intended to inform non-specialist readers about major recent demographic findings. Like earlier publications, it is *dedicated to those readers*, the intention being that unless census and survey results are disseminated to people who formulate policy, who implement policy, who assess the effects of policy and who report on population matters to the general public, such data collection and analysis will be severely limited in its impact.

*Key findings from the 2006 survey show that fertility continues to decline. The total fertility rate (TFR) now stands at 2.09 children per woman, which is just below the level of replacement.* A major contributor to this achievement is the use of contraception, especially, modern methods. *Mortality*, meanwhile, appears to have been constant over recent years. But because the crude death rate (CDR) has been under-estimated, the *population growth rate* has been ‘over-estimated’. Adjusting for this lower CDR estimate gives a true annual growth rate below 1 per cent.

There is also growing concern that *the sex ratio at birth* (i.e. the number of boys born to every 100 girls) *is becoming unbalanced in Viet Nam. Reasons for this include pressure to adhere to the two-child policy* coupled with a preference for sons and the ready availability of ultrasound and abortion. The national sex ratio at birth as reported in the 2006 survey was 110 boys to every 100 girls, which slightly exceeds the expected ratio of 105-107 boys to every 100 girls. Although these estimates are based on sampling rather than a complete enumeration, graphical analysis of the sex ratios at birth in the urban and rural sectors of each province show considerable variation, with some sectors having very low ratios and others very high. When inferential analysis (i.e. conclusions deduced from sample data) is added, along with information on the number of deliveries in 2006 coming from health facilities, *it can now be confidently stated that the sex ratio of births at the national level is slightly skewed toward boys*. However, provinces/cities with high SRB (above 110) need close monitoring and immediate attention.

# Population Dynamics in Viet Nam

## Data and Methods

**A**lthough a national population census is conducted in Viet Nam every 10 years, continuous monitoring of population trends, most importantly fertility rates, mortality rates and the population growth rate, is essential. To meet this requirement and in the absence of a comprehensive national system of vital registration, such as exists in more developed countries, the GSO has conducted annual population change surveys since 2000.

The GSO repeats certain questions in these surveys from year to year in order to derive crucial parameters relating to fertility, mortality and population growth. These yearly surveys seek to discover the number of births over a recent period through questions directed at each woman aged between 15 and 49 years in a sample household. The surveys ask women to report the total number of children they have delivered and the number who are still surviving.

The surveys also seek to discover the number of deaths of household members over the previous twelve months. Questions are directed to the heads of households. Rates are then derived directly by relating counts of recent births or recent deaths to the population enumerated in the survey. Rates are also derived indirectly by applying so-called indirect methods of demographic estimation to larger, or different, data sets. These indirect estimates are particularly valuable when direct estimates suffer from

reporting problems. Direct estimates can be revised on the basis of indirect estimates.

In addition to addressing these key questions, the surveys provide an opportunity to respond swiftly to topical issues by incorporating new, specially designed questions. In 2006, the GSO added a new question to the survey based on its concern that the sex ratio of births may have become skewed towards boys. Should such an imbalance be found to occurring, it was seen as having serious demographic, social and even political effects.

The additional questions asked in 2006 allowed survey takers to distinguish children according to whether they were male or female. In addition, if the most recent child was born after April, 2003, survey takers sought information on antenatal care, for example, whether the mother knew the child's sex before it was born and, if so, how she found out and when. The reasons for asking these questions are discussed later in this booklet.

## Fertility Trends

The simplest measure of fertility is the *crude birth rate (CBR)*. This is calculated by dividing the total number of births in a particular year by the total population in the middle of that year. It is expressed per 1,000 population. But, in the absence of a system of vital registration, the CBR cannot be measured directly and, therefore, it is estimated from age-specific fertility rates (which are obtained indirectly: see below) and the age structure of women.

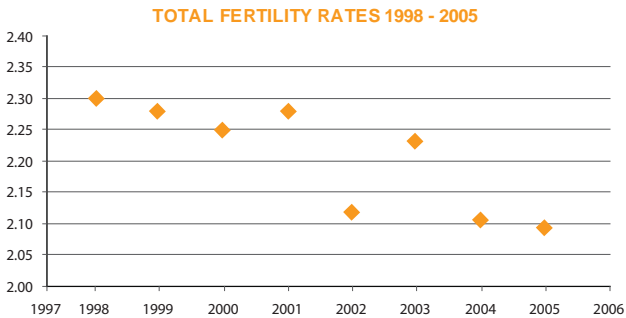
A more complex measure, the *total fertility rate (TFR)*, gives the average number of children that a woman would bear over her lifetime if she bore them according to the age-specific fertility rates observed in a particular year. Thus, TFR is a ‘synthetic’ measure: it does not say that *women will have this number of children*, only that they *would* if they followed current patterns of childbearing. The TFR is a useful measure because it is easy to interpret and it refers to family size (even if that size is hypothetical) rather than to the ratio of births to population.

Very sensibly, GSO uses a combination of *direct* and *indirect* methods to estimate age-specific fertility rates from survey data on births over the previous twelve months. They then use these rates to estimate both TFR and CBR. By this means they have concluded that *fertility has been falling in Viet Nam for many years*. For example, the 1994 intercensal survey produced a TFR of 3.1 children per woman, whereas the 1999 census produced a TFR of 2.3<sup>1</sup>. Since then fertility has been monitored annually by the survey and the 2006 data continues to reveal a decline. *The TFR derived from the 2006 survey was 2.09, which means that fertility in Viet Nam has now fallen below the level of replacement*. The GSO also estimates that urban fertility is currently about half a child lower than rural fertility, or 1.72 compared to 2.25.

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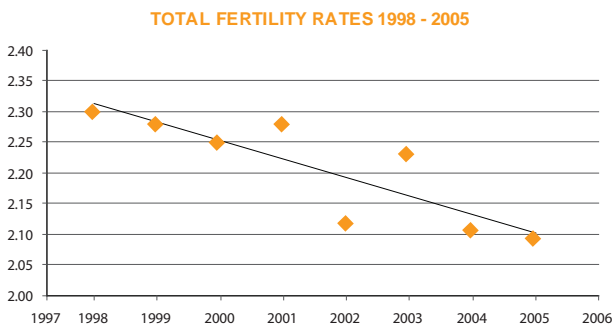
1 Since each enumeration refers to the 1st of April, measures such as the TFR refer to a period of nine months in the previous year and three months in the year of the enumeration. For the sake of simplicity we say that such measures refer to the year preceding the enumeration



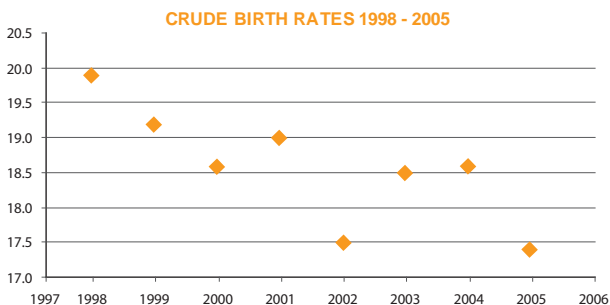


Although these figures demonstrate that fertility is declining, they also show that this decline, as represented by estimated TFRs, has not been perfectly regular. The unexpectedly “high” estimate for 2003 (in the 2004 survey), viewed against the rather low estimate for 2002, led to consternation among policymakers, and reports in the mass media, that there might be a “population boom”. However, Dr. Santow’s assessment (summarized in the first of this series of booklets) was that this “boom” was not real and that the estimate from the 2003 survey was too low. In the following year, Dr. Griffith Feeney, another international population expert, conducted an independent assessment (summarized in the second booklet) of both the 2005 survey and of Dr. Santow’s report. He too concluded that there were no grounds for concern and that fertility was falling.

*The TFR* derived from the 2006 survey is slightly lower than that in the previous survey. But even if it had been higher, that would not constitute sufficient grounds to claim that fertility was rising. Rather, focus should be on the trend in the annual figures, and in the case of Viet Nam, that trend is a declining one. By following a simple linear trend line, as in the figure below, this can be seen very clearly.



The GSO uses the most accurate modern statistical methods to derive their estimates but these are often derived from imperfect sample surveys. Where this becomes apparent is when small variations in a low TFR, as in the case of Viet Nam, have large *proportional* effects. For a complete picture of fertility decline, see the trend in CBR below. Again, the message is the same as that shown in the TFR: fertility is declining.



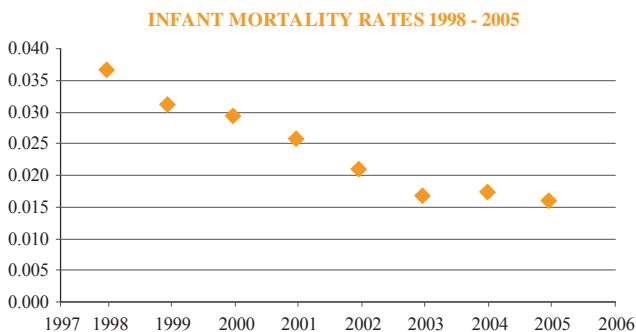
## Contraception

A major contributor to the decline in fertility is the use of contraception. 78 per cent of married women between the ages of 15 and 49 reported that they were using some form of contraception: 67 per cent were using a modern method and 11 per cent a traditional method. These proportions represent a slight increase over previous years. For example, the 2001 survey recorded a contraceptive prevalence of 73 percent.

## Mortality Trends

*The infant mortality rate:* As with fertility, the GSO uses a combination of *direct* and *indirect* techniques to estimate mortality. First, it uses a well-established, indirect method to estimate the *infant mortality rate (IMR)*: the probability that a newborn child will not survive the first year. The estimate derived from the 2006 survey is 0.016, meaning that fewer than 2 per cent of children now die in their first year of life.

The figures show a decline in the IMR over recent years. But Dr. Santow cautions that this indirect method used to estimate the IMR was developed for situations where infant mortality is higher than now appears to be the case in Viet Nam. Therefore, in her view, it is probable that this current IMR estimate is too low.



The *crude death rate (CDR)* is calculated directly by relating the number of deaths of household members that the head of the household reports over the previous year to the total population (then multiplying by 1,000). This direct estimate of CDR is then adjusted according to the ratio of indirect and direct estimates of infant mortality rates.

On the basis of the annual CDRs estimated in this way it appears that mortality in the general population has been constant since the 1999 census. The CDR estimated from the 2006 survey was 5.3 deaths per 1,000 people, which is identical to the estimate derived from the 2005 survey and similar to that derived from the 1999 census. Because of this constancy, no figure is presented here.

However, in their assessment of the annual population change surveys, both Dr. Santow (reporting on the 2004 and 2006 surveys) and Dr. Feeney (reporting on the 2005 survey) concluded that the crude death rate was underestimated. The main reason for insufficient reporting of deaths from direct interviews was that both interviewers

and interviewees had difficulty discussing the subject due to the sadness of the event. This was especially so for infant deaths, those happening right after birth, when families often do not report the birth or the death. Moreover, report of a death is often ignored in a single household or a household that has moved residence. For example, if one member of an elderly couple dies and the other moves to live with their children or another family, then there is no household member left in the selected sample areas to report the case.

## Population Growth

To understand population growth it is important to focus on this ‘under-estimation’ of mortality because the balance between fertility (CBR) and mortality (CDR) is used for the calculation of the population’s crude rate of natural increase ( $CRNI = CBR - CDR$ ). When earlier users of the GSO data became anxious that there might be a population “surge” based on rising fertility estimates between 2003 and 2004, they seemed not to take into account that population booms result not from increased fertility, but from a *changing balance between fertility and mortality*. Or, as expressed another way, that growth rates rise either because fertility rises, or because mortality falls, or because fertility rises more than mortality falls. In focusing so much on fertility, those earlier observers may have been assuming that mortality was fairly constant. This may have been true, but with mortality being underestimated, *growth rates will have been over-estimated*, leading to undue anxiety about the future course of the Vietnamese population.

The population growth rate estimated for 2004 (in the 2005 survey) was 1.3 per cent (reference to the second booklet). The growth rate estimated for 2005 without adjusting for the undercount of deaths was 1.2 per cent (1.74 per cent minus 0.53 per cent). However, adjusting for the demonstrated under-estimation of the crude death rate, the true rates of population growth in those two years are likely to be closer to 1.2 per cent in 2004 and 1.0 per cent in 2005. Given that these statistics have not been adjusted for the non-reporting of deaths, the reported growth rates are too high.

## Summary

*Firstly, fertility decline is well established in Viet Nam. On the basis of the TFR, national fertility has now fallen slightly below replacement.* In other words, each woman “replaces” herself with one daughter (equivalent to a TFR of 2.1). Rural fertility, at an estimated 2.25 children per woman, is estimated to be about half a child higher than urban fertility (1.75).

Secondly, in Dr. Santow’s view, *the true annual rate of population growth in Viet Nam is now lower than 1.0 per cent.* She reaches this conclusion on the basis that countries which lack a national system of death registration often estimate mortality from the deaths reported by heads of sample households. However, mortality estimated by this procedure is likely to be an under-estimate and mortality in Viet Nam is at least one-quarter higher than the official estimates. This finding is significant because *under-estimation of mortality leads to an over-estimation of population growth.*

# The Sex Ratio at Birth

## Introduction

Throughout history, many societies in the world have at one time or other preferred sons to daughters. In extreme cases, unwanted daughters may be abandoned at birth or even killed. Son preference still remains strong in major regions, most notably in East Asia, especially China and South Asia. Although unwanted daughters are now less likely to be killed outright, demographic evidence and the documentation of countless cases of abandonment and selective neglect attest to the continuation of a preference for sons.

The possibility that the sex ratio at birth is becoming imbalanced in Viet Nam is now being reported in the media<sup>2</sup>. It is also being addressed in academic literature<sup>3</sup>. The 2006 Viet Nam population survey clearly demonstrates a preference for sons in this country. For example, among women who bore a third child in the year before the survey, if that decision to have a third child did not depend on the sexes of the first two children, it would be a reasonable inference that *24 percent* of these women would previously have had only daughters. Instead, *39 percent* of women who had a third birth had previously not produced a son. In other words, women with two children were more likely to go on to have a third if they did not already have a son.

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2 For example, "Rather have a boy? You're not alone in densely populated VN", Viet Nam News, 22 September 2005; "It will cost the country dear in the long run", The Economist, 1 December 2005; "New-born boys outnumber girls", Viet Nam News, 20 July 2006; "Government cracks down on gender-based abortion practice", Viet Nam News, 17 October 2006.

3 For example, Danièle Bélanger et al., 2003, "Are sex ratios at birth increasing in Viet Nam?", Population (English edition) 58: 231-250.

Such findings indicate that in many Vietnamese households there is pressure on women to continue bearing children in order to produce a son. But there is also pressure from the public family planning programmes to ensure that they bear no more than two children even though a small family size is now culturally acceptable. One way to reconcile these opposing forces is to abort female foetuses. However, this has serious consequences, such as an unbalanced sex ratio at birth that favours males. This becomes most apparent when young men reach the age at which they might normally expect to marry, but there is a shortage of eligible females. Sex-selective abortion is widespread in China where, due to the one-child policy, the pressure on couples is even greater than in Viet Nam. China has had this policy for 21 years and the resulting lack of sex balance in the population is alarmingly apparent. Some observers are now predicting that the social, demographic and even political costs of the ‘marriage squeeze’ will be heavy for China<sup>4</sup>.

## Enabling Factors

Various enabling conditions must be present for the sex ratio to be skewed toward males. First, there must be a *preference for sons*. This preference has already been demonstrated. Second, *pregnant women must have access to means of determining the sex of the foetus*, which can happen when there is wide access to ultrasound technology<sup>5</sup>.

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4 See Dudley Poston and Peter A. Morrison, “China: Bachelor bomb”, International Herald Tribune, 14 September 2005.

5 Ultrasound, which is increasingly one of the services offered as part of routine antenatal care in Viet Nam because it offers numerous diagnostic benefits, can reveal the sex of the foetus after twelve weeks of pregnancy.



This condition is present in Viet Nam, although access is not universal and neither are all women who undergo ultrasound told the sex of the foetus. Still, among women whose last live birth occurred after April 2003, 94 per cent of those in urban areas and 85 per cent of those in rural areas received antenatal care from a health care professional and almost two-thirds (63 per cent) of these women said they knew the sex of their child before birth, 98 per cent of those through ultrasound.

Third, *there must be general access to abortion*. This condition is also present in Viet Nam, although almost half the women surveyed learned the sex of their child after the 24<sup>th</sup> week, when abortion is not permitted<sup>6</sup>.

## Data Findings

*The national estimate of the sex ratio at birth in the year before the 2006, 3 per cent population change survey was 110 overall* (on average, 110 male babies born to every 100 female babies), or 109 in urban areas, and 110 in rural. These ratios were slightly higher than expected.

However, the sex ratios for provinces estimated from the survey in 2006 by the GSO are likely to be affected by sampling error (eg. they fluctuate greatly from 79 at the lowest in some provinces to 123 at the highest in others). Thus, in order to get more accurate data, the GSO with UNFPA support, collected birth data by sex for babies delivered in 2006 at 132 of 150 central and provincial

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6 Five per cent learnt the foetus's sex at 12-15 weeks, a further 18 per cent at 16-19 weeks, and 30 per cent at 20-23 weeks.

hospitals, 723 of 1,420 district hospitals and 3,420 of 10,893 commune health centres. Data was collected on a total of 1,095,064 births (572,216 boys, 522,848 girls). Based on this, the GSO estimated the SRB (taking into account a completed coefficient) at 109, close to that from the 2006 population change survey (110).

At the provincial level the results show that *the SRB ranged from 111 to 120.5 for 18 out of 64 provinces/cities (28 per cent)*. Most of these provinces were located in the North (15 of 18) *and some had very high ratios, such as Hai Duong (120.5) and Bac Ninh (119.6)*. Among the other 46 provinces/cities, 12 (19 per cent) had ratios between 108 and 110. And 33 (51 per cent) provinces/cities had lower and normal SRBs of 101 to 107. Only 1 province had a low SRB of 99.

Note, according to demographers, SRB estimates are only reliable when based on a sufficient number of births recorded: 9,500 or more. When the figure falls below that, random errors have greater effect. See the attached Annex for more details.

## Summary

An unexpected but encouraging finding from the data collected by the 2006 GSO survey was that the provision of modern antenatal care is improving, especially in rural areas. Paradoxically, however, the fact that such services may include routine ultrasound is now causing concern. Ultrasound offers numerous diagnostic benefits but there is no objective medical benefit in determining the sex of

a foetus. But this may be viewed as a benefit to a couple who are desperate to have a boy but who are also desperate not to have a large family.

Nevertheless, at the national level, both the 2006 population change survey and the results of birth data collected from the above health facilities show that the SRB is only slightly higher than the normal expected value (3-4 ratios). But the national figures don't reflect the situation in certain provinces/cities. In some locations, the preference for a son is simply stronger than others, and with high-tech ultrasound sex can be detected at an early stage and a female foetus can be aborted. Consequently, provinces/cities with high SRB need immediate attention.

Continued monitoring and research of pre-sex selection and SRB are very important for appropriate policy intervention. Reliable data and reports on SRB, especially the number of male or female births delivered at hospitals and health centres, should continue to be collected. In addition, it will be necessary to enhance monitoring of the mis-use of ultra-sound machines in determining the sex of the foetus for the purpose of pre-sex selection and abortion. The Standing Committee of the National Assembly passed a "Population Ordinance" in January 2003. The "implementation decree" underpinning this Ordinance was promulgated in October 2006 by the Prime Minister. Whilst included was a prohibition against sex selection by any means, more will still have to be done to implement this policy. Viet Nam needs to act now if it is to avoid the situation of more men than women evident elsewhere in Asia.

**ANNEX 1: SEX RATIO AT BIRTH ESTIMATED FROM BIRTHS OF SELECTED  
HEALTH FACILITIES IN 2006**

| Serial number | Region/<br>province  | Total of births originally collected at selected health facilities (provincial, district, commune level) |                | Total of birth at selected health facilities (a completed coefficient is taken into account) |                | Sex ratio at birth (completed coefficient is not taken into account) |              |
|---------------|----------------------|--|----------------|--|----------------|--|--------------|
|               |                      | Boy  | Girl           | Boy  | Girl           |  |              |
| A             | B                    | 1  | 2              | 3  | 4              | 5=3:4  | 6=1:2        |
|               | <b>Whole Country</b> | <b>572,216</b>   | <b>522,848</b> | <b>768,970</b>   | <b>708,106</b> | <b>108.6</b>   | <b>109.4</b> |
| 1             | Ha Noi City          | 31,066   | 28,668         | 32,805   | 30,385         | 108.0  | 108.4        |
| 2             | Ha Giang             | 3,250  | 2,960          | 6,435  | 6,108          | 105.4  | 109.8        |
| 3             | Cao Bang             | 2,130  | 2,106          | 2,995  | 3,028          | 98.9   | 101.1        |
| 4             | Bac Kan              | 2,161  | 1,961          | 2,895  | 2,669          | 108.5  | 110.2        |

| Serial number | Region/<br>province | Total of births originally collected at selected health facilities (provincial, district, commune level) |       | Total of birth at selected health facilities (a completed coefficient is taken into account) |       | Sex ratio at birth (completed coefficient is not taken into account) |
|---------------|---------------------|--|-------|--|-------|--|
|               |                     | Boy  | Girl  | Boy  | Girl  |  |
| A             | B                   | 1  | 2     | 3  | 4     | 6=1:2  |
| 5             | Tuyen Quang         | 3,990  | 3,765 | 6,474  | 6,341 | 102.1  |
| 6             | Lao Cai             | 3,418  | 3,194 | 5,292  | 5,023 | 105.4  |
| 7             | Dien Bien           | 1,990  | 1,671 | 2,616  | 2,268 | 115.3  |
| 8             | Lai Chau            | 1,374  | 1,326 | 2,171  | 2,114 | 102.7  |
| 9             | Son La              | 3,705  | 3,239 | 6,714  | 5,740 | 117.0  |
| 10            | Yen Bai             | 4,301  | 3,660 | 7,143  | 6,092 | 117.2  |
|               |                     |  |       |  |       | 117.5  |

|    |                |        |        |        |        |       |       |
|----|----------------|--------|--------|--------|--------|-------|-------|
| 11 | Hoa Binh       | 3,900  | 3,537  | 7,196  | 6,511  | 110.5 | 110.3 |
| 12 | Thai Nguyen    | 7,425  | 6,572  | 11,149 | 10,017 | 111.3 | 113.0 |
| 13 | Lang Son       | 3,713  | 3,223  | 6,047  | 5,330  | 113.5 | 115.2 |
| 14 | Quang Ninh     | 9,025  | 8,316  | 11,749 | 10,926 | 107.5 | 108.5 |
| 15 | Bac Giang      | 7,711  | 6,734  | 13,327 | 11,530 | 115.6 | 114.5 |
| 16 | Phu Tho        | 6,260  | 5,489  | 10,410 | 9,532  | 109.2 | 114.0 |
| 17 | Vinh Phuc      | 9,893  | 9,021  | 14,878 | 13,750 | 108.2 | 109.7 |
| 18 | Bac Ninh       | 7,487  | 6,079  | 9,233  | 7,722  | 119.6 | 123.2 |
| 19 | Ha Tay         | 14,732 | 13,134 | 28,251 | 25,798 | 109.5 | 112.2 |
| 20 | Hai Duong      | 10,430 | 8,566  | 18,087 | 15,010 | 120.5 | 121.8 |
| 21 | Hai Phong City | 12,123 | 10,865 | 15,374 | 13,765 | 111.7 | 111.6 |
| 22 | Hung Yen       | 8,124  | 7,071  | 11,087 | 9,655  | 114.8 | 114.9 |

| Serial number | Region/<br>province | Total of births originally collected at selected health facilities (provincial, district, commune level) |          | Total of birth at selected health facilities (a completed coefficient is taken into account) |          | Sex ratio at birth (completed coefficient is not taken into account) |              |
|---------------|---------------------|--|----------|--|----------|--|--------------|
|               |                     | Boy  | Girl     | Boy  | Girl     |  |              |
| <b>A</b>      | <b>B</b>            | <b>1</b>   | <b>2</b> | <b>3</b>   | <b>4</b> | <b>5=3:4</b>   | <b>6=1:2</b> |
| 23            | Thai Binh           | 9,131  | 8,062    | 11,940   | 10,719   | 111.4  | 113.3        |
| 24            | Ha Nam              | 4,923  | 4,268    | 7,455  | 6,566    | 113.5  | 115.3        |
| 25            | Nam Dinh            | 10,220   | 9,061    | 20,993   | 18,959   | 110.7  | 112.8        |
| 26            | Ninh Binh           | 5,195  | 5,008    | 7,345  | 7,211    | 101.9  | 103.7        |
| 27            | Thanh Hoa           | 12,100   | 10,811   | 23,707   | 21,714   | 109.2  | 111.9        |
| 28            | Nghe An             | 10,852   | 9,568    | 21,010   | 19,713   | 106.6  | 113.4        |
| 29            | Ha Tinh             | 6,062  | 5,611    | 12,522   | 11,513   | 108.8  | 108.0        |

|    |                |        |        |        |        |       |       |
|----|----------------|--------|--------|--------|--------|-------|-------|
| 30 | Quang Binh     | 5,534  | 5,426  | 9,147  | 9,004  | 101.6 | 102.0 |
| 31 | Quang Tri      | 5,163  | 4,818  | 8,375  | 7,813  | 107.2 | 107.2 |
| 32 | Thua Thien Hue | 8,460  | 7,793  | 10,547 | 9,749  | 108.2 | 108.6 |
| 33 | Da Nang City   | 7,919  | 7,378  | 7,957  | 7,414  | 107.3 | 107.3 |
| 34 | Quang Nam      | 8,795  | 7,850  | 10,116 | 9,269  | 109.1 | 112.0 |
| 35 | Quang Ngai     | 6,977  | 7,006  | 9,527  | 9,280  | 102.7 | 99.6  |
| 36 | Binh Dinh      | 11,073 | 10,298 | 13,056 | 12,100 | 107.9 | 107.5 |
| 37 | Phu Yen        | 6,244  | 5,971  | 6,876  | 6,583  | 104.5 | 104.6 |
| 38 | Khanh Hoa      | 8,256  | 7,767  | 9,793  | 9,359  | 104.6 | 106.3 |
| 39 | Ninh Thuan     | 4,797  | 4,118  | 5,163  | 4,434  | 116.4 | 116.5 |
| 40 | Binh Thuan     | 6,406  | 6,063  | 7,897  | 7,334  | 107.7 | 105.7 |
| 41 | Kon Tum        | 3,100  | 2,979  | 3,904  | 3,812  | 102.4 | 104.1 |



| Serial number | Region/<br>province | Total of births originally collected at selected health facilities (provincial, district, commune level) |       | Total of birth at selected health facilities (a completed coefficient is taken into account) |        | Sex ratio at birth (completed coefficient is taken into account) | Sex ratio at birth (completed coefficient is not taken into account) |
|---------------|---------------------|--|-------|--|--------|--|--|
|               |                     | Boy  | Girl  | Boy  | Girl   |  |  |
| A             | B                   | 1  | 2     | 3  | 4      | 5=3:4  | 6=1:2  |
| 42            | Gia Lai             | 7,479  | 7,155 | 12,282   | 11,853 | 103.6  | 104.5  |
| 43            | Dac Lac             | 9,502  | 8,058 | 14,633   | 12,712 | 115.1  | 117.9  |
| 44            | Dac Nong            | 3,921  | 3,616 | 4,963  | 4,613  | 107.6  | 108.4  |
| 45            | Lam Dong            | 9,407  | 8,726 | 12,025   | 11,222 | 107.2  | 107.8  |
| 46            | Binh Phuoc          | 6,993  | 6,585 | 8,687  | 8,187  | 106.1  | 106.2  |
| 47            | Tay Ninh            | 8,061  | 7,409 | 8,823  | 8,097  | 109.0  | 108.8  |

|    |                   |        |        |        |        |       |       |
|----|-------------------|--------|--------|--------|--------|-------|-------|
| 48 | Binh Duong        | 9,627  | 8,582  | 10,255 | 9,141  | 112.2 | 112.2 |
| 49 | Dong Nai          | 21,327 | 18,915 | 25,544 | 23,037 | 110.9 | 112.8 |
| 50 | Ba Ria - Vung Tau | 6,360  | 6,015  | 7,283  | 6,955  | 104.7 | 105.7 |
| 51 | Ho Chi Minh City  | 61,545 | 55,197 | 62,232 | 55,881 | 111.4 | 111.5 |
| 52 | Long An           | 7,252  | 6,889  | 9,741  | 9,303  | 104.7 | 105.3 |
| 53 | Tien Giang        | 12,332 | 11,497 | 16,216 | 15,194 | 106.7 | 107.3 |
| 54 | Ben Tre           | 7,532  | 6,970  | 8,483  | 7,941  | 106.8 | 108.1 |
| 55 | Tra Vinh          | 4,713  | 4,470  | 5,653  | 5,412  | 104.5 | 105.4 |
| 56 | Vinh Long         | 6,671  | 6,189  | 7,877  | 7,370  | 106.9 | 107.8 |
| 57 | Dong Thap         | 14,236 | 12,925 | 17,991 | 16,515 | 108.9 | 110.1 |
| 58 | An Giang          | 16,548 | 15,705 | 22,736 | 21,539 | 105.6 | 105.4 |
| 59 | Kien Giang        | 10,787 | 10,279 | 16,711 | 16,114 | 103.7 | 104.9 |

| Serial number | Region/<br>province | Total of births originally collected at selected health facilities (provincial, district, commune level) |        | Total of birth at selected health facilities (a completed coefficient is taken into account) |        | Sex ratio at birth (completed coefficient is taken into account) | Sex ratio at birth (completed coefficient is not taken into account) |
|---------------|---------------------|--|--------|--|--------|--|--|
|               |                     | Boy  | Girl   | Boy  | Girl   |  |  |
| A             | B                   | 1  | 2      | 3  | 4      | 5=3:4  | 6=1:2  |
| 60            | Can Tho             | 12,739   | 12,525 | 13,994   | 13,737 | 101.9  | 101.7  |
| 61            | Hau Giang           | 6,872  | 6,517  | 7,615  | 7,196  | 105.8  | 105.4  |
| 62            | Soc Trang           | 10,233   | 9,819  | 13,568   | 12,999 | 104.4  | 104.2  |
| 63            | Bac Lieu            | 9,349  | 8,911  | 10,374   | 9,952  | 104.2  | 104.9  |
| 64            | Ca Mau              | 9,315  | 8,881  | 11,629   | 11,279 | 103.1  | 104.9  |