

**Population Growth, Fertility Decline,
and Ageing in Hong Kong**

The Perceived and Real Demographic Effects of Migration

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July 2006

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Opinions expressed in the publications of the Shanghai-Hong Kong Development Institute and Hong Kong Institute of Asia-Pacific Studies are the authors'. They do not necessarily reflect those of the Institutes.

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ISBN-10: 962-441-814-4

ISBN-13: 978-962-441-814-9

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Introduction

Demographic changes have profound social and economic implications (Ng, 1992:233). The most dramatic example in Hong Kong is the shrinking of the school age population. This has put great pressure on various schools. Some 129 primary schools stopped admitting year-one students and 69 primary schools were closed in the period from September 2002 to September 2005 (*Ming Pao Daily News*, 16 February 2006). It is expected that some secondary schools will also be closed, as the number of year-one students entering secondary schools will decline from about 82,000 in 2005 to 61,000 in 2010. Declining levels of fertility and an ageing population have also attracted much public attention in Hong Kong (Task Force on Population Policy, 2003; Shen, 2005a, 2005b).

Hong Kong has experienced a significant growth in population since the end of the Second World War (Ho, Liu and Lam, 1991). Migration from mainland China has been a significant source of population growth and fuelled the development of labour-intensive manufacturing in the 1960s and 1970s. Since the early 1980s, although the demand for low-skilled migrant labour has declined with the emergence of a business-services based economy, the inflow of migrants from mainland China has remained at a fairly high level.

During the years following the outbreak of the Asian Financial Crisis in 1997, Hong Kong faced a difficult economic situation. Both the rate of unemployment and the number of recipients of Comprehensive Social Security Assistance (CSSA) increased sharply. The annual inflow of about 50,000 migrants from mainland China with one-way permits is considered to cause problems of unemployment and poverty, as such migrants have less education and lower levels of income than local Hong Kong residents. For example, the number of new arrivals (those who have resided in Hong Kong for less than seven years), mainly from mainland China, receiving CSSA benefits increased from 45,945 in March 1999 to 69,345 in December 2002, growing from 12.0% to 14.9% of total CSSA recipients in the same period. In June 2002, 16.6% of new arrivals were CSSA recipients, while only 5.7% of the local population were CSSA recipients (Task Force on Population Policy, 2003:76-79). One major policy suggestion of the government's Task Force on Population Policy (2003) is that migrants will only be eligible for CSSA and subsidized public medical services after having resided in Hong Kong for over seven years. Another suggestion was to introduce new migration schemes to attract migrants with talent or capital.

Indeed, several studies have examined the economic performance of migrants in Hong Kong (Lam and Liu, 1993, 2000). Lam and Liu (1998:118) found that the income gap between mainland migrants and the local population widened from 11.3% in 1981 to 28.7% in 1996. Their study was based on migrants who arrived in Hong Kong before 1981. Chiu, Choi, and Ting (2005) found that migrants who had lived in Hong Kong for over ten years still had a lower income than natives. The recent 2001 census also showed that the income of new migrants from the mainland fell below the average level of the total population. The median monthly income of domestic households with new migrants dropped from HK\$13,000 in 1996 to HK\$12,050 in 2001, while that of all domestic households in Hong Kong increased from HK\$17,500 to HK\$18,705 (CSD, 2002d:40). Other than some low-income households with new migrants who are unable to meet their basic needs (about 20%) and thus rely on CSSA, the dilemma facing new migrants from mainland China is that their income is

low in Hong Kong but their cash income is significantly higher than the ordinary income in mainland China. Thus, Hong Kong remains attractive to most migrants from mainland China.

The focus of this paper is on the demographic effect of migration on the population in Hong Kong. There are positive and negative perceptions of the demographic effects of migration. Some are correct, while others are wrong and need clarification. For example, accepting migrants from mainland China has been considered to be an effective way of relieving the severe problem of an ageing population in Hong Kong (Yip et al., 2001). The perception of their impact on the fertility level is mixed. On the one hand, it is considered that the mainly female adult migrants from the mainland due to cross-boundary marriages are reducing the marriage chances of local women, resulting in a decline in Hong Kong's fertility level. On the other hand, the children born from the mainland wives of Hong Kong permanent residents during their visits in Hong Kong have the right of abode in Hong Kong and are counted in the total births of the city. It seems that the real effect of mainland wives and new migrants on the fertility level in Hong Kong is not well understood, given the high level of cross-boundary marriages and migration between Hong Kong and mainland China.

This paper attempts to scrutinize the demographic effects of migration related to these issues. It is hoped that the results will help in forming proper policy responses to an acute fertility problem and to the "expected" severe problem of an ageing population in the future.

An urban population is a dynamic and open system (Plane and Rogerson, 1994; Shen, 1994a, 1994b; Rogers, 1995). As an open population system, three important points can be noted. First, there are both flows of immigration and emigration in an open city. Second, some children born in the city may be those of visitors to the city, while residents of the city may give birth to children outside of that city. Third, with regard to Hong Kong, the large number of cross-boundary marriages makes the situation even more complicated. Mainland spouses, especially wives, cannot join their Hong Kong permanent resident spouses immediately after getting married. They usually have to wait for about five years before they are able to obtain one-way permits to enter Hong Kong (Task Force on Population

Policy, 2003:49). Such mainland wives may give birth to children within and outside of Hong Kong. According to the law, all of these children have the right of abode in the city.

A few points should be noted about a dynamic population system such as Hong Kong's. First, the proportion of those aged 60+ in a stable population is about 20%. Thus if the proportion of elderly people in a population is small, as is the case in Hong Kong, such a proportion can be expected to increase in the future. Second, the future size of the elderly population will be determined by the existing population, with a time delay of 60 or 65 years. For example, the size of the population aged 60+ in Hong Kong 60 years later will mainly be determined by the current population aged 0 to 50, assuming that no person can live beyond age of 110 and that no large-scale immigration and emigration occurs. A change in the fertility rate or an increase in the number of migrants would not reduce the number of elderly people and the demand for medical services and social welfare support in the next 60 years. Third, each individual, including each migrant, will undergo a natural ageing process, eventually becoming a member of the elderly population in future. Increasing the number of young migrants can reduce the proportion of elderly people now, but will increase the number of elderly people in the future. Thus "young migrants" come at the cost of a future ageing population.

The rest of the paper is organized as follows. The relative contributions of migration and natural increase to population growth in Hong Kong will first be examined. Then, the decline in fertility, the relationship between marriage and migration, the ageing of the population, and the possible role of migration in solving the ageing problem will be discussed. Some conclusions are reached in the final section.

Migration and Population Growth

In the past 150 years, Hong Kong has grown from a small fishing village to a metropolis with a population of nearly seven million. In 1845, there were only 23,817 persons in Hong Kong (Lam and Liu,

1998:11). The population increased to 0.46 million in 1911 and to 1.63 million in 1941 (Feng, 2001:54). Hong Kong's population kept growing, except during the period of 1941-1945 when the territory came under Japanese occupation. The population reached 3.20 million in 1961, 5.24 million in 1981, and 6.92 million in 2004 (CSD, 2006: Table 001). Due to a significant influx of male migrants, Hong Kong had much larger male population than female population until 1961. The gender ratio (males per 100 females) was 184 in 1911 and 135 in 1931. It reached a normal gender ratio of 106 for the population as a whole in 1961 (CSD, 1969:13). In 1961, 50.5% of Hong Kong's population was born in mainland China (Lam and Liu, 1998:15).

This section will focus on the period 1961-2004 when detailed data on components of population change are available. There was large-scale migration from mainland China to Hong Kong in the 1960s-1980s. Thus it is a common perception that population growth in Hong Kong was caused mainly by such migration. It is useful to note that the Census and Statistics Department (CSD) changed its approach in compiling population statistics from the "Extended de facto" approach to the "Resident population" approach in 1996 (CSD, 2002b). Thus, population data from the CSD before 1996 is based on the former approach and after 1996 on the latter approach (CSD, 2006). The impact of such a change on the total population and net migration in 1996 is estimated as follows. The total population in mid-1995 and mid-1996 was 6,156,100 and 6,435,500, respectively, and the natural population increase and net migration from mid-1995 to mid-1996 was 35,600 and 119,300 respectively. It is estimated that the total population was adjusted upwards by 124,500 due to the change in statistical approach (CSD, 2002c:8). This adjustment was also adopted by the authors to estimate net migration in 1996, which was 41,000, considering the total population at the end of 1995 and 1996 and the natural increase in the population in 1996.

During the period 1961-2004, net migration to Hong Kong was characterized by large fluctuations. There were positive and negative net migration flows in different years. In the 44 years under consideration, Hong Kong lost population through migration in eight years, i.e., 1961, 1963-1966, 1969, 1976, and 1990. During the period

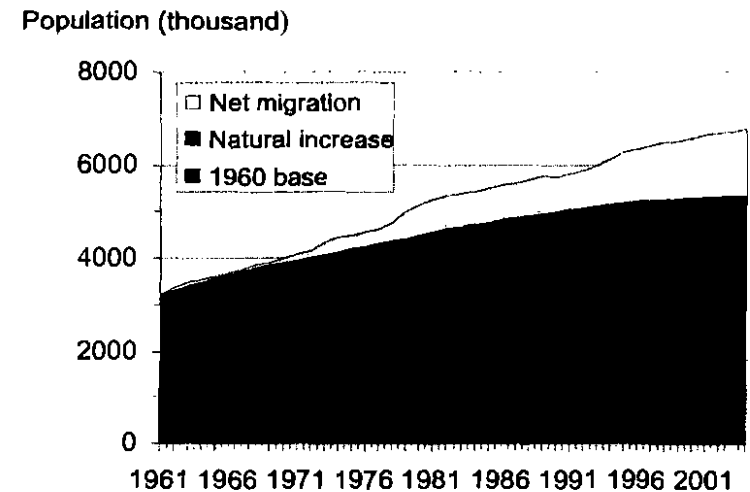
1961-1995, the number of births was over 69,000 and the natural population increase was over 37,000 a year. On the other hand, net migration was less than 30,000 a year in most years. It was smaller than the natural increase in population in most years until 1993. Migration accounted for over 50% of the increase in population in Hong Kong only in four years before 1984, i.e., 1973 and 1978-1980 (CSD, 2006:Tables 003-004).

It was in the most recent period 1993-2004 that migration became the most important source of population growth in Hong Kong. Migration accounted for over 56% of the population growth in this period except in the years 1997 and 2002. In 2004, migration accounted for 84% of the population growth in Hong Kong. During the period 1993-2004, the natural increase in population further dropped from 40,000 to 11,000 a year, and the problem of an ageing population began to arise in Hong Kong (CSD, 2006:Table 003). In recent years, many have come to see migration from mainland China as a positive measure to relieve the ageing problem. The issue will be further discussed in the section on population ageing and migration.

The limited contribution of migration to population growth in the period 1961-2004 can be clearly revealed by calculating the accumulated natural increase in the population and net migration in the period. The figures are shown in Figure 1 and Table 1. During that period, Hong Kong's total population increased from 3.128 million (population at the end of 1960 or beginning of 1961) to 6.916 million (including an upward adjustment of 0.125 million in mid-1996). There was a total increase of 3.663 million to the population during the period: 2.227 million due to natural increase and 1.436 million due to net migration. Net migration accounted for less than 33% of the population growth in the period 1961-1994 and 39.2% of the population growth in the period 1961-2004. As a result, the share of the population born in mainland China out of the total population further decreased from 50.5% in 1961 to 41.6% in 1971 and 32.5% in 2001 (Lam and Liu, 1998:15; CSD, 2001:33).

The population in Hong Kong consists of those born in Hong Kong, mainland China, Taiwan, Macao, and elsewhere. The population born in Taiwan was estimated to be 13,272 in 2001 according to

Figure 1 Accumulated contribution of migration and natural increase to total population in Hong Kong, 1961-2001



Source: Calculated by the authors based on data from CSD (2006:Table 003).

census reports (CSD, 2001:33; 2002a:11). The population born in Macao was 70,146 in 2001 (CSD, 2002a:11). Those born in mainland China, Taiwan, and Macao were combined into one group in Table 2. But 96.3% of the population in the group was born in mainland China. Table 2 presents the share of the population born in mainland China, Taiwan, and Macao in the total population of Hong Kong in 2001. Among the total population born in Greater China consisting of Hong Kong, Taiwan, mainland China, and Macao, the share of the population born in mainland China, Taiwan, and Macao was over 54% among people aged over 50 (aged 25 in 1976), but was below 25% among people aged below 39 (aged 14 in 1976). The emerging dominance of a local-born population with little connection with mainland China may also have been an important factor in the formation of an independent Hong Kong identity in the 1970s-1980s. The local-born population at that time knew little about mainland

Table 1 Annual and accumulated population changes in Hong Kong, 1961-2004

	1961	1971	1981	1991	1996	2001	2004
Total population ('000)	3195	4096	5239	5815	6467	6759	6916
Annual change							
Population growth rate (%)	2.1	2.5	1.8	1.1	1.1	0.7	1.0
Births ('000)	111	80	87	68	63	48	50
Deaths ('000)	19	20	25	28	32	33	37
Natural increase ('000)	92	59	62	40	31	16	11
Net migration ('000)	-25	41	32	23	41	32	59
Population change ('000)	67	100	93	63	72	48	70
Share of net migration (%)	-36.5	40.7	33.7	37.0	56.9	66.5	83.9
Accumulated change since 1961							
Natural increase ('000)	92	835	1424	1900	2090	2192	2227
Net migration ('000)	-25	133	687	788	1124	1315	1436
Population change ('000)	67	967	2110	2687	3214	3506	3663
Share of net migration (%)	-36.5	13.7	32.5	29.3	35.0	37.5	39.2

Note: The total population was adjusted upward by 124,500 in mid-1996 due to a change in statistical approach.

Source: Calculated by the authors based on data from CSD (2006:Tables 001, 003-004).

China due to the social and political separation between Hong Kong and the mainland in the 1950s-1970s (Shen, 2003, 2004). According to Chiu, Choi, and Ting (2005), the general attitudes towards both illegal and legal migrants changed from receptive to increasingly hostile in the mid-1970s. But the existing literature has largely ignored the possible effect of the above demographic change.

Clearly, the increasing importance of migration to population growth in Hong Kong since 1993 is due to a more stable net migration of about 50,000 migrants a year from mainland China and to the

Table 2 Share of population born in mainland China, Taiwan, and Macao in the total population of Hong Kong, 2001 (%)

Age group	Share in total population born in Greater China			Share in total population of Hong Kong		
	Males	Females	Total	Males	Females	Total
0-4	4.5	4.3	4.4	4.3	4.1	4.2
5-9	11.4	11.8	11.6	10.9	11.2	11.1
10-14	19.8	20.0	19.9	19.2	19.4	19.3
15-19	16.8	16.2	16.5	16.5	15.8	16.1
20-24	16.8	16.3	16.6	16.5	13.8	15.1
25-29	21.7	23.4	22.5	20.9	19.0	19.9
30-34	20.5	28.9	24.9	19.5	23.5	21.7
35-39	20.3	29.4	25.0	19.5	25.8	22.9
40-44	32.8	33.9	33.3	31.6	30.6	31.1
45-49	41.1	41.8	41.4	39.6	38.5	39.1
50-54	55.0	54.3	54.6	52.7	50.6	51.7
55-59	77.8	75.4	76.7	72.2	69.1	70.8
60-64	75.3	74.3	74.8	70.6	70.3	70.4
65+	82.7	81.9	82.3	80.4	80.0	80.2
Total	35.0	37.2	36.1	33.7	33.8	33.7

Source: Calculated by the authors based on data from CSD (2002a:12-15).

declining fertility and number of births in Hong Kong. The issue of the decline in fertility will be discussed in the next section.

The Decline in Fertility and the Children of Cross-boundary Couples

Declining fertility

In 2003, Hong Kong's total fertility rate (TFR, the average number

of children a woman will have in her whole life according to the age-specific fertility rates of women of various ages) was only 0.901 (CSD, 2005b:FD6), the lowest in the world. In comparison, the TFR was 1.330 in Japan, 1.369 in Singapore, 1.710 in Sweden, and 1.640 in the UK in 2003 (World Bank, 2005). It is noted that the TFR for Hong Kong in 2003 reported by World Bank (2005) was 0.959, before the recent adjustment by the CSD (2005b).

From 1971 to 2004, the TFR in Hong Kong declined by 73.2%, from 3.459 to 0.927. The total number of births dropped from 110,900 in 1961 to 49,800 in 2004 (Table 3). As mentioned before, the declining number of children has already resulted in a shrinking number of children attending primary and secondary schools. It also has major implications on the future labour supply and on an ageing population, which will be examined in the next section. This section focuses on the causes of the decline in fertility and the effect of children of cross-boundary couples on Hong Kong's fertility level.

The average fertility level of a population is determined by the patterns and timing of marriage and childbearing. These are in turn affected by a number of social, economic, and cultural factors (Mason, 1997). According to data from the CSD (2005b:FD6), women aged 25-29 had the highest fertility rate in the period 1975-2004, with the exception of the period 1997-2002, when women aged 30-34 had a slightly higher fertility rate than women aged 25-29. However, age-specific fertility rates declined dramatically in all ages in the period 1975-2004.

According to Table 4, the fertility rate declined by over 60% among women aged 15-29, 36% among women aged 30-34, and less than 15% among women aged 35-39 in the period 1981-2001. The delays in marriage and childbearing contributed to a much greater decline in the fertility rate among young women aged under 34, and to less of a decline among women aged 35-44. The average age of women's first marriage increased from 23.9 to 27.5 in the period 1981-2001 (CSD, 2002c:62). The median interval from marriage to the birth of the first child increased from 14.7 months to 27.5 months in the same period (CSD, 2002c:87).

It is noted that just delaying the time of marriage or childbearing

Table 3 Major fertility indicators of Hong Kong, 1966-2004

	1966	1971	1976	1981	1986	1991	1996	2001	2004
TFR	na	3.459	2.480	1.933	1.367	1.281	1.191	0.932	0.927
Total births ('000)	91.8	79.8	78.5	86.8	71.6	68.3	63.3	48.2	49.8
Index (1981=100)									
TFR	na	179	128	100	71	66	62	48	48
Total births	106	92	90	100	82	79	73	56	57
Average number of children ever born by a mother born at various years									
Mother's year of birth	1928	1933	1938	1943	1948	1953	1958	1963	na
Number of children by age 39	3.011	4.681	3.522	3.308	2.592	1.984	1.734	1.404	na
Number of children by age 50 (life fertility rate)	3.217	4.837	3.600	3.351	2.628	2.011	1.758	1.424	na
Number of children by age 39 as a percentage of that by age 50	93.6	96.8	97.9	98.7	98.6	98.7	98.7	98.7	na
Index (1981=100)									
Number of children by age 39	91	142	106	100	78	60	52	42	na
Number of children by age 50	96	144	107	100	78	60	52	42	na
Number of children by age 39 as a percentage of that by age 50	95	98	99	100	100	100	100	100	na

Sources: Calculated by the authors based on data from CSD (2002c, 2006).

Table 4 Index of age-specific fertility rate and share of now-married females (1981=100)

Age group	1976	1981	1986	1991	1996	2001
Age-specific fertility rate						
15-19	142	100	58	58	50	33
20-24	126	100	57	45	43	34
25-29	124	100	73	63	53	37
30-34	122	100	81	84	81	64
35-39	141	100	79	88	94	85
40-44	200	100	57	71	71	71
45-49	200	100	0	0	0	0
Age-specific fertility rate of married women						
15-19	127	100	98	117	101	160
20-24	114	100	76	76	75	79
25-29	115	100	82	82	73	62
30-34	115	100	85	94	99	84
35-39	138	100	81	95	105	103
40-44	214	100	57	71	86	86
45-49	200	100	0	0	0	0
Share of now-married females						
15-19	133	100	67	67	67	33
20-24	111	100	75	61	57	43
25-29	107	100	90	78	72	61
30-34	105	100	95	89	82	75
35-39	102	100	96	92	87	82
40-44	101	100	98	95	91	86
45-49	101	100	100	100	96	91

Source: CSD (2005a).

will not affect the real fertility rate if a woman still prefers to have the same number of children in her lifetime. A woman may still have sufficient time to have 1-2 children at the age of 35, while a delay in childbearing will affect the maximum number of children, such as 5-7. Only a reduction of the number of children that an average

woman will have or an increase in the proportion of women who will not marry during their lifetime would result in a decline in the real fertility rate of a population.

Recently, the CSD (2005a) conducted an analysis of the changes in the TFR in Hong Kong. According to the CSD (2005a), almost all live births in Hong Kong are associated with marriage. Thus, changing patterns of marriage and the declining fertility rates of unmarried women are two major factors behind the decline in fertility in Hong Kong. According to Table 4, the fertility rate of married women aged 15-19 increased by 60% in the period 1981-2001 as young girls chose to get married early due to pregnancy. The fertility rate of married women aged 35-39 also increased slightly as some women delayed childbearing until these ages. However, the fertility rate of married women aged 20-34 and 40-44 declined by 14-38% in the period 1981-2001, indicating a real decline in the fertility rate of married women.

Moreover, the share of now-married women declined dramatically in all age groups due to the decision to delay marriage and to an increase in the number of women who chose not to get married. For example, the share of now-married women among women aged 25-29 declined from 69% to 42% in the period 1981-2001, a decrease of 39%. The share also declined by 25% and 18% among women aged 30-34 and 35-39, respectively in the same period (Table 4). The share of women who were not married increased from 7% to 20% among women aged 40-44 and from 10% to 18% among women aged 45-49 in the period 1981-2001. Among the 18% of women aged 45-49 who were not married in 2001, 8.3% had never married, 6.1% were divorced or separated, and 3.4% were widowed (CSD, 2002a:15, 2005a). This means that about 18% of women may not engage in childbearing, mainly due to being single. This would directly reduce the fertility rate in Hong Kong by 18%. It is noted that the number of divorce decrees granted in Hong Kong increased from 2,060 to 13,425 in the period 1981-2001, while the number of divorced men and women who re-married increased from 2,501 to 9,130 (CSD, 2002c:56, 70). Thus over 50% of divorced men or women had not married again as of 2001.

In the period 1981-2001, an additional 8% of women aged 45-49 were not married, and this would have the effect of reducing the fertility rate by 8%. Furthermore, an additional 22% of women aged 30-34 were not married during that period. If we make an extreme estimation based on the assumption that women not married at the age 30-34 will never marry, the increase in the proportion of such women means that the fertility rate was reduced by 22% in the period 1981-2001. This accounted for 42% of the 52% reduction in the TFR in Hong Kong during that period. This estimation was smaller than the 56% contribution to the decline in TFR by the declining share of now-married women in the period 1976-2001 estimated by the CSD (2005a). The CSD estimation was on the high side as it ignored the possibility that women who get married later may have the same number of children as they would have had if they had not delayed their marriage. If this is the case, then the real fertility rate did indeed decline and was not caused simply by delayed marriage. Overall, it is concluded that the real decline in the married fertility rate may account for over 58% of the decline in fertility in the period 1981-2001. Thus, supportive incentives and childcare facilities are needed to encourage married women to have children in their 30s and 40s.

Trends according to alternative indicators of fertility

The TFR measures the fertility level for one year. It is an integrated indicator of the fertility levels of women at different ages in a particular year. Thus, the TFR in 2001 depended on the fertility rates of women aged 15-49 in that year and it was not equal to the total number of children a woman aged 15 or aged 49 would have in her whole life. It is useful to examine directly the overall fertility rate of women born at specific years. One useful indicator is the number of children a woman has had at the age of 50 when she completes the process of childbearing in her life. This may be called the life fertility rate or the total cohort fertility rate.

By 2001, women born in 1928-1953 in Hong Kong had completed their childbearing process and the life fertility rate was available. According to Table 3, on average, such women gave birth to over 93% of their total children by the age of 39, and the share was

98.6% for women born in year 1948. This share was used to estimate in Table 3 the total number of children that a woman born in 1958-1963 would have before or on reaching age 50 after 2001, given the number of children an average woman already had at the age of 39 before or in the year 2001.

According to Table 3, the life fertility rate declined from 4.837 for women born in 1933 to 2.628 for women born in 1948. The estimated life fertility rate was 1.424 for women born in 1963 (aged 39 in the year 2001) in Hong Kong. The observed number of children was 1.404 at age 39 in 2001. Both figures are significantly higher than the reported TFR of 0.932 in Hong Kong in 2001. This means that an average woman aged 39 in 2001 may have less than one child in her whole life. More time is needed to monitor such a low fertility level as such women have not completed their childbearing process.

Table 5 presents the number of live births by order of birth in Hong Kong in the period 1981-2001. During that period, the number of first-order births declined by 32%, down from 37,900 in 1981 to 25,700 in 2001. The number of second-order births declined by 39%. There was a dramatic decline of 70% in the number of third-order births, and an 86% decline in the number of fourth-order or later births in the same period. This indicates that women in Hong Kong were much less likely to have a third child or more in 2001. Overall, the first-order births accounted for 43.7% and 53.3% of total births in Hong Kong in 1981 and 2001, respectively. Second-order births accounted for 33.5% and 36.7% of total births in Hong Kong in 1981 and 2001, respectively.

Table 5 also presents the ratio of the number of births to the number of first marriages. It is interesting to note that the ratio has been very stable over the years. The number of total births per first marriage declined slightly from 2.106 in 1981 to 1.907 in 2001. The number of first-order births actually increased from 0.921 to 1.015 in the period 1981-2001. This indicates that some women giving birth in Hong Kong may not be registering their marriage in Hong Kong.

Overall, the declining trend of the TFR, life fertility rate, and number of births was consistent in Hong Kong in the period 1981-2001. In this period, the TFR declined by 52%, the life fertility

Table 5 Number of live births by order of live birth, 1981-2001

Order of live birth	1981	1986	1991	1996	2001
Number of live births by order of live birth ('000)					
1st	37.9	32.1	31.6	30.8	25.7
2nd	29.1	26.0	25.6	24.6	17.7
3rd	12.7	9.7	8.3	6.1	3.8
4th+	7.1	3.9	2.8	1.8	1.0
Total	86.8	71.6	68.3	63.3	48.2
Number of first marriages	41.2	34.1	34.5	29.4	25.3
Index (1981=100)					
1st	100	85	83	81	68
2nd	100	89	88	85	61
3rd	100	76	65	48	30
4th+	100	55	39	25	14
Total	100	83	79	73	56
Number of first marriages	100	83	84	71	61
Number of live births per first marriage by order of live birth					
1st	0.921	0.941	0.915	1.046	1.015
2nd	0.705	0.762	0.742	0.837	0.700
3rd	0.309	0.284	0.241	0.209	0.152
4th+	0.172	0.114	0.080	0.061	0.040
Total	2.106	2.101	1.978	2.153	1.907

Source: Calculated by the authors based on data from CSD (2002c:56, 94).

rate declined by 59% (comparing women born in 1943 and 1963, respectively) and the number of births by 44%. If all births are a result of marriage in Hong Kong, then the number of marriages should be stable so that the fall in the number of births follows that of the decline in fertility. Indeed, the number of first marriages also declined by 39% during that period. Once again, this indicates that some children are born from women who had not married in Hong Kong. For example,

it is common for a Hong Kong man to marry a girl from Guangdong. Their marriage may be registered in Guangdong instead of in Hong Kong. The woman may then come to Hong Kong to give birth to their children before or after migrating to Hong Kong. Such a childbearing process may not be reflected by the number of marriages registered in Hong Kong. This also poses a challenge to the ability to accurately measure the TFR of Hong Kong.

The problem of measuring TFR in Hong Kong: Dealing with the children of cross-boundary couples

After the introduction of economic reforms and the open door policy in China in 1978, social and economic interactions between Hong Kong and mainland China have increased (Lang and Smart, 2002; Shen, 2003; Lin and Tse, 2005). One significant phenomenon is an increase in the number of cross-boundary marriages (So, 2003). The latest figure shows that one-third of the 41,000 marriages registered in Hong Kong in 2004 were cross-boundary marriages between residents of Hong Kong and mainland China. In most cases, a girl in mainland China married a man in Hong Kong, but there were also 3,500 women from Hong Kong who married men from mainland China in 2004 (Asia Television Ltd, 2006).

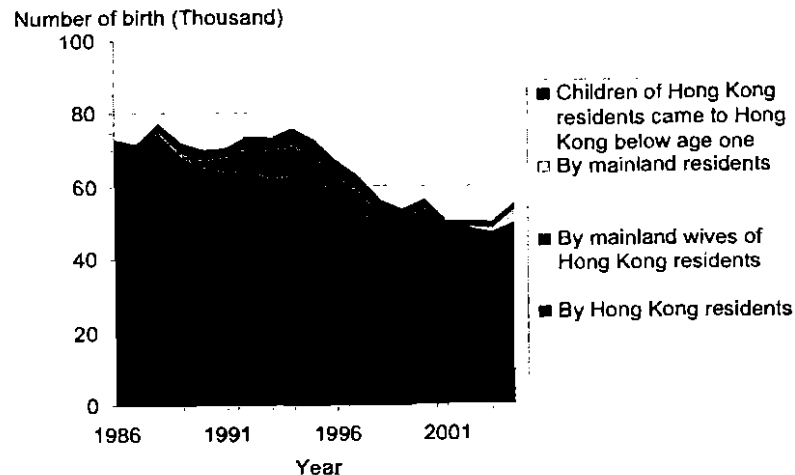
Although there are many cross-boundary marriages, the spouses of Hong Kong residents and their children born in mainland China can only migrate to Hong Kong after applying for one-way permits, which are subject to a daily quota of 150. Thus many mainland wives of Hong Kong residents come to give birth in Hong Kong as visitors so that their children can quickly obtain resident status. This creates a unique problem for fertility statistics, as the mothers are not Hong Kong residents while their babies are the children of Hong Kong residents (their fathers). Before 2005, the CSD (2005b) included these births in their fertility statistics without including the mothers who were not Hong Kong residents. The CSD revised their approach to compiling fertility statistics in 2005, but it is still not satisfactory. The details will be discussed later in this section. Generally, the mainland wives of Hong Kong residents may give birth to their children in

mainland China or Hong Kong before migrating permanently to Hong Kong.

Excluding the children born of those wives of Hong Kong residents who are not residents of Hong Kong and mainland China, births in Hong Kong are from three groups of women: Hong Kong residents, the mainland wives of Hong Kong residents, and mainland residents whose husbands are not Hong Kong residents (Figure 2).

The number of births by mainland wives of Hong Kong residents in Hong Kong increased significantly from 394 in 1986 to 4,964 in 1991 and 9,285 in 2004 (CSD, 2002c:35, 2005b:FD10). Such births

Figure 2 Number of births in Hong Kong by various populations and children of Hong Kong residents born outside Hong Kong who came to Hong Kong below the age of one, 1991-2004



Sources: CSD (2005b). Number of births from CSD (2006). The number of children of Hong Kong residents who came to Hong Kong below the age of one for 1986-1995 and the births by mainland wives of Hong Kong residents for 1986-1990 referring to live births by mainland residents with two-way permits and by illegal migrants, from CSD (2002c:35).

accounted for 15.6% and 18.6% of total births in Hong Kong in 2001 and 2004, respectively (CSD, 2005b:FD4, FD10). As the mothers of these children were still not residents of Hong Kong, they should be excluded from the calculation of the TFR in Hong Kong. As a result, the TFR in Hong Kong in 2001 and 2004 should be 0.786 and 0.754 respectively, indicating an extraordinarily low fertility rate in Hong Kong.

On the other hand, the number of births by mainland residents whose parents were both not Hong Kong residents also increased from 169 in 2001 to 3,630 in 2004 and 8,837 in 2005 (CSD, 2005b:FD10; *Ming Pao Daily News*, 22 June 2006). This was partly the result of the ruling of the Court of Final Appeal in July 2001 that babies born in Hong Kong to Chinese nationals have the right of abode in Hong Kong. There were also some births of children outside Hong Kong by Hong Kong residents. Many of these children were brought back to Hong Kong at below the age of one. The number of children of Hong Kong residents brought to Hong Kong below the age of one was 1,451 in 1986, 4,260 in 1995, 2,034 in 2001 and 1,588 in 2004 (CSD, 2002c:35, 2005b:FD11). Theoretically speaking, these babies are considered migrants, just as are those children or adults who are born outside of Hong Kong (including those born in mainland China) and return to Hong Kong with the right of abode. But in reality, such babies are the children of Hong Kong residents and may be counted in fertility statistics.

As mentioned before, the CSD (2005b) revised fertility statistics in 2005 for fertility data since 1996. Previously, all live births in Hong Kong including those by non-Hong Kong residents were included in calculating Hong Kong's fertility rate. The result may have been to over count the fertility rate of Hong Kong. But live births by Hong Kong residents outside Hong Kong were excluded, which may undercount the fertility rate of Hong Kong. In the new fertility statistics, all live births by Hong Kong residents outside Hong Kong are included. Live births by parents who are non-Hong Kong residents are excluded. Live births in Hong Kong by mainland wives whose husbands are Hong Kong residents as well as their mothers are included in calculating the fertility rate of Hong Kong. While this

is a kind of solution to the complicated issue in Hong Kong, such a method also over counts the fertility rate of Hong Kong in the sense that only mainland wives who give birth in Hong Kong are included. The problem is illustrated in the following.

Making use of available data and some estimates, Table 6 presents the female population, births, and age-specific fertility rates of three population groups in 2001: Hong Kong residents plus mainland mothers (Population A); Hong Kong residents (Population B); and mainland mothers (Population C). Population A is the sum of populations B and C. Here, mainland mothers refer to those mainland residents whose husbands were Hong Kong residents and who gave birth in Hong Kong in 2001. Hong Kong residents refer to those born in Hong Kong, Taiwan, mainland China, and Macao. Total births include those by Hong Kong residents outside Hong Kong, but exclude those by non-Hong Kong residents in Hong Kong whose husbands are not Hong Kong residents.

The total number of births by mainland mothers is known from CSD records (2005b:FD10). Their distribution by the age group of the mothers is estimated using the age group distribution of female one-way permit holders arriving in Hong Kong in 2001 (CSD, 2002c). Only the age groups 20-24 to 35-39 are included, as fertility rates for the age groups 15-19, 40-44, and 45-49 are low and mainland wives giving birth in Hong Kong are likely to be young. The number of mainland mothers (Population C) is equal to the number of births in each age group, as only mothers giving birth in Hong Kong in 2001 are included. The number of Hong Kong residents (Population B) by age group in 2001 is available (CSD, 2002a). Adding mainland mothers to such a number, we can obtain the total population of Hong Kong residents plus mainland mothers (Population A). The age-specific fertility rates in 2001 are available for population A (CSD, 2005b). The number of births by the age group of the mothers can be calculated and the total number of births was about 47,700, just slightly less than the real total of 48,200 in 2001. Finally, the number of births by Hong Kong residents (Population B) by age group is obtained as the difference between the number of births of Hong Kong residents plus mainland mothers (Population A) and mainland

Table 6 Calculating TFR based on Hong Kong residents and mainland mothers, 2001

Age group	Hong Kong residents plus mainland mothers (A)			Hong Kong residents (B)			Mainland mothers (C)		
	Population	Total births	Age-specific fertility rate	Population	Total births	Age-specific fertility rate	Population	Total births	Age-specific fertility rate
15-19	213192	853	0.004	213192	853	0.004	0	0	0
20-24	208015	6032	0.029	207835	5852	0.028	180	180	1
25-29	233002	13281	0.057	230544	10823	0.047	2458	2458	1
30-34	267015	16555	0.062	263967	13507	0.051	3048	3048	1
35-39	325678	9445	0.029	323825	7592	0.023	1853	1853	1
40-44	307927	1540	0.005	307927	1540	0.005	0	0	0
45-49	243712	0	0.000	243712	0	0.000	0	0	0
Total	1798541	47706	0.930	1791002	40167	0.794	7539	7539	20

Notes: Mainland mothers refer to those mainland residents whose husbands were Hong Kong residents and who gave birth in Hong Kong in 2001. Hong Kong residents refer to those born in Hong Kong, Taiwan, mainland China, and Macao. Total births include those by Hong Kong residents outside Hong Kong, but exclude those by non-Hong Kong residents in Hong Kong whose husbands are not Hong Kong residents.

Sources: Calculated by the authors based on data from CSD (2002a, 2002c, 2005b).

mothers (Population C). The age-specific fertility rates and the TFR of Hong Kong residents are then calculated.

The TFR was 0.930 in 2001 for population A according to the new fertility rate definition of the CSD in 2005. The TFR for population B was 0.794 in 2001. The TFR for Population C was as high as 20, as only mothers giving birth in 2001 were included and the age-specific fertility rate was 1 in each age group.

The TFR for population A is simply calculated by adding the population and births in population B and C. Thus, the TFR of population A is over counted as it assumes that the TFR for population C was an unrealistic 20 in 2001.

If we assume that the age-specific fertility rates of mainland mothers are the same as those of Hong Kong residents, then the age-specific fertility rates and the TFR of population A should be the same as those of population B, meaning that the TFR for population A is 0.794.

In Table 7, we set up another set of data. We are assuming the same population and births for population B. However, the simulated number of mainland mothers (Population C1) is estimated by assuming that their age-specific fertility rates are two times those of Hong Kong residents (Population B). The number of Hong Kong residents plus simulated mainland mothers (Population A1) is also re-calculated. Under these conditions, the TFR for population B was still 0.794 in 2001. The TFR for mainland mothers was a more realistic 1.587 in 2001 while the TFR for population A1 was 0.858, lower than 0.930 in Table 6 and the figure of the CSD (2005b).

Indeed, no data are available on the TFR of mainland mothers or new mainland migrants in Hong Kong. But 2001 census data about the number of children living with each couple are illustrative. The 2001 data show that the average number was 1.4 for a couple of non-migrants (1.36 million couples), 1.3 for a couple of whom both husband and wife were new mainland migrants (2,658 couples), 1.2 for a couple of whom only the husband was a new mainland migrant (4,266 couples), and 1.6 for a couple of whom only the wife was a new mainland migrant (90,325 couples) (CSD, 2002d:21). The number of children for a couple of whom only the wife was a new

Table 7 Calculating TFR based on Hong Kong residents and simulated mainland mothers, 2001

Age group	Hong Kong residents plus simulated mainland mothers (A1)			Hong Kong residents (B)			Simulated mainland mothers (C1)		
	Population	Total births	Age-specific fertility rate	Population	Total births	Age-specific fertility rate	Population	Total birth	Age-specific fertility rate
15-19	213192	853	0.004	213192	853	0.004	0	0	0.008
20-24	211037	6032	0.029	207835	5852	0.028	3202	180	0.056
25-29	256718	13281	0.052	230544	10823	0.047	26174	2458	0.094
30-34	293753	16555	0.056	263967	13507	0.051	29786	3048	0.102
35-39	363341	9445	0.026	323825	7592	0.023	39516	1853	0.047
40-44	307927	1540	0.005	307927	1540	0.005	0	0	0.010
45-49	243712	0	0.000	243712	0	0	0	0	0.000
Total	1889681	47706	0.858	1791002	40167	0.794	98679	7539	1.587

Note: Simulated number of mainland mothers (C1) is estimated by assuming that their age-specific fertility rates are two times of those of Hong Kong residents (B). The number of Hong Kong residents plus simulated mainland mothers (A1) is also re-calculated.

Source: See Table 6.

mainland migrant was only 14.3% higher than the number of children of a local couple.

It is clear that the new CSD method would over count the TFR of Hong Kong. In 2001, the real TFR of Hong Kong should be 0.794-0.858 rather than 0.930. The problem with the CSD method comes from only counting mainland mothers who give birth in Hong Kong in a particular year, resulting in an artificially high TFR of 20 for population C. If we were to include mainland mothers in the fertility calculation, then the mainland wives of Hong Kong residents who stay in Hong Kong and the mainland and their children born in mainland China should also be included (Figure 3). It is noted that the children born from the wives of Hong Kong residents in mainland China have the right of abode in Hong Kong and that they will come to Hong Kong with one-way permits as migrants in the near future. The status of these children is similar to those children born in Hong Kong of mainland wives or the children born outside of Hong Kong of Hong Kong residents. But this will make the collection of fertility statistics very complicated. One simple solution is to exclude the mainland wives of Hong Kong residents and their babies born in Hong Kong from the fertility statistics. These babies would be treated in the same way as those born in Hong Kong by non-Hong Kong residents. They can still be counted in the birth statistics of Hong Kong.

Marriage and Migration

The previous section reveals the low fertility rate in Hong Kong in recent years. An increasing proportion of never-married women in the population has been considered a major factor in Hong Kong's declining fertility rate. In Hong Kong, the proportion of women aged 35-39 who had never married increased from just 4.5% in 1981 to 10.4% in 1991 and 18.8% in 2001 (CSD, 1982:10, 1992:13, 2002a:9). Other than changing lifestyles, the increasing number of women migrants from mainland China has been considered the one major reason for the gender imbalance and reduced marriage opportunities for women in Hong Kong (CSD, 2005a). According to Table 8, the overall gender ratio for legal migrants (one-way permit holders) from

Figure 3 Coverage of population and births for fertility statistics (black shading)

Population	Stay but not give birth		Stay and give birth in a year	
	Hong Kong	Outside Hong Kong	Hong Kong	Outside Hong Kong
Hong Kong residents				
Mainland wives of Hong Kong residents				
Mainland residents whose husbands are not Hong Kong residents				

a. Incorrect coverage of population and birth for CSD new fertility statistics

Population	Stay but not give birth		Stay and give birth in a year	
	Hong Kong	Outside Hong Kong	Hong Kong	Outside Hong Kong
Hong Kong residents				
Mainland wives of Hong Kong residents				
Mainland residents whose husbands are not Hong Kong residents				

b. Correct coverage of population and birth for fertility statistics of Hong Kong residents plus mainland wives

Population	Stay but not give birth		Stay and give birth in a year	
	Hong Kong	Outside Hong Kong	Hong Kong	Outside Hong Kong
Hong Kong residents				
Mainland wives of Hong Kong residents				
Mainland residents whose husbands are not Hong Kong residents				

c. Correct coverage of population and birth for fertility statistics of Hong Kong residents

Table 8 Gender ratio of one-way permit holders from mainland China to Hong Kong, 1986-2004

Age group	Gender	1986	1991	1996	1998	2000	2001	2004
0-14	Male	4757	4152	13137	15486	9923	9055	5741
	Female	3480	3449	12079	14685	9701	8521	5579
	Gender ratio	137	120	109	105	102	106	103
15-24	Male	2302	2381	2888	2109	1698	1191	1069
	Female	2395	2185	4551	2419	1799	1233	1215
	Gender ratio	96	109	63	87	94	97	88
25-34	Male	1558	1640	1983	317	3000	3946	1132
	Female	4817	4840	9426	3601	14169	15449	13677
	Gender ratio	32	34	21	9	21	26	8
35-44	Male	1193	1102	1158	711	1501	3219	1269
	Female	2841	3378	8771	9036	7527	7030	5508
	Gender ratio	42	33	13	8	20	46	23
45-54	Male	571	468	503	364	623	511	452
	Female	1341	1459	4688	3305	2436	1202	1131
	Gender ratio	43	32	11	11	26	43	40
55+	Male	408	448	526	393	678	590	318
	Female	1198	1259	1469	3613	4475	1708	981
	Gender ratio	34	36	36	11	15	35	32
Unknown	Male	53	6	0	0	0	0	0
	Female	71	15	0	0	0	0	0
Total	Male	10842	10197	20195	19380	17423	18512	9981
	Female	16143	16585	40984	36659	40107	35143	28091
	Gender ratio	67	61	49	53	43	53	36

Sources: CSD (2002d:71); Home Affairs Department (2004).

mainland China to Hong Kong was below 70 males per 100 females in the period 1986-2004. The gender ratio for such migrants aged 25-34 was below 35 males per 100 females in the same period. In 2001, there were 15,449 female migrants in comparison with only 3,946 male migrants aged 25-34. The gender ratio was only 26 males per 100 females in this age group in 2001. Is the large number of female migrants to Hong Kong causing a shortage of male partners for marriage in Hong Kong? This section will attempt to clarify the linkage between migration and marriages in Hong Kong.

Female-dominant new migrants compensate for male-dominant old migrants

According to Table 9, the gender ratio of the total population of Hong Kong in 2001 was 96 males per 100 females. Among the population aged 20-44, the gender ratio was below 100 males per 100 females. Among the population aged 35-59 who had never married, or were widowed, divorced, or separated and may want to find a partner, the gender ratio was also below 100 males per 100 females. Thus, the overall gender ratio indicates a shortage of males in Hong Kong. Female-dominant migrants from mainland China are considered the main cause of the unbalanced gender ratio in Hong Kong (CSD, 2005a). Is there such a causal effect?

In the marriage data from the 2001 census, the people born in mainland China, Taiwan, and Macao were combined as one group. Among the people who were born outside Greater China, the majority were domestic workers coming from Southeast Asian countries and were mainly females. According to the 2001 census (CSD, 2002a:10), there was a total population of 0.44 million who were born outside Greater China. Its gender ratio was 39 males per 100 females. Such an unbalanced gender ratio was found in all age groups between 20-54 with all kinds of marital statuses: married, never married, widowed, and divorced/separated. Thus the population born outside Greater China had the effect of reducing the overall gender ratio in Hong Kong. It is useful to exclude the population born outside Greater China when the effect of migrants from mainland China on the gender balance is considered. The gender ratios of the population

born in Hong Kong and in mainland China, Taiwan, and Macao will be analysed in this section. As mentioned before, the majority of people born in the mainland China, Taiwan, and Macao category were born in mainland China.

In 2001, 2.26 million people in Hong Kong were born in mainland China, Taiwan, and Macao (Table 9). The overall gender ratio of this population was 96, the same as that of the total population of Hong Kong. This means that the gender ratio of this population was not lower than the average of population born in Hong Kong and outside Greater China. Among the population aged 20-24 and 40-59, there were more males than females, indicating that migrants from mainland China were not the cause of an excessive number of women in Hong Kong in these age groups. On the other hand, among the population aged 30-39, there were 34% more women than men, indicating the effect of female-dominant migrants from mainland China. However, this does not mean that there were fewer men than women among those who need to find a partner.

Among the population born in mainland China, Taiwan, and Macao and aged 20-54, there were 17-43% more men than women among those who had never married. Among the people aged 20-34 who may want to find a partner, including those who have never married, or who were widowed, divorced, or separated, there were also more men than women. Thus, among the population born in mainland China, Taiwan, and Macao, the main problem is the lack of women rather than men.

Why has the recent female-dominant migration from mainland China not changed the basic situation of more men than women among those born in mainland China who may want to find a partner? The reason for this is that there were more males than females among the migrants from mainland China in the 1960s and 1970s. This resulted in a higher gender ratio of over 100 among the population born in mainland China in the age group 40-59. Many of these people may have to find marriage partners in mainland China. This unbalanced gender ratio was also clear in the total population of Hong Kong according to the 1981 census data. In 1981, the gender ratio of the population aged 25-34, 35-44, and 45-54 was as high as 118, 130, and

Table 9 Gender ratio by marital status and age group in the total population of Hong Kong and in the population born in mainland China, Taiwan, and Macao, 2001 (males per 100 females)

Age group	Never married	Now married	Widowed/ divorced/ separated	Total	Never married/ widowed/ divorced/ separated
Total population of Hong Kong					
20-24	99	38	38	92	98
25-29	108	52	51	85	106
30-34	112	65	45	79	106
35-39	105	83	48	85	93
40-44	95	104	40	98	73
45-49	94	109	40	101	66
50-54	123	117	37	108	64
55-59	177	131	36	118	57
Total	106	101	32	96	91
Population born in mainland China, Taiwan, and Macao					
20-24	117	63	50	110	117
25-29	136	62	51	94	132
30-34	146	55	33	66	118
35-39	124	64	29	65	72
40-44	127	107	31	102	60
45-49	134	110	34	104	60
50-54	143	122	36	113	58
55-59	242	137	34	123	55
Total	120	112	29	96	69

Source: Calculated by the authors based on data from CSD (2002a:9, 13).

116, respectively (CSD, 1982:6-7). Thus, the recent female-dominant new migrants from mainland China have largely come to compensate for the gender unbalance caused by the male-dominant old migrants in the 1960s and 1970s. They are not greatly affecting the chances of Hong Kong women to find male partners in Hong Kong. This is also

made clear if we focus on the gender ratio of the population born in Hong Kong.

A shortage of women among the Hong Kong-born population who may want a partner

The population born in Hong Kong was 4 million in 2001. The overall gender ratio was 105 males per 100 females (Table 10). The male population was 5% larger than the female population. Among the population aged 20-59, men generally outnumbered women by 3-10%. However, among the population who had never married, men outnumbered women by 6-41% in all ages from 20 to 59 except for the age group 45-49. It is likely that some women married men who had once been married/divorced rather than that such women married people not born in Hong Kong.

Among the people who had never married, or who had divorced and separated and thus may want to find a partner, there were also 10-34% more men than women in the age group 20-39. Clearly, there is a shortage of women rather than men among those who may want to find a partner for marriage among the population born in Hong Kong. There is a shortage of men only in the age group 40-59. There are two possible reasons for this. First, among those who are widowed or divorced, men may be more likely than women to get re-married. Second, a man is more likely to marry a younger woman. In the period 1981-2001, the median age of marriage of all bridegrooms was three years older than that of all brides in Hong Kong. Over 25% of bridegrooms were five years older than their brides in the same period (CSD, 2002c:62-63). According to Table 10, among the married people born in Hong Kong, there were more women than men among those aged 20-34 but more men than women among those aged 35-59.

Considering the population born in Hong Kong, mainland China, Taiwan, and Macao as a whole, the gender ratio was 102, close to the gender ratio of the population born in Hong Kong in 2001. There were more females than males in the age group 30-39. But this did not affect the opportunities for these women to find partners. Among the population aged 20-39 who may want a partner, there were 8-31%

Table 10 Gender ratio by marital status and age group in the population born in Hong Kong and in the population born in Greater China, 2001 (males per 100 females)

Age group	Never married	Now married	Widowed/ divorced/ separated	Total	Never married/ widowed/ divorced/ separated
Population born in Hong Kong					
20-24	110	48	53	106	110
25-29	124	61	69	103	123
30-34	139	85	65	104	134
35-39	124	102	65	106	114
40-44	106	113	48	107	87
45-49	98	115	48	107	75
50-54	129	118	40	110	74
55-59	141	120	39	108	64
Total	113	104	42	105	106
Population born in Greater China					
20-24	111	52	52	106	111
25-29	126	61	64	101	125
30-34	140	74	53	93	131
35-39	124	89	52	94	108
40-44	108	110	42	105	82
45-49	104	113	42	106	70
50-54	133	120	38	111	67
55-59	191	133	36	119	58
Total	114	108	33	102	96

Source: Calculated by the authors based on data from CSD (2002a:12-13).

more men than women in 2001. Among the population who had never married, there were more men than women in the age range 20-59.

Another set of data that could explicitly illustrate the marriage problem of the population in Hong Kong are the percentages of both males and females who have never married. If the share is low for

the male population but high for the female population, then one may assume that the males have married female migrants, resulting in a shortage of men. However, according to Table 11, among both the males and females born in Hong Kong there was a similarly high share of people who had never married in 2001. For example, the figures were 15.5% and 15.6% for males and females aged 40-44 in 2001. Generally, among the population born in mainland China, Taiwan, and Macao the percentage of people who had never married was much smaller; for the age group 40-44 in 2001, it was 4.2% and 3.4% for males and females, respectively. On the other hand, the male population born outside Greater China had a modest share of people who had never married (10.6% for the age group 40-44), while the female population born outside Greater China had a very high share of people who had never married (19.1% for the age group 40-44).

Thus, although there were more men than women in the total population in Hong Kong, a situation that had been caused by a lower gender ratio of population born in mainland China, Taiwan, Macao, and outside Greater China, there were generally more men than women among the population who had been born in Greater China and had never married. For the population born in Hong Kong who may want a partner, the problem was also that there were more men than women in the age group 20-39. The problem of more women than men only occurred among those aged 40-59. Thus, at least for women aged 20-39 in Hong Kong, the genuine problem was a lack of suitable partners to marry, rather than a shortage of men caused by the inflow of female-dominant migrants from mainland China.

Indeed, due to their rising economic status and levels of education, women may be having more difficulty finding suitable partners who can match their expectations (U-Beat Magazine, 2006). According to a recent survey of 500 women aged 25-45 in Hong Kong conducted by the Radio and Television Hong Kong and the City University of Hong Kong (*Ming Pao Daily News*, 12 February 2006), 84.3% of women consider a stable income to be the most important condition in choosing a partner. However, globalization and the economic transition in Hong Kong are necessitating frequent changes in employment and leading to less permanent employment,

Table 11 The share of the population never married by age group, gender, and place of birth in Hong Kong, 2001 (%)

Age group	Gender	Hong Kong	Mainland China, Taiwan, and Macao	Greater China	Elsewhere	Total
20-24	Male	96.6	92.4	95.9	75.5	95.5
	Female	92.6	86.6	91.6	75.2	89.2
	Total	94.7	89.6	93.8	75.2	92.2
25-29	Male	80.1	63.3	76.5	49.1	75.5
	Female	66.6	43.8	61.3	52.7	59.7
	Total	73.5	53.3	68.9	52.2	66.9
30-34	Male	49.0	29.3	45.0	27.2	44.1
	Female	36.7	13.2	29.9	37.1	31.2
	Total	43.0	19.6	37.2	35.4	36.9
35-39	Male	26.9	9.6	23.4	17.2	23.2
	Female	22.9	5.0	17.6	27.0	18.8
	Total	25.0	6.8	20.4	24.9	20.8
40-44	Male	15.5	4.2	11.8	10.6	11.7
	Female	15.6	3.4	11.4	19.1	12.2
	Total	15.5	3.8	11.6	16.9	12.0
45-49	Male	10.4	4.2	7.8	7.5	7.8
	Female	11.3	3.2	7.9	13.4	8.3
	Total	10.8	3.7	7.9	11.5	8.1
50-54	Male	9.0	3.7	6.1	6.0	6.1
	Female	7.6	2.9	5.1	8.9	5.3
	Total	8.3	3.3	5.6	7.8	5.7
55-59	Male	7.0	3.4	4.2	4.6	4.2
	Female	5.4	1.7	2.6	4.9	2.8
	Total	6.2	2.7	3.5	4.7	3.6
Total	Male	59.3	20.8	45.8	35.6	45.4
	Female	55.5	16.6	41.1	40.6	41.0
	Total	57.5	18.6	43.5	39.2	43.2

Source: Calculated by the authors based on data from CSD (2002a:12-14).

thus reducing the economic stability and attractiveness of men for marriage. All of this is contributing to delayed marriages and to an increasing proportion of people who are not married. These issues have to be addressed when dealing with the low fertility rate in Hong Kong. Indeed, if the marriage problem is caused by the female-dominant migrants from mainland China, then the number of births should not be affected. As the male population of Hong Kong is not greatly affected by such immigration, and if men were simply marrying mainland women instead of local women, the total number of couples and the total number of births would not be affected. But as shown in the previous section, both birth numbers and the fertility rate have declined in Hong Kong. Furthermore, migrants and visitors from mainland China who marry Hong Kong husbands do account for many of the births in Hong Kong. It can be concluded that migrants from mainland China do not affect the marriage opportunities for women and the fertility rate in Hong Kong.

Population Ageing and Migration

Other than the low fertility rate, another burning demographic issue in Hong Kong is the ageing of the population. In 2004, the number of births remained at the low level of 49,800, while the number of one-way permit holders from mainland China was reduced from 53,500 in 2003 to 38,000 in 2004, indicating a trend of slow population growth in Hong Kong (Home Affairs Department, 2004). This has stimulated public concern over local population issues and policies. Migration is considered by many to be a possible solution to Hong Kong's ageing problem (Yip et al., 2001; Tsui, 2005). This section will discuss the actual situation of the ageing population in Hong Kong and whether migration is an effective solution to this problem.

Ageing and the elderly population

Many people believe that the problem of an ageing population is currently very serious in Hong Kong, and have proposed solutions such as trying to increase the fertility rate and immigration. But this

is a misconception. Ageing refers to an increase in the proportion of elderly population aged 60+ or 65+ in the total population and such a proportion remains at a high level. Currently, the problem of ageing is not a serious one in Hong Kong. The proportion of people aged 65+ in the total population only increased slightly from 8.7% in 1991 to 10.2% in 1996 and 11.2% in 2001 (CSD, 2002c:10). Compared with other developed countries, this proportion is low, even lower than that of the USA, which has no problem of population ageing. The proportion of people aged 65+ was 16.4% in Germany, 17.2% in Japan, 17.4% in Sweden, and 12.3% in USA in 2000 (Department of Economic and Social Affairs Population Division, 2001).

The current low proportion of elderly people among the population in Hong Kong is a result of the high fertility rate and significant amount of immigration from the 1950s to 1970s. But similar to many other countries, the proportion of people aged 65+ will rise continuously, reaching 12.5% in 2012, 20% in 2025, and 29.2% in 2050 (Department of Economic and Social Affairs Population Division, 2001; Planning Department, 2003:57). By 2050, Hong Kong will have a very serious ageing problem. The situation will be similar to that in Germany and Sweden. The proportion of elderly people among the population in these two countries will be 31% and 30.4%, respectively, in 2050. In 2050, Japan will be the country with the most serious ageing problem in the world. Its elderly population will reach 36.4% in that year.

It should be noted that even if the TFR maintains at the replacement level of 2.1, the level where births offset deaths, the elderly population would comprise around 20%. The current proportion of elderly people among the population in Hong Kong is far below the normal level. Therefore, an ageing population is a normal phenomenon. However, a society needs to take measures to limit its elderly population to under 25%. Otherwise, having a high proportion of elderly people among the population will have serious social and economic consequences.

Finally, the number of elderly people aged over 60 or 65 (those born before 1990 or 1985) from now to 2050 will be determined by the current population. According to the age structure data from the

2001 census, the number of people aged 60 or 65 was about 50,000 in 2001. In 2011, 2021 and 2031, the number of people entering the age of 60 will be 96,000, 135,000, and 114,000, respectively. The number of such people will fall back to 50,000 only by 2061 (CSD, 2002a:8). Therefore, it is certain that there will be sustained growth in the elderly population from now to 2031. Raising the fertility rate or attracting more immigrants cannot change such growth in the elderly population up to 2031. It is projected that the number of people aged 65+ will increase from 747,000 in 2001 to 953,000 in 2012 (CSD, 2002a; Planning Department, 2003). Therefore, the government and society should prepare well in advance for the medical care and financial support of the elderly.

The population target, fertility level, and migration policy

When discussing population policy, many people do not differentiate the population target from the fertility level and migration policy. This makes it difficult to tackle the key issue of the population problem. Population target refers to the desirable size of the total population to ensure an adequate labour supply to support economic development. Concerns about ageing are actually focused on the issue of whether Hong Kong will have enough of a working population to create sufficient wealth to support a huge elderly population. In order to solve the derived economic problem of an ageing population, we can raise fertility levels so as to increase the future supply of labour. Other options include improving the education and skill level of the population or speeding up economic restructuring to increase personal income so that individuals, households, and society are able to support the elderly population.

As mentioned before, a serious ageing problem will only occur in the future. The immigration of a young labour force at that time will reduce the proportion of elderly people among the population, and increase the labour supply as well as the number of births. But currently, such an immigration measure is not effective or necessary to solve the ageing problem, and may even exaggerate the problem in the future. The immigration of people aged 25-40 now would only increase the elderly population and thus worsen the ageing situation,

20-35 years later. Therefore, migration is only a useful and effective measure in the future, not now. It is another matter if the immigration of people with more talents is encouraged to meet the needs of current economic development in Hong Kong. A migration policy that tackles the ageing problem should be differentiated from a migration policy for enhancing economic competitiveness.

Conclusion

Demographic changes have profound social and economic implications. The focus of this paper is on the demographic effect of migration on the population in Hong Kong. There are positive and negative perceptions of the demographic effects of migration. Some are correct perceptions, while others are wrong. For example, migrants from the mainland have been considered to be an effective way of relieving the problem of an ageing population in Hong Kong (Yip et al., 2001). Many people believe that the low marriage rate of the female population in Hong Kong is largely caused by the immigration of women from mainland China. This paper shows that these perceptions are not valid. Furthermore, the real effect of the mainland wives and new migrants on the fertility level in Hong Kong is not well understood.

Based on detailed analyses of population, migration, and fertility data, this paper scrutinizes the demographic effects of migration related to above issues in Hong Kong. The results will help in forming proper policy response to an acute fertility problem and to the "expected" severe problem of an ageing population in the future.

During the period 1961-1993, net migration was smaller than the natural increase in the population in Hong Kong in most years until 1993. It was in the most recent period 1993-2004 that migration became the most important source of population growth in Hong Kong. Migration accounted for over 56% of the population growth in this period except in 1997 and 2002. Overall, net migration accounted for less than 39.2% of the population growth in the period 1961-2004.

The paper argues that the existing method of calculating the TFR of Hong Kong is problematic and that the children born from the mainland wives of Hong Kong residents in Hong Kong should be excluded. It is estimated that the real TFR of Hong Kong in 2001 should be 0.794-0.858 rather than 0.930. If we wish to include mainland wives in fertility calculations, then the mainland wives of Hong Kong residents who stay in Hong Kong and the mainland and their children born in mainland China should also be included. It is noted that the children of the wives of Hong Kong residents in mainland China have the right of abode in Hong Kong and that they will come to Hong Kong with one-way permits as migrants in the near future. The status of these children is similar to those children born in Hong Kong to mainland wives or those children born outside of Hong Kong to Hong Kong residents. But this will make the collection of fertility statistics very complicated. One simple solution is to exclude the mainland wives of Hong Kong residents and their babies born in Hong Kong from the fertility statistics.

Although there are more women than men in the total population of Hong Kong, there are generally more men than women among the population who were born in Greater China and have never married. For the population born in Hong Kong, the problem was also that of more men than women in the age group 20-39 in 2001. Thus, at least for women aged 20-39 in Hong Kong, the genuine problem is a lack of suitable partners to marry, rather than a shortage of men due to the inflow of female-dominant migrants from mainland China.

The paper argues that the problem of ageing is not currently a serious one in Hong Kong, and that the immediate immigration of young migrants is not an effective solution to the future problem of a large elderly population. Current migrants will sooner or later become elderly people, making the ageing problem much worse in the future. The paper argues that the timing of migration is important in assessing its impact on an ageing population. Migration is a measure best adopted in the future when the problem of ageing becomes very serious, rather than now. Indeed, an ageing population is a normal phenomenon, and Hong Kong is following a similar trend seen in other countries. The number of elderly people in 2050 has already

been determined. Therefore, the society has to prepare well for the possible peak of an ageing population in the future. It is important to distinguish a migration policy for dealing with the problem of ageing from a migration policy for attracting talented people to stimulate economic development. The fundamental solution to an ageing population would be to maintain a reasonable fertility level (with a TFR around 2), increase individual and family savings, and raise social security contributions to support the elderly life.

Because of social developments and changes in lifestyle, most couples in Hong Kong are choosing to have fewer than two or even no children. To increase the fertility level will be a great social challenge. Countries like Germany and Japan have adopted various incentives to raise their fertility levels without much success. One feasible measure for Hong Kong is to increase the level of government support for families to raise their children, such as a larger child allowance in income tax and offering better childcare facilities. Improving the quality of education, living standards, and housing will also help. Incentives should particularly aim at encouraging couples to have a second and third child. For example, the child allowance for the second and third children can be much higher than that for the first child. Such a policy has to be strong enough to have a significant effect. The policy will not result in a very high TFR (such as over 3) in Hong Kong, as only some couples in Hong Kong may eventually be persuaded to have more than two children.

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