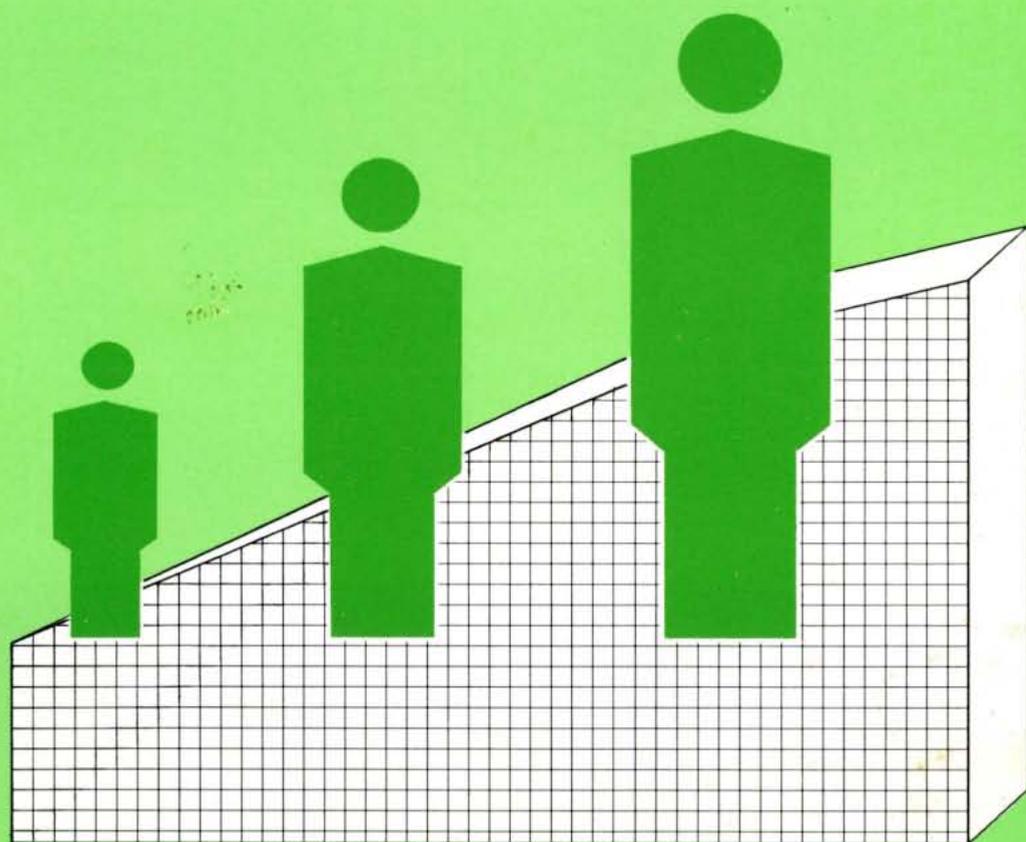


# Hong Kong Population Projections 1992-2011



Census and Statistics Department, Hong Kong

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# **Hong Kong Population Projections 1992-2011**

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## FOREWORD

Following each population census, the Census and Statistics Department produces projections of the Hong Kong population by age and sex. The main purpose of the projections is to provide a common basis for Government programme planning in such areas as education, housing, transport, social services and health services. Projection results are also widely applied in business development and planning.

Based on the results of the 1991 Population Census, a set of population projections has been prepared. Assumptions on future trends of fertility, mortality and migration are required and these are established on the basis of past trends and recent developments in demographic and socio-economic conditions in Hong Kong. Experience of fertility and mortality changes in various developed countries are also taken into consideration in formulating the assumptions.

Apart from projection results, this report also presents a detailed description of the methodologies and assumptions used.

Frederick W. H. HO  
Commissioner for Census and Statistics

May 1992

# 1. INTRODUCTION

## Population Coverage

Population projections present the future situation of a population under a specific set of assumptions on fertility, mortality and migration. The set of population projections in this report covers not only persons normally living in Hong Kong, but also those staying here temporarily. However, Vietnamese migrants awaiting resettlement in other places are excluded.

## Report Structure

Results of the population projection are contained in the section "Projection Results". The projected population figures for each of the years 1992-2011 are presented in quinquennial age groups for each sex.

Methodologies used in the projection are presented in the section "Projection Methodology". This covers the "component method" of population projection and the methodologies for fertility, mortality and migration projection.

The future trends of fertility, mortality and migration and the number of persons staying in Hong Kong temporarily are projected based on a study of past trends and likely developments. Details are contained in the section "Projection of Demographic Trends". The projections constitute assumptions for use in the component method of population projection.

## Conventions

The following symbols are used in the tables:

"—" signifies not available;

".." signifies not applicable; and

"0.0" signifies less than 0.05 but not zero.



## 2. PROJECTION RESULTS

Results of the population projection are presented in Tables 1 and 2. Table 1 provides some summary statistics and Table 2 contains the detailed projections.

The population is projected to increase at an average rate of 0.66 % per annum, from 5.69 million in mid-1991 to 6.48 million in mid-2011 (Table 1).

One of the prominent trends of the projection is the continual ageing of the population. The median age is expected to increase from 32 in 1991 to 37 in 2001 and further to 41 in 2011. In 1991, 21% of the population were aged under 15. It is projected to decrease to 16% in 2001 and 15% in 2011. In contrast, the proportion of those aged 65 and over would rise from 9% in 1991 to 12% in 2001 and remain at that level till 2011. Overall, the age dependency ratio is expected to decrease gradually from 422 in 1991 to 386 in 2001, and thereafter stabilize at that level.

In general, the population of schooling ages 3-22 would show a significant reduction over the next 20 years. There are considerable variations of the change among the age groups concerned, which in turn have different implications on the school place requirements at various education levels. At the pre-primary school ages 3-5, the population is expected to decrease moderately from 224 000 in 1991 to 196 000 in 2011. At the primary school ages 6-11, the population would drop substantially from 502 000 to 373 000 over the next 10 years, and then increase gradually to 396 000 in 2011. For secondary education, the population at ages 12-18 would decrease from 582 000 in 1991 to 408 000 in 2011. Likewise, the population at ages 19-22, who are the main source of students for tertiary education, would decrease from 330 000 to 225 000 in the same period.

The population aged 60 and over, who would require elderly welfare services, is expected to increase at an average rate of 2.3% per annum, from 0.74 million in 1991 to 1.17 million in 2011. The rate of increase would be even faster among those aged 70 and over. The number would almost double in the next 20 years and their proportion in the total population would rise from 6% to 9%.

**Table 1 Summary Population Statistics: 1991, 1996, 2001, 2006 and 2011**

	Mid-1991 (Base)	Mid-1996	Mid-2001	Mid-2006	Mid-2011
<b>Population</b>	5 686 600	5 884 700	6 080 500	6 282 100	6 479 800
<b>Average annual growth rate over a 5-year period</b>	..	0.69%	0.66%	0.65%	0.62%
<b>Percentage of population</b>					
Aged 0-14	21%	18%	16%	15%	15%
Aged 15-64	70%	72%	72%	73%	73%
Aged 65 & over	9%	10%	12%	12%	12%
<b>Age dependency ratio</b>					
Child dependency ratio	297	253	225	211	208
Elderly dependency ratio	125	145	161	167	169
Overall dependency ratio	422	398	386	378	377
<b>Median age</b>	32	35	37	39	41

**Table 2 Mid-Year Population Projections  
by  
Age Group and Sex**

**1991 (Mid-year Population Estimates)**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	186.9	6.4	173.5	6.2	360.4	6.3
5-9	211.4	7.3	195.4	7.0	406.8	7.2
10-14	218.1	7.5	200.9	7.2	419.0	7.4
15-19	219.0	7.5	201.4	7.2	420.4	7.4
20-24	219.7	7.6	220.0	7.9	439.7	7.7
25-29	286.5	9.9	296.5	10.7	583.0	10.3
30-34	312.3	10.8	303.9	10.9	616.2	10.8
35-39	263.3	9.1	248.6	8.9	511.9	9.0
40-44	222.4	7.7	197.0	7.1	419.4	7.4
45-49	139.9	4.8	113.8	4.1	253.7	4.5
50-54	139.0	4.8	114.3	4.1	253.3	4.5
55-59	139.5	4.8	122.2	4.4	261.7	4.6
60-64	124.2	4.3	116.9	4.2	241.1	4.2
65-69	92.9	3.2	98.1	3.5	191.0	3.4
70-74	64.1	2.2	75.3	2.7	139.4	2.5
75-79	39.5	1.4	53.7	1.9	93.2	1.6
80-84	16.4	0.6	30.3	1.1	46.7	0.8
85 & over	7.5	0.3	22.2	0.8	29.7	0.5
<b>Total</b>	<b>2 902.6</b>	<b>100.0</b>	<b>2 784.0</b>	<b>100.0</b>	<b>5 686.6</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

1992

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	180.2	6.2	167.5	6.0	347.7	6.1
5-9	204.0	7.0	188.3	6.7	392.3	6.8
10-14	219.5	7.5	202.9	7.2	422.4	7.4
15-19	213.7	7.3	195.5	6.9	409.2	7.1
20-24	218.3	7.5	222.7	7.9	441.0	7.7
25-29	275.4	9.4	290.6	10.3	566.0	9.9
30-34	315.6	10.8	310.9	11.1	626.5	10.9
35-39	275.5	9.4	261.5	9.3	537.0	9.4
40-44	233.2	8.0	208.6	7.4	441.8	7.7
45-49	153.0	5.2	126.3	4.5	279.3	4.9
50-54	135.5	4.6	110.1	3.9	245.6	4.3
55-59	139.3	4.8	120.7	4.3	260.0	4.5
60-64	126.7	4.3	117.8	4.2	244.5	4.3
65-69	97.1	3.3	100.7	3.6	197.8	3.4
70-74	66.6	2.3	78.0	2.8	144.6	2.5
75-79	41.6	1.4	55.9	2.0	97.5	1.7
80-84	18.5	0.6	32.4	1.2	50.9	0.9
85 & over	7.9	0.3	22.9	0.8	30.8	0.5
<b>Total</b>	<b>2 921.6</b>	<b>100.0</b>	<b>2 813.3</b>	<b>100.0</b>	<b>5 734.9</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**1993**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	173.4	5.9	161.2	5.7	334.6	5.8
5-9	197.6	6.7	182.1	6.4	379.7	6.6
10-14	220.4	7.5	203.9	7.2	424.3	7.3
15-19	208.6	7.1	190.6	6.7	399.2	6.9
20-24	218.4	7.4	226.0	8.0	444.4	7.7
25-29	263.4	9.0	282.4	9.9	545.8	9.4
30-34	315.6	10.7	314.8	11.1	630.4	10.9
35-39	288.7	9.8	274.7	9.7	563.4	9.7
40-44	241.1	8.2	217.4	7.7	458.5	7.9
45-49	170.3	5.8	142.7	5.0	313.0	5.4
50-54	131.6	4.5	105.8	3.7	237.4	4.1
55-59	139.2	4.7	118.9	4.2	258.1	4.5
60-64	128.5	4.4	118.4	4.2	246.9	4.3
65-69	101.3	3.4	103.2	3.6	204.5	3.5
70-74	69.2	2.4	80.6	2.8	149.8	2.6
75-79	43.6	1.5	57.9	2.0	101.5	1.8
80-84	20.7	0.7	34.8	1.2	55.5	1.0
85 & over	8.3	0.3	24.1	0.8	32.4	0.6
<b>Total</b>	<b>2 939.9</b>	<b>100.0</b>	<b>2 839.5</b>	<b>100.0</b>	<b>5 779.4</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**1994**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	165.7	5.6	154.4	5.4	320.1	5.5
5-9	194.2	6.6	178.8	6.2	373.0	6.4
10-14	218.5	7.4	202.0	7.1	420.5	7.2
15-19	204.9	6.9	187.9	6.6	392.8	6.8
20-24	217.5	7.4	226.7	7.9	444.2	7.6
25-29	251.2	8.5	275.3	9.6	526.5	9.1
30-34	311.3	10.5	315.8	11.0	627.1	10.8
35-39	300.7	10.2	287.3	10.0	588.0	10.1
40-44	247.2	8.4	224.9	7.9	472.1	8.1
45-49	189.2	6.4	160.9	5.6	350.1	6.0
50-54	129.4	4.4	103.3	3.6	232.7	4.0
55-59	138.4	4.7	116.8	4.1	255.2	4.4
60-64	129.9	4.4	118.3	4.1	248.2	4.3
65-69	105.3	3.6	105.5	3.7	210.8	3.6
70-74	72.1	2.4	83.3	2.9	155.4	2.7
75-79	45.4	1.5	59.9	2.1	105.3	1.8
80-84	22.8	0.8	37.2	1.3	60.0	1.0
85 & over	9.0	0.3	25.3	0.9	34.3	0.6
<b>Total</b>	<b>2 952.7</b>	<b>100.0</b>	<b>2 863.6</b>	<b>100.0</b>	<b>5 816.3</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**1995**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	161.6	5.5	150.9	5.2	312.5	5.3
5-9	190.0	6.4	175.1	6.1	365.1	6.2
10-14	214.0	7.2	197.4	6.8	411.4	7.0
15-19	203.0	6.8	186.7	6.5	389.7	6.7
20-24	215.0	7.3	224.8	7.8	439.8	7.5
25-29	241.4	8.1	272.1	9.4	513.5	8.8
30-34	303.7	10.2	313.4	10.9	617.1	10.5
35-39	309.8	10.5	298.1	10.3	607.9	10.4
40-44	254.1	8.6	233.1	8.1	487.2	8.3
45-49	206.7	7.0	178.1	6.2	384.8	6.6
50-54	131.1	4.4	104.7	3.6	235.8	4.0
55-59	136.9	4.6	114.0	3.9	250.9	4.3
60-64	130.7	4.4	117.7	4.1	248.4	4.2
65-69	109.0	3.7	107.5	3.7	216.5	3.7
70-74	75.2	2.5	86.0	3.0	161.2	2.8
75-79	47.4	1.6	61.9	2.1	109.3	1.9
80-84	24.8	0.8	39.4	1.4	64.2	1.1
85 & over	10.0	0.3	26.9	0.9	36.9	0.6
<b>Total</b>	<b>2 964.4</b>	<b>100.0</b>	<b>2 887.8</b>	<b>100.0</b>	<b>5 852.2</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

1996

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	159.9	5.4	149.8	5.1	309.7	5.3
5-9	185.1	6.2	170.5	5.9	355.6	6.0
10-14	207.7	7.0	190.9	6.6	398.6	6.8
15-19	203.0	6.8	187.4	6.4	390.4	6.6
20-24	210.3	7.1	220.9	7.6	431.2	7.3
25-29	234.5	7.9	272.3	9.4	506.8	8.6
30-34	292.7	9.8	308.3	10.6	601.0	10.2
35-39	315.0	10.6	305.7	10.5	620.7	10.5
40-44	262.8	8.8	243.1	8.3	505.9	8.6
45-49	220.6	7.4	192.4	6.6	413.0	7.0
50-54	138.2	4.6	111.1	3.8	249.3	4.2
55-59	134.4	4.5	110.6	3.8	245.0	4.2
60-64	131.2	4.4	116.6	4.0	247.8	4.2
65-69	112.1	3.8	109.0	3.7	221.1	3.8
70-74	78.6	2.6	88.6	3.0	167.2	2.8
75-79	49.5	1.7	64.0	2.2	113.5	1.9
80-84	26.5	0.9	41.5	1.4	68.0	1.2
85 & over	11.2	0.4	28.7	1.0	39.9	0.7
<b>Total</b>	<b>2 973.3</b>	<b>100.0</b>	<b>2 911.4</b>	<b>100.0</b>	<b>5 884.7</b>	<b>100.0</b>

Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex

1997

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	161.3	5.4	151.2	5.2	312.5	5.3
5-9	178.4	6.0	164.6	5.6	343.0	5.8
10-14	200.3	6.7	183.8	6.3	384.1	6.5
15-19	204.4	6.9	189.2	6.4	393.6	6.7
20-24	204.0	6.8	215.6	7.3	419.6	7.1
25-29	230.8	7.7	275.2	9.4	506.0	8.6
30-34	279.5	9.4	300.4	10.2	579.9	9.8
35-39	316.7	10.6	311.2	10.6	627.9	10.6
40-44	273.3	9.2	254.7	8.7	528.0	8.9
45-49	230.6	7.7	203.0	6.9	433.6	7.3
50-54	150.8	5.1	123.1	4.2	273.9	4.6
55-59	131.0	4.4	106.5	3.6	237.5	4.0
60-64	131.3	4.4	115.1	3.9	246.4	4.2
65-69	114.4	3.8	110.0	3.7	224.4	3.8
70-74	82.4	2.8	91.1	3.1	173.5	2.9
75-79	51.6	1.7	66.5	2.3	118.1	2.0
80-84	28.0	0.9	43.3	1.5	71.3	1.2
85 & over	12.7	0.4	30.9	1.1	43.6	0.7
<b>Total</b>	<b>2 981.5</b>	<b>100.0</b>	<b>2 935.4</b>	<b>100.0</b>	<b>5 916.9</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**1998**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	163.9	5.5	153.6	5.2	317.5	5.3
5-9	171.6	5.7	158.4	5.3	330.0	5.5
10-14	193.9	6.5	177.7	6.0	371.6	6.2
15-19	205.3	6.9	190.1	6.4	395.4	6.6
20-24	198.4	6.6	211.7	7.1	410.1	6.9
25-29	229.1	7.7	279.5	9.4	508.6	8.5
30-34	265.9	8.9	291.5	9.8	557.4	9.4
35-39	315.4	10.5	314.4	10.6	629.8	10.6
40-44	285.4	9.5	267.1	9.0	552.5	9.3
45-49	237.7	7.9	211.2	7.1	448.9	7.5
50-54	167.6	5.6	139.2	4.7	306.8	5.2
55-59	127.3	4.3	102.1	3.4	229.4	3.9
60-64	131.1	4.4	113.5	3.8	244.6	4.1
65-69	116.4	3.9	110.6	3.7	227.0	3.8
70-74	86.1	2.9	93.6	3.2	179.7	3.0
75-79	53.8	1.8	68.9	2.3	122.7	2.1
80-84	29.5	1.0	45.0	1.5	74.5	1.3
85 & over	14.4	0.5	33.2	1.1	47.6	0.8
<b>Total</b>	<b>2 992.8</b>	<b>100.0</b>	<b>2 961.3</b>	<b>100.0</b>	<b>5 954.1</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**1999**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	167.5	5.6	157.0	5.3	324.5	5.4
5-9	164.0	5.5	151.6	5.1	315.6	5.3
10-14	190.5	6.3	174.4	5.8	364.9	6.1
15-19	203.5	6.8	188.2	6.3	391.7	6.5
20-24	195.0	6.5	210.7	7.0	405.7	6.8
25-29	228.2	7.6	282.5	9.5	510.7	8.5
30-34	253.7	8.4	284.3	9.5	538.0	9.0
35-39	311.0	10.3	315.0	10.5	626.0	10.4
40-44	297.3	9.9	279.1	9.3	576.4	9.6
45-49	243.7	8.1	218.1	7.3	461.8	7.7
50-54	186.4	6.2	157.0	5.3	343.4	5.7
55-59	125.2	4.2	99.7	3.3	224.9	3.8
60-64	130.5	4.3	111.5	3.7	242.0	4.0
65-69	117.7	3.9	110.7	3.7	228.4	3.8
70-74	89.8	3.0	95.7	3.2	185.5	3.1
75-79	56.2	1.9	71.4	2.4	127.6	2.1
80-84	30.9	1.0	46.7	1.6	77.6	1.3
85 & over	15.9	0.5	35.7	1.2	51.6	0.9
<b>Total</b>	<b>3 007.0</b>	<b>100.0</b>	<b>2 989.3</b>	<b>100.0</b>	<b>5 996.3</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

2000

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	171.0	5.7	160.3	5.3	331.3	5.5
5-9	159.9	5.3	148.2	4.9	308.1	5.1
10-14	186.4	6.2	170.7	5.7	357.1	5.9
15-19	199.1	6.6	183.7	6.1	382.8	6.3
20-24	193.2	6.4	211.4	7.0	404.6	6.7
25-29	226.1	7.5	283.3	9.4	509.4	8.4
30-34	244.5	8.1	281.0	9.3	525.5	8.7
35-39	303.8	10.1	312.3	10.3	616.1	10.2
40-44	306.6	10.1	289.3	9.6	595.9	9.9
45-49	250.7	8.3	225.7	7.5	476.4	7.9
50-54	203.6	6.7	173.9	5.8	377.5	6.3
55-59	127.0	4.2	101.1	3.4	228.1	3.8
60-64	129.2	4.3	108.8	3.6	238.0	3.9
65-69	118.6	3.9	110.2	3.7	228.8	3.8
70-74	93.1	3.1	97.6	3.2	190.7	3.2
75-79	58.8	1.9	73.8	2.4	132.6	2.2
80-84	32.4	1.1	48.4	1.6	80.8	1.3
85 & over	17.6	0.6	38.2	1.3	55.8	0.9
<b>Total</b>	<b>3 021.6</b>	<b>100.0</b>	<b>3 017.9</b>	<b>100.0</b>	<b>6 039.5</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**2001**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	173.6	5.7	162.6	5.3	336.2	5.5
5-9	158.3	5.2	147.1	4.8	305.4	5.0
10-14	181.4	6.0	166.2	5.5	347.6	5.7
15-19	192.7	6.4	177.2	5.8	369.9	6.1
20-24	193.5	6.4	213.7	7.0	407.2	6.7
25-29	222.3	7.3	282.7	9.3	505.0	8.3
30-34	238.4	7.9	281.7	9.2	520.1	8.6
35-39	293.7	9.7	307.0	10.1	600.7	9.9
40-44	312.3	10.3	296.6	9.7	608.9	10.0
45-49	259.7	8.6	235.2	7.7	494.9	8.1
50-54	217.6	7.2	187.8	6.2	405.4	6.7
55-59	134.1	4.4	107.3	3.5	241.4	4.0
60-64	127.0	4.2	105.6	3.5	232.6	3.8
65-69	119.2	3.9	109.2	3.6	228.4	3.8
70-74	95.9	3.2	99.1	3.3	195.0	3.2
75-79	61.7	2.0	76.1	2.5	137.8	2.3
80-84	34.1	1.1	50.1	1.6	84.2	1.4
85 & over	19.1	0.6	40.7	1.3	59.8	1.0
<b>Total</b>	<b>3 034.6</b>	<b>100.0</b>	<b>3 045.9</b>	<b>100.0</b>	<b>6 080.5</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

2002

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0- 4	175.0	5.7	164.0	5.3	339.0	5.5
5- 9	159.8	5.2	148.5	4.8	308.3	5.0
10-14	174.7	5.7	160.3	5.2	335.0	5.5
15-19	185.4	6.1	170.1	5.5	355.5	5.8
20-24	195.0	6.4	217.3	7.1	412.3	6.7
25-29	217.2	7.1	280.8	9.1	498.0	8.1
30-34	236.1	7.7	285.0	9.3	521.1	8.5
35-39	281.6	9.2	299.0	9.7	580.6	9.5
40-44	314.5	10.3	301.6	9.8	616.1	10.1
45-49	270.8	8.9	246.3	8.0	517.1	8.4
50-54	227.6	7.5	198.2	6.4	425.8	7.0
55-59	146.5	4.8	119.2	3.9	265.7	4.3
60-64	123.9	4.1	101.6	3.3	225.5	3.7
65-69	119.5	3.9	107.8	3.5	227.3	3.7
70-74	98.1	3.2	100.1	3.3	198.2	3.2
75-79	64.9	2.1	78.4	2.6	143.3	2.3
80-84	35.7	1.2	52.2	1.7	87.9	1.4
85 & over	20.7	0.7	43.2	1.4	63.9	1.0
<b>Total</b>	<b>3 047.0</b>	<b>100.0</b>	<b>3 073.6</b>	<b>100.0</b>	<b>6 120.6</b>	<b>100.0</b>

Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex

2003

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	175.3	5.7	164.4	5.3	339.7	5.5
5-9	162.4	5.3	151.0	4.9	313.4	5.1
10-14	167.9	5.5	154.1	5.0	322.0	5.2
15-19	179.0	5.8	164.0	5.3	343.0	5.6
20-24	196.2	6.4	220.1	7.1	416.3	6.8
25-29	212.6	6.9	280.1	9.0	492.7	8.0
30-34	235.4	7.7	289.5	9.3	524.9	8.5
35-39	268.8	8.8	290.1	9.4	558.9	9.1
40-44	314.1	10.3	304.3	9.8	618.4	10.0
45-49	283.1	9.3	258.2	8.3	541.3	8.8
50-54	234.8	7.7	206.1	6.6	440.9	7.2
55-59	162.9	5.3	135.0	4.4	297.9	4.8
60-64	120.5	3.9	97.4	3.1	217.9	3.5
65-69	119.5	3.9	106.3	3.4	225.8	3.7
70-74	99.9	3.3	100.7	3.2	200.6	3.3
75-79	68.0	2.2	80.6	2.6	148.6	2.4
80-84	37.4	1.2	54.1	1.7	91.5	1.5
85 & over	22.2	0.7	45.7	1.5	67.9	1.1
<b>Total</b>	<b>3 060.0</b>	<b>100.0</b>	<b>3 101.7</b>	<b>100.0</b>	<b>6 161.7</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**2004**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0- 4	174.5	5.7	163.5	5.2	338.0	5.4
5- 9	166.0	5.4	154.4	4.9	320.4	5.2
10-14	160.3	5.2	147.3	4.7	307.6	5.0
15-19	175.8	5.7	160.7	5.1	336.5	5.4
20-24	194.6	6.3	220.0	7.0	414.6	6.7
25-29	209.5	6.8	281.9	9.0	491.4	7.9
30-34	235.0	7.6	292.7	9.4	527.7	8.5
35-39	257.1	8.4	282.6	9.0	539.7	8.7
40-44	309.8	10.1	304.5	9.7	614.3	9.9
45-49	294.8	9.6	269.8	8.6	564.6	9.1
50-54	240.8	7.8	212.8	6.8	453.6	7.3
55-59	181.1	5.9	152.6	4.9	333.7	5.4
60-64	118.7	3.9	95.0	3.0	213.7	3.4
65-69	119.2	3.9	104.4	3.3	223.6	3.6
70-74	101.3	3.3	100.8	3.2	202.1	3.3
75-79	71.0	2.3	82.5	2.6	153.5	2.5
80-84	39.2	1.3	56.2	1.8	95.4	1.5
85 & over	23.7	0.8	48.1	1.5	71.8	1.2
<b>Total</b>	<b>3 072.4</b>	<b>100.0</b>	<b>3 129.8</b>	<b>100.0</b>	<b>6 202.2</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**2005**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	173.0	5.6	162.0	5.1	335.0	5.4
5-9	169.5	5.5	157.8	5.0	327.3	5.2
10-14	156.4	5.1	143.8	4.6	300.2	4.8
15-19	171.6	5.6	157.1	5.0	328.7	5.3
20-24	190.5	6.2	217.3	6.9	407.8	6.5
25-29	208.3	6.8	285.2	9.0	493.5	7.9
30-34	233.4	7.6	293.5	9.3	526.9	8.4
35-39	248.2	8.0	279.2	8.8	527.4	8.4
40-44	302.8	9.8	301.4	9.5	604.2	9.7
45-49	304.3	9.9	279.3	8.8	583.6	9.3
50-54	247.9	8.0	220.2	7.0	468.1	7.5
55-59	197.9	6.4	169.2	5.4	367.1	5.9
60-64	120.5	3.9	96.4	3.1	216.9	3.5
65-69	118.0	3.8	101.9	3.2	219.9	3.5
70-74	102.2	3.3	100.5	3.2	202.7	3.2
75-79	73.8	2.4	84.2	2.7	158.0	2.5
80-84	41.1	1.3	58.1	1.8	99.2	1.6
85 & over	25.1	0.8	50.7	1.6	75.8	1.2
<b>Total</b>	<b>3 084.5</b>	<b>100.0</b>	<b>3 157.8</b>	<b>100.0</b>	<b>6 242.3</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**2006**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	171.6	5.5	160.8	5.0	332.4	5.3
5-9	172.0	5.6	160.2	5.0	332.2	5.3
10-14	154.6	5.0	142.9	4.5	297.5	4.7
15-19	166.7	5.4	152.6	4.8	319.3	5.1
20-24	184.4	6.0	212.7	6.7	397.1	6.3
25-29	209.3	6.8	290.6	9.1	499.9	8.0
30-34	230.4	7.4	293.0	9.2	523.4	8.3
35-39	243.0	7.8	279.4	8.8	522.4	8.3
40-44	293.5	9.5	295.5	9.3	589.0	9.4
45-49	310.3	10.0	286.0	9.0	596.3	9.5
50-54	256.9	8.3	229.5	7.2	486.4	7.7
55-59	211.5	6.8	182.9	5.7	394.4	6.3
60-64	127.3	4.1	102.6	3.2	229.9	3.7
65-69	116.1	3.7	98.9	3.1	215.0	3.4
70-74	102.8	3.3	99.6	3.1	202.4	3.2
75-79	76.1	2.5	85.5	2.7	161.6	2.6
80-84	43.2	1.4	60.0	1.9	103.2	1.6
85 & over	26.5	0.9	53.2	1.7	79.7	1.3
<b>Total</b>	<b>3 096.2</b>	<b>100.0</b>	<b>3 185.9</b>	<b>100.0</b>	<b>6 282.1</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

2007

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	170.5	5.5	159.8	5.0	330.3	5.2
5-9	173.6	5.6	161.6	5.0	335.2	5.3
10-14	156.1	5.0	144.3	4.5	300.4	4.8
15-19	160.1	5.2	146.8	4.6	306.9	4.9
20-24	177.4	5.7	207.4	6.5	384.8	6.1
25-29	211.6	6.8	297.2	9.2	508.8	8.0
30-34	226.1	7.3	291.4	9.1	517.5	8.2
35-39	241.3	7.8	282.5	8.8	523.8	8.3
40-44	282.0	9.1	287.0	8.9	569.0	9.0
45-49	312.8	10.1	290.6	9.0	603.4	9.5
50-54	268.0	8.6	240.3	7.5	508.3	8.0
55-59	221.2	7.1	193.2	6.0	414.4	6.6
60-64	139.3	4.5	114.2	3.6	253.5	4.0
65-69	113.3	3.6	95.1	3.0	208.4	3.3
70-74	103.1	3.3	98.5	3.1	201.6	3.2
75-79	77.9	2.5	86.5	2.7	164.4	2.6
80-84	45.4	1.5	61.9	1.9	107.3	1.7
85 & over	27.9	0.9	55.8	1.7	83.7	1.3
<b>Total</b>	<b>3 107.6</b>	<b>100.0</b>	<b>3 214.1</b>	<b>100.0</b>	<b>6 321.7</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**2008**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	169.7	5.4	159.0	4.9	328.7	5.2
5-9	174.0	5.6	162.0	5.0	336.0	5.3
10-14	158.8	5.1	146.7	4.5	305.5	4.8
15-19	153.4	4.9	140.6	4.3	294.0	4.6
20-24	171.2	5.5	203.3	6.3	374.5	5.9
25-29	213.3	6.8	302.8	9.3	516.1	8.1
30-34	222.0	7.1	290.8	9.0	512.8	8.1
35-39	241.0	7.7	286.9	8.8	527.9	8.3
40-44	269.5	8.6	277.6	8.6	547.1	8.6
45-49	312.3	10.0	292.8	9.0	605.1	9.5
50-54	280.2	9.0	252.0	7.8	532.2	8.4
55-59	228.4	7.3	200.9	6.2	429.3	6.7
60-64	155.0	5.0	129.7	4.0	284.7	4.5
65-69	110.3	3.5	91.1	2.8	201.4	3.2
70-74	103.4	3.3	97.1	3.0	200.5	3.2
75-79	79.4	2.5	87.1	2.7	166.5	2.6
80-84	47.7	1.5	63.7	2.0	111.4	1.8
85 & over	29.3	0.9	58.3	1.8	87.6	1.4
<b>Total</b>	<b>3 118.9</b>	<b>100.0</b>	<b>3 242.4</b>	<b>100.0</b>	<b>6 361.3</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**2009**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	169.0	5.4	158.4	4.8	327.4	5.1
5-9	173.1	5.5	161.2	4.9	334.3	5.2
10-14	162.3	5.2	150.2	4.6	312.5	4.9
15-19	145.8	4.7	133.9	4.1	279.7	4.4
20-24	168.2	5.4	201.8	6.2	370.0	5.8
25-29	212.2	6.8	305.5	9.3	517.7	8.1
30-34	219.6	7.0	292.7	8.9	512.3	8.0
35-39	241.1	7.7	289.7	8.9	530.8	8.3
40-44	258.2	8.2	269.7	8.2	527.9	8.2
45-49	308.7	9.9	292.2	8.9	600.9	9.4
50-54	292.2	9.3	263.0	8.0	555.2	8.7
55-59	234.3	7.5	207.5	6.3	441.8	6.9
60-64	172.4	5.5	146.9	4.5	319.3	5.0
65-69	108.7	3.5	88.9	2.7	197.6	3.1
70-74	103.0	3.3	95.5	2.9	198.5	3.1
75-79	80.6	2.6	87.3	2.7	167.9	2.6
80-84	49.8	1.6	65.4	2.0	115.2	1.8
85 & over	30.8	1.0	61.0	1.9	91.8	1.4
<b>Total</b>	<b>3 130.0</b>	<b>100.0</b>	<b>3 270.8</b>	<b>100.0</b>	<b>6 400.8</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**2010**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	168.5	5.4	157.9	4.8	326.4	5.1
5-9	171.6	5.5	159.8	4.8	331.4	5.1
10-14	165.9	5.3	153.5	4.7	319.4	5.0
15-19	141.8	4.5	130.5	4.0	272.3	4.2
20-24	164.3	5.2	200.0	6.1	364.3	5.7
25-29	208.6	6.6	305.6	9.3	514.2	8.0
30-34	218.8	7.0	296.2	9.0	515.0	8.0
35-39	240.0	7.6	290.2	8.8	530.2	8.2
40-44	249.7	7.9	265.7	8.1	515.4	8.0
45-49	302.2	9.6	288.6	8.7	590.8	9.2
50-54	301.6	9.6	272.5	8.3	574.1	8.9
55-59	241.2	7.7	214.8	6.5	456.0	7.1
60-64	188.4	6.0	163.2	4.9	351.6	5.5
65-69	110.6	3.5	90.3	2.7	200.9	3.1
70-74	102.2	3.3	93.2	2.8	195.4	3.0
75-79	81.4	2.6	87.0	2.6	168.4	2.6
80-84	51.8	1.6	66.7	2.0	118.5	1.8
85 & over	32.4	1.0	63.6	1.9	96.0	1.5
<b>Total</b>	<b>3 141.0</b>	<b>100.0</b>	<b>3 299.3</b>	<b>100.0</b>	<b>6 440.3</b>	<b>100.0</b>

**Table 2 Mid-Year Population Projections  
(Cont'd) by  
Age Group and Sex**

**2011**

Age Group	Male		Female		Total	
	('000)	%	('000)	%	('000)	%
0-4	168.1	5.3	157.5	4.7	325.6	5.0
5-9	170.3	5.4	158.6	4.8	328.9	5.1
10-14	168.5	5.3	155.9	4.7	324.4	5.0
15-19	140.2	4.4	129.5	3.9	269.7	4.2
20-24	159.7	5.1	197.3	5.9	357.0	5.5
25-29	203.1	6.4	303.8	9.1	506.9	7.8
30-34	220.4	7.0	301.6	9.1	522.0	8.1
35-39	237.4	7.5	289.6	8.7	527.0	8.1
40-44	244.8	7.8	265.5	8.0	510.3	7.9
45-49	292.8	9.3	282.4	8.5	575.2	8.9
50-54	307.5	9.8	278.8	8.4	586.3	9.0
55-59	250.2	7.9	223.9	6.7	474.1	7.3
60-64	201.5	6.4	176.6	5.3	378.1	5.8
65-69	117.1	3.7	96.3	2.9	213.4	3.3
70-74	100.6	3.2	90.4	2.7	191.0	2.9
75-79	82.0	2.6	86.3	2.6	168.3	2.6
80-84	53.5	1.7	67.8	2.0	121.3	1.9
85 & over	34.1	1.1	66.2	2.0	100.3	1.5
<b>Total</b>	<b>3 151.8</b>	<b>100.0</b>	<b>3 328.0</b>	<b>100.0</b>	<b>6 479.8</b>	<b>100.0</b>



### 3. PROJECTION METHODOLOGY

#### Population Projection

The standard method of population projection is known as the "component method". Following the method, a population at a certain base year is brought forward by age and sex under separate projections of fertility, mortality and migration, year after year until the end of the projection period.

The base for the projection is first established using the 1991 Population Census results, which provides up-to-date information on the size and age-sex structure of the population. In constructing the base population, the Census population on 15 March 1991 was first adjusted for the under-reporting of children aged 0-4, and then brought forward to mid-1991, applying an age incrementation process and taking into account births, deaths and migration during the period from 15 March to 30 June in 1991.

Based on the projected future levels of fertility, mortality, migration and the assumed number of persons staying in Hong Kong temporarily, the projection of the population and its age-sex structure is then worked out for each year by repeatedly applying the following algorithm:

- (i) The projected forward survival ratios<sup>1</sup> by age and sex are applied to the base/projected population (excluding persons staying in Hong Kong temporarily) at the beginning of a year to derive the surviving population at the end of that year.
- (ii) The assumed net balance of migration is added to the surviving population at the end of that year.
- (iii) The fertility factor is introduced to obtain the total number of births. The projected age-specific fertility rates are applied to the average number of women at each of the childbearing ages 15-49. These births, after being divided into males and females by an average sex ratio at birth<sup>2</sup>, are

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<sup>1</sup> Forward survival ratio determines the proportion of persons surviving from exact age  $x$  to  $x+1$ .

<sup>2</sup> The average sex ratio at birth is 1 067 males per 1 000 females according to births delivered in the period 1971-1990.

subjected to their respective projected forward survival ratios. The surviving population aged 0 by sex at the end of that year is then derived.

- (iv) The projected number of persons staying in Hong Kong temporarily is added in to give the total population. As these persons are not normally living in Hong Kong, they do not contribute to the survival and reproduction processes.

### **Fertility Projection**

The past trends of the age-specific fertility rates (AFR's) provide the basis for formulating the fertility assumptions. In the fertility analysis and projection, a Gamma curve is used to model the AFR's. The distribution of AFR's may be characterized by (i) the total fertility rate (TFR), which equates with the area of the distribution, (ii) the mean and (iii) the variance. These historical distributions of AFR's are studied for projecting into the future.

In formulating the fertility assumptions, the process is not strictly a mechanical one that follows the extrapolated trends. Particular reference is made to two considerations. First, fertility level in Hong Kong is currently very low and further continuous decline is not probable. Second, a rebound in the fertility rates is likely, as was experienced in various developed countries where fertility had fallen and remained at a level well below replacement for a long time. The implications of the projected AFR's for some birth cohorts are also checked to ensure that they are reasonable from the cohort perspective. In this connection, the average number of children ever born and the proportion of women having at least one child implied by the fertility assumptions are assessed in the light of the past experience and the experience of some low fertility countries.

## **Mortality Projection**

The past trends of age-sex-cause-specific death rates provide the basis for formulating the mortality assumptions. The following checks are made to ensure the appropriateness and consistency of the projected death rates:

- (i) the excess of male mortality over female mortality of the projected death rates is checked against the past trend, in particular its most recent pattern; and
- (ii) the expectation of life at birth implied by the projected death rates is assessed with reference to the past experience and the projections of some low mortality countries.

Advice was also sought from relevant health and academic institutions regarding the future trend of certain major causes of death. The projected death rates are adjusted in the light of the checks and consultations, and then applied in the construction of the life table, which gives the forward survival ratios required in the projection under a population ageing and survival process.

## **Migration Projection**

The past levels and, in particular, the recent trends of inward and outward movements of the population, including movements of those persons staying in Hong Kong temporarily, provide the basis for formulating the assumptions on the net balance of migration and the assumed number of persons staying in Hong Kong temporarily.



## 4. PROJECTION OF DEMOGRAPHIC TRENDS

### Fertility

As a result of the curtailment of high-order births and the postponement of low-order births, childbearing among women shifted to higher ages and was concentrated in a narrower age band in the past two decades. The trend is assumed to continue in future.

Total fertility rate (TFR) declined continuously over the period 1976-90. It fell from 2 480 births per 1 000 women in 1976 to 1 930 in 1981. After falling below the Replacement Level (i.e. 2 100) at the beginning of the 1980's, it continued to decline, reaching 1 340 in 1986 and 1 210 in 1990. TFR is projected to decline in the next few years, and then to rise from 1994 onwards to around 1 460 per 1 000 women in 2001. Such a level is similar to the present level of fertility of some low fertility countries such as Germany, Japan and Denmark. After 2001, a slight fall in the fertility rates is assumed when the catching-up of postponed births is over (Table 3).

The age-specific fertility rates (AFR's) for women at the most fertile ages 25-34 would increase gradually between 1992 and 2001. Thereafter, the AFR's for women aged 25-29 would fall slightly, while those for women aged 30-34 would exhibit a small increase. For women aged 35-39, the AFR's would rise gradually throughout the projection period. All these assumptions are in line with the trend of women delaying their childbearing to higher ages.

The implications of the projected AFR's, in terms of the proportion of women remaining childless and the average number of children ever born, are examined for women in different birth cohorts. Data in respect of the fertility experience of a number of these cohorts are presented in Tables 4 and 5. It can be seen that of those women born in 1951, who had almost completed childbearing by now, about 10% would remain childless at the end of their reproductive ages. The percentage is projected to be 28% and 20% respectively for those women born in 1961 and 1971, who will spend most of their reproductive years in the projection period. For women born in 1951 the number

of children ever born to them during their entire reproductive period is expected to average at 2.23. The corresponding figure is projected to be 1.53 for women born in 1961 and 1.43 for women born in 1971. These results are considered realistic for those cohorts, in view of the dramatic decline in fertility in the past decade and the continuation of low fertility conditions.

The continuous fertility decline in Hong Kong was dramatic when compared with the experience of low fertility countries. In some of these countries, when fertility fell to a level very much below replacement, a reversal of the declining trend occurred, suggesting the occurrence of catching-up of some postponed births. The phenomenon was particularly noticeable in Germany, Denmark, the Netherlands and Sweden (Table 6). In Hong Kong, TFR in 1990 was 1.210, indicating that the level of fertility is currently too low to sustain a further continuous decline. Catching-up of postponed births is highly probable and this would most likely lead to a temporary reversal of the declining trend. The latest fertility projections prepared in Japan, the Netherlands and Denmark also assumed a reversal of the fertility decline, although their current fertility levels are higher than that of Hong Kong. This further supports an assumption of slackening in the fertility decline in Hong Kong in the near future to be followed by a rebound.

## **Mortality**

A continuous mortality improvement was experienced in Hong Kong over the past 20 years. Following this development, a gradually declining trend of the age-sex-specific death rates in the period 1992-2011 is projected. However, a faster rate of mortality improvement is assumed in the first 10 years of the projection period. The death rates for the younger persons are projected to decrease at a faster pace than those for the older ones. The projected mortality development is in line with past trends (Tables 7 and 8). Similar paces of mortality improvements are assumed for each sex. As a result, the excess of male mortality over female mortality is expected to remain throughout the projection period at about the same levels as in recent years (Table 9).

As the death rates are projected to decline further, life expectancy would continue to improve. The expectation of life at birth for males will increase by 2.8 years, from 74.9 in 1991 to 77.7 in 2011. For females, an increase of 2.5 years is projected, from 80.5 to 83.0 over the same period. The gap between the expectation of life at birth for males and that for females would narrow from 5.6 years in 1991 to 5.3 in 2011. This development is again consistent with past trends and in line with the experience of some low mortality countries. The improvements of the expectation of life at other ages projected in the next 20 years would broadly follow the trends and patterns in the past years (Tables 10 and 11).

Hong Kong enjoys very low mortality by international standards. Its mortality level is comparable with those of low mortality countries like Japan, Sweden and Switzerland. In the latest mortality projections published in Japan, the United States and the United Kingdom, the scenario of a further mortality decline was commonly assumed. Such a scenario is based on the belief that there would be further advances in medical and health care in future. Moreover, public awareness of environmental protection, smoking problem, balanced diets and physical fitness are all conducive to the continuation of a mortality decline. In general, the mortality projection of Hong Kong follows the same scenario and the projected expectation of life at birth is similar to that projected for these countries (Table 12).

## **Migration**

The past levels of inward and outward movements of population, in particular their recent trends, formed the basis for formulating the migration assumptions. On average, a negative balance of net migration of 3 300 persons per annum is projected for the period 1992-2001. The balance of net migration would turn positive and average at 7 900 persons per annum for the period 2002-2011.

**Table 3 Age-Specific Fertility Rates and Total Fertility Rates:  
1971-2011**

Year	Age-Specific Fertility Rate							Total Fertility Rate
	15-19	20-24	25-29	Age Group		40-44	45-49	
				30-34	35-39			
	(Per 1 000 women)							
<b>Actual :</b>								
1971	17	145	243	162	83	28	4	3 460
1976	17	108	189	118	48	14	1	2 480
1981	12	86	153	97	34	7	1	1 930
1982	10	80	147	93	34	6	1	1 830
1983	10	75	137	85	30	5	1	1 690
1984	8	63	124	80	28	5	0	1 520
1985	8	58	119	79	27	5	0	1 460
1986	7	48	109	76	26	4	0	1 340
1987	6	42	103	78	26	4	0	1 280
1988	6	42	108	86	28	5	0	1 360
1989	6	39	96	79	28	5	0	1 250
1990	6	38	94	76	27	4	0	1 210
1991 <sup>(1)</sup>	6	34	93	77	27	4	0	1 210
<b>Projected :</b>								
1996	6	29	99	90	31	4	0	1 300
2001	7	32	110	104	34	4	0	1 460
2006	7	31	107	105	35	4	0	1 450
2011	7	30	104	107	35	4	0	1 440

Note : (1) Provisional estimates.

**Table 4 Percentage of Women with At Least One Child  
by  
Mother's Year of Birth and Age**

Mother's Year of Birth	Exact Age						
	20	25	30	35	40	45	50
1931 (1)	16.6	57.8	81.6	90.8	93.0	93.5	93.5
1936 (1)	12.7	56.8	81.3	89.7	91.6	91.8	91.8
1941 (1)	14.0	57.2	84.0	91.6	93.6	93.9	93.9
1946 (2)	12.4	55.9	87.8	95.3	97.1	97.4	97.4
1951 (2)	7.1	43.8	77.4	87.5	90.0	90.3	90.3
1956 (3)	7.5	37.4	67.8	78.8	81.4	81.7	81.7
1961 (3)	5.8	28.9	56.0	68.3	71.5	71.8	71.8
1966 (3)	3.5	17.0	47.4	63.2	66.5	66.8	
1971 (3)	2.7	15.0	55.8	72.9	76.1		
1976 (4)	2.9	18.2	60.9	77.9			
1981 (4)	3.6	18.8	61.4				
1986 (4)	3.5	18.5					
1991 (4)	3.5						

- Notes : (1) Based partly on the 1976 By-census results and partly on birth statistics.  
(2) Based partly on the 1976 By-census results, partly on birth statistics and partly on projections.  
(3) Based partly on birth statistics and partly on projections.  
(4) Based entirely on projections.

**Table 5    Average Number of Children Ever Born  
by  
Mother's Year of Birth and Age**

Mother's Year of Birth	Exact Age						
	20	25	30	35	40	45	50
1931 (1)	0.24	1.34	2.95	4.29	4.82	4.95	4.95
1936 (1)	0.18	1.16	2.50	3.31	3.67	3.73	3.73
1941 (1)	0.21	1.28	2.53	3.19	3.41	3.44	3.44
1946 (2)	0.20	1.20	2.36	2.86	3.00	3.02	3.02
1951 (2)	0.09	0.75	1.64	2.08	2.21	2.23	2.23
1956 (3)	0.09	0.58	1.26	1.66	1.80	1.82	1.82
1961 (3)	0.07	0.42	0.94	1.34	1.50	1.53	1.53
1966 (3)	0.04	0.23	0.70	1.19	1.36	1.38	
1971 (3)	0.03	0.18	0.71	1.23	1.41		
1976 (4)	0.03	0.19	0.73	1.26			
1981 (4)	0.04	0.19	0.72				
1986 (4)	0.03	0.19					
1991 (4)	0.03						

- Notes : (1) Based partly on the 1976 By-census results and partly on birth statistics.  
(2) Based partly on the 1976 By-census results, partly on birth statistics and partly on projections.  
(3) Based partly on birth statistics and partly on projections.  
(4) Based entirely on projections.

**Table 6 Total Fertility Rates of Hong Kong and Selected Low Fertility Countries/Territories: 1971-1990**

Country/ Territory	1971	1976	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
(Per 1 000 women)												
Hong Kong	3 460	2 480	1 930	1 830	1 690	1 520	1 460	1 340	1 280	1 360	1 250	1 210
Singapore	3 040	2 110	1 720	1 710	1 590	1 610	1 620	1 450	1 640	1 980	1 790	-
Japan	2 190	1 850	1 720	1 760	1 790	1 800	1 740	1 720	1 690	1 660	1 570	1 530
West Germany	1 920	1 450	1 440	1 410	1 330	1 290	1 280	1 350	1 370	1 410	-	-
Denmark	2 040	1 750	1 440	1 430	1 380	1 400	1 450	1 480	1 500	1 560	-	-
Netherlands	2 360	1 630	1 560	1 500	1 470	1 490	1 510	1 550	1 560	1 550	1 550	1 620
Finland	1 700	1 720	1 650	1 720	1 740	1 700	1 640	1 600	1 590	1 700	1 710	1 790 (1)
Sweden	1 980	1 690	1 630	1 620	1 610	1 650	1 730	1 790	1 840	1 960	2 020	2 140
England & Wales	2 370	1 710	1 800	1 760	1 760	1 750	1 780	1 780	1 820	1 840	1 810	1 850
Australia	2 870	2 060	1 940	1 940	1 930	1 880	1 890	1 870	1 850	1 840	1 850	1 910

Note: (1) Preliminary figure for the year 1990.

**Table 7 Age-Sex-Specific Death Rates: 1971 - 1991**

Age Group	Death Rate					Index of Rate (1)				
	1971	1976	1981	1986	1991 (2)	1971-74	1975-78	1979-82	1983-86	1987-90
(Per 1 000 population)										
<b>Male</b>										
0	21.2	16.2	10.7	7.5	6.7	100	77	60	45	39
1-4	1.0	0.8	0.7	0.3	0.4	100	74	58	41	35
5-9	0.5	0.4	0.2	0.2	0.1	100	88	69	47	36
10-14	0.4	0.3	0.3	0.2	0.2	100	84	73	57	51
15-19	0.7	0.6	0.5	0.4	0.4	100	69	69	51	53
20-24	1.2	0.9	0.7	0.6	0.6	100	78	61	49	44
25-29	1.7	1.1	0.9	0.6	0.7	100	75	62	43	44
30-34	2.0	1.8	1.2	0.9	0.9	100	80	59	47	45
35-39	2.8	2.2	1.7	1.3	1.3	100	83	70	54	52
40-44	4.3	3.4	2.8	2.3	1.9	100	82	71	62	49
45-49	6.2	5.7	4.6	3.6	3.4	100	90	82	65	62
50-54	10.4	8.7	7.6	6.7	5.7	100	88	81	72	62
55-59	17.6	13.8	12.2	10.3	10.3	100	88	81	70	66
60-64	28.8	23.2	19.5	17.2	15.4	100	82	73	67	59
65-69	43.0	38.8	30.8	27.4	25.9	100	90	78	69	65
70-74	61.0	59.1	47.4	42.1	41.2	100	92	80	75	70
75-79	94.9	82.2	68.1	65.6	63.9	100	96	88	81	81
80-84	109.8	102.7	97.9	87.6	96.1	100	91	85	79	80
85 & over	144.6	166.6	119.9	133.7	130.5	100	104	97	87	89
<b>Female</b>										
0	16.1	12.0	9.2	7.1	5.0	100	78	64	49	40
1-4	0.8	0.8	0.4	0.4	0.3	100	77	57	46	35
5-9	0.3	0.3	0.2	0.2	0.1	100	80	58	56	45
10-14	0.3	0.2	0.3	0.2	0.2	100	85	81	71	53
15-19	0.5	0.4	0.2	0.3	0.3	100	83	65	59	57
20-24	0.7	0.5	0.4	0.3	0.3	100	76	64	55	55
25-29	0.8	0.7	0.6	0.4	0.4	100	81	59	51	43
30-34	1.1	1.1	0.7	0.5	0.5	100	85	66	52	50
35-39	1.5	1.3	1.0	0.8	0.7	100	84	71	51	55
40-44	2.2	1.9	1.6	1.2	1.0	100	86	76	56	47
45-49	3.3	3.0	2.7	1.9	1.5	100	91	84	67	55
50-54	5.5	4.7	3.9	3.6	2.8	100	86	77	67	60
55-59	7.8	7.3	6.6	5.2	4.6	100	94	87	72	64
60-64	11.7	11.8	9.8	8.6	7.9	100	95	86	77	67
65-69	20.2	18.7	16.6	14.7	14.3	100	101	94	84	79
70-74	31.0	28.0	25.0	23.8	23.4	100	94	90	84	80
75-79	50.3	49.3	41.9	40.5	40.2	100	99	89	82	85
80-84	83.2	75.4	71.4	52.3	67.8	100	95	88	77	82
85 & over	137.6	129.6	122.1	109.2	112.7	100	101	94	83	82

Notes: (1) Index of rate is computed on unrounded figures with the rate for 1971-74 taken as the base (100).

(2) Provisional estimates.

**Table 8 Age-Sex-Specific Death Rates: 1991-2011**

Age Group	Death Rate					Index of Rate (1)				
	1991 (2)	1996	2001	2006	2011	1991	1996	2001	2006	2011
(Per 1 000 population)										
<b>Male</b>										
0	6.7	5.7	5.2	4.8	4.6	100	85	77	72	69
1-4	0.4	0.3	0.3	0.3	0.3	100	87	79	75	72
5-9	0.1	0.1	0.1	0.1	0.1	100	81	71	61	54
10-14	0.2	0.2	0.2	0.1	0.1	100	86	78	72	67
15-19	0.4	0.4	0.3	0.3	0.3	100	87	80	76	73
20-24	0.6	0.5	0.5	0.5	0.4	100	88	82	78	75
25-29	0.7	0.6	0.6	0.5	0.5	100	88	81	76	73
30-34	0.9	0.8	0.7	0.7	0.6	100	87	79	74	71
35-39	1.3	1.1	1.0	0.9	0.9	100	86	78	72	67
40-44	1.9	1.7	1.5	1.3	1.2	100	86	76	69	63
45-49	3.4	2.9	2.6	2.3	2.1	100	85	75	67	61
50-54	5.7	4.8	4.3	3.8	3.4	100	85	75	67	60
55-59	10.3	9.4	8.9	8.5	8.2	100	92	87	83	80
60-64	15.4	13.8	12.8	12.0	11.2	100	90	83	78	73
65-69	25.9	23.4	21.9	20.8	19.7	100	91	85	80	76
70-74	41.2	38.1	36.3	35.0	33.7	100	92	88	85	82
75-79	63.9	61.3	60.3	59.8	59.0	100	96	94	94	92
80-84	96.1	91.3	89.1	87.6	85.7	100	95	93	91	89
85 & over	130.5	124.2	121.3	118.9	115.2	100	95	93	91	88
<b>Female</b>										
0	5.0	4.3	3.8	3.5	3.4	100	85	76	69	66
1-4	0.3	0.3	0.3	0.2	0.2	100	87	79	73	67
5-9	0.1	0.1	0.1	0.1	0.1	100	85	71	63	52
10-14	0.2	0.2	0.2	0.1	0.1	100	88	83	76	71
15-19	0.3	0.3	0.2	0.2	0.2	100	88	81	75	71
20-24	0.3	0.3	0.2	0.2	0.2	100	85	80	73	71
25-29	0.4	0.3	0.3	0.3	0.3	100	88	82	74	71
30-34	0.5	0.4	0.4	0.3	0.3	100	86	77	70	67
35-39	0.7	0.6	0.5	0.5	0.5	100	87	77	70	66
40-44	1.0	0.9	0.8	0.7	0.6	100	88	79	70	64
45-49	1.5	1.3	1.2	1.1	1.0	100	86	76	69	64
50-54	2.8	2.4	2.1	1.9	1.7	100	86	77	67	61
55-59	4.6	4.2	3.8	3.5	3.4	100	91	83	77	74
60-64	7.9	6.9	6.2	5.9	5.5	100	88	78	75	70
65-69	14.3	13.3	12.6	11.8	11.5	100	93	88	82	80
70-74	23.4	22.3	21.3	20.3	19.9	100	95	91	87	85
75-79	40.2	38.8	37.1	36.1	35.5	100	96	92	90	88
80-84	67.8	64.0	62.6	61.1	60.5	100	94	92	90	89
85 & over	112.7	108.0	106.2	101.7	98.1	100	96	94	90	87

Notes : (1) Index of rate is computed on unrounded figures with the rate for 1991 taken as the base (100).

(2) Provisional estimates.

**Table 9 Excess Male Mortality  
by  
Age Group: 1971-2011**

Age Group	Actual:						Projected:			
	1971-74	1975-78	1979-82	1983-86	1987-90	1991 (1)	1996	2001	2006	2011
0	1.3	1.3	1.2	1.1	1.2	1.3	1.3	1.3	1.4	1.4
1-4	1.2	1.1	1.1	1.0	1.1	1.1	1.1	1.1	1.2	1.2
5-9	1.3	1.4	1.5	1.1	1.1	0.9	0.9	0.9	0.9	0.9
10-14	1.3	1.3	1.2	1.1	1.3	1.0	1.0	1.0	1.0	1.0
15-19	1.8	1.5	1.8	1.5	1.6	1.4	1.4	1.4	1.5	1.5
20-24	1.9	2.0	1.9	1.7	1.5	1.9	1.9	1.9	2.0	2.0
25-29	1.8	1.7	1.9	1.5	1.8	1.8	1.8	1.8	1.9	1.9
30-34	1.9	1.7	1.7	1.7	1.6	1.9	1.9	1.9	2.0	2.0
35-39	1.7	1.7	1.7	1.8	1.6	1.8	1.8	1.9	1.9	1.9
40-44	1.9	1.8	1.8	2.1	2.0	1.9	1.9	1.9	1.9	1.9
45-49	1.9	1.9	1.9	1.9	2.2	2.2	2.2	2.2	2.2	2.1
50-54	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0
55-59	2.1	1.9	1.9	2.0	2.1	2.2	2.2	2.3	2.4	2.4
60-64	2.2	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.0	2.0
65-69	2.2	2.0	1.9	1.8	1.8	1.8	1.8	1.7	1.8	1.7
70-74	2.0	2.0	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7
75-79	1.7	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.7	1.7
80-84	1.5	1.4	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.4
85 & over	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.2	1.2

Note : (1) Provisional estimates.

**Table 10** Expectation of Life at Selected Ages  
for Each Sex: 1971–2011

Age	Actual:					Projected:				Increase (in no. of years) 1991–2011
	1971	1976	1981	1986	1991 (1)	1996	2001	2006	2011	
<b>Male</b>										
0	67.8	69.6	72.3	74.1	74.9	75.9	76.7	77.2	77.7	2.8
20	49.9	51.3	53.6	55.0	55.7	56.6	57.4	57.9	58.3	2.6
40	31.4	32.5	34.5	35.7	36.5	37.3	38.0	38.4	38.9	2.4
60	15.4	15.8	17.7	18.5	19.1	19.6	20.2	20.5	20.8	1.7
80	5.4	5.2	6.4	6.6	7.0	7.2	7.5	7.6	7.7	0.7
<b>Female</b>										
0	75.3	76.2	78.5	79.4	80.5	81.5	82.2	82.6	83.0	2.5
20	57.1	57.6	59.6	60.4	61.2	62.1	62.7	63.2	63.4	2.2
40	38.0	38.5	40.3	40.9	41.7	42.5	43.1	43.5	43.8	2.1
60	20.5	20.8	22.3	22.6	23.2	23.8	24.3	24.6	24.8	1.6
80	7.1	7.1	8.5	8.3	8.8	9.3	9.6	9.7	9.8	1.0
<b>Difference (Female - Male)</b>										
0	7.5	6.6	6.2	5.3	5.6	5.6	5.5	5.4	5.3	..
20	7.2	6.3	6.0	5.4	5.5	5.5	5.3	5.3	5.1	..
40	6.6	6.0	5.8	5.2	5.2	5.2	5.1	5.1	4.9	..
60	5.1	5.0	4.6	4.1	4.1	4.2	4.1	4.1	4.0	..
80	1.7	1.9	2.1	1.7	1.8	2.1	2.1	2.1	2.1	..

Note : (1) Provisional estimates.

**Table 11** Expectation of Life at Birth for Hong Kong and Selected Low Mortality Countries/Territories: 1971 – 1990

Country/Territory	1971	1976	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
<b>Male</b>												
Hong Kong	67.8	69.6	72.3	72.6	72.3	73.2	73.8	74.1	74.2	74.4	74.2	74.6
Japan	70.2	72.2	73.8	74.2	74.2	74.5	74.8	75.2	75.6	75.5	75.9	76.0
Switzerland	70.4	71.8	72.6	-	-	-	-	73.6	73.8	73.9	74.0	74.0
Sweden	72.0	72.1	73.1	73.4	73.6	73.8	73.8	74.0	74.2	74.2	74.8	74.8
Norway	71.4	72.2	72.7	72.7	72.7	72.7	72.7	72.9	72.8	73.1	73.3	73.4
Netherlands	71.0	71.5	72.7	72.7	72.9	73.0	73.1	73.1	73.5	73.7	73.7	73.8
Iceland	71.6	73.5	74.1	74.1	74.1	74.1	74.1	75.1	74.6	-	-	-
England and Wales	69.3	69.8	71.1	71.3	71.5	71.9	71.9	72.1	72.6	72.7	72.9	-
West Germany	66.6	68.2	69.3	69.4	69.5	70.1	70.4	71.0	71.5	72.0	72.1	-
U.S.A	67.4	69.1	70.4	70.9	71.0	71.2	71.2	71.3	71.5	71.5	-	-
<b>Female</b>												
Hong Kong	75.3	76.2	78.5	78.4	78.4	79.0	79.2	79.4	79.7	79.9	80.0	80.3
Japan	75.6	77.4	79.1	79.7	79.8	80.2	80.5	80.9	81.4	81.3	81.8	81.8
Switzerland	76.6	78.4	79.3	-	-	-	-	80.3	80.2	80.7	80.9	80.8
Sweden	77.3	77.9	79.1	79.4	79.6	79.9	79.7	80.0	80.2	80.0	80.6	80.4
Norway	77.7	78.7	79.4	79.4	79.4	79.4	79.4	79.7	79.6	79.6	79.9	79.8
Netherlands	76.8	77.9	79.3	79.4	79.6	79.7	79.7	79.6	80.1	80.2	79.9	80.1
Iceland	77.5	79.5	79.9	79.9	79.9	79.9	79.9	80.0	79.7	-	-	-
England and Wales	75.6	75.9	77.1	77.2	77.4	77.7	77.5	77.8	78.2	78.2	78.3	-
West Germany	73.7	75.1	76.4	76.6	76.6	77.3	77.4	77.7	78.1	78.6	78.8	-
U.S.A	75.0	76.8	77.8	78.1	78.1	78.2	78.2	78.3	78.4	78.3	-	-
<b>Difference (Female – Male)</b>												
Hong Kong	7.5	6.6	6.2	5.8	6.1	5.8	5.4	5.3	5.5	5.5	5.8	5.7
Japan	5.4	5.2	5.3	5.5	5.6	5.7	5.7	5.7	5.8	5.8	5.9	5.8
Switzerland	6.2	6.6	6.7	-	-	-	-	6.7	6.4	6.8	6.9	6.8
Sweden	5.3	5.8	6.0	6.0	6.0	6.1	5.9	6.0	6.0	5.8	5.8	5.6
Norway	6.3	6.5	6.7	6.7	6.7	6.7	6.7	6.8	6.8	6.5	-	-
Netherlands	5.8	6.4	6.6	6.7	6.7	6.7	6.6	6.5	6.6	6.5	6.2	6.3
Iceland	5.9	6.0	5.8	5.8	5.8	5.8	5.8	4.9	5.1	-	-	-
England and Wales	6.3	6.1	6.0	5.9	5.9	5.8	5.6	5.7	5.6	5.5	5.4	-
West Germany	7.1	6.9	7.1	7.2	7.1	7.2	7.0	6.7	6.6	6.6	6.7	-
U.S.A	7.6	7.7	7.4	7.2	7.1	7.0	7.0	7.0	6.9	6.8	-	-

**Table 12** Expectation of Life at Birth for Hong Kong and Selected Countries: 1991–2011

Country/Territory	1991	1996	2001	2006	2011
<b>Male</b>					
Hong Kong <sup>(1)</sup>	74.9	75.9	76.7	77.2	77.7
Japan	76.1	76.6	77.0	77.3	77.6
U.S.A. <sup>(2)</sup>	73.0	74.2	75.6	77.1	77.6
U.K.	73.2	74.0	74.5	75.0	75.3
<b>Female</b>					
Hong Kong <sup>(1)</sup>	80.5	81.5	82.2	82.6	83.0
Japan	81.9	82.5	82.9	83.3	83.5
U.S.A. <sup>(2)</sup>	79.8	80.8	82.1	83.4	83.9
U.K.	78.8	79.5	79.9	80.2	80.4
<b>Difference (Female – Male)</b>					
Hong Kong <sup>(1)</sup>	5.6	5.6	5.5	5.4	5.3
Japan	5.8	5.9	5.9	6.0	5.9
U.S.A. <sup>(2)</sup>	6.8	6.6	6.5	6.3	6.3
U.K.	5.6	5.5	5.4	5.2	5.1

Notes : (1) Figures for 1991 are provisional estimates.

(2) Figures extracted from the low mortality assumption of the population projection series produced in 1989 for the total for the years 1991, 1995, 2000, 2005 and 2010.



## 5. DEFINITION OF TERMS

**Average Annual Growth Rate:** When a population increases over a period of more than one year, its average annual growth rate is computed using the following formula:

$$\frac{P_2}{P_1} = (1+r)^n$$

where  $P_1$  = population at the beginning of a period  
 $P_2$  = population at the end of a period  
 $r$  = average annual growth rate  
 $n$  = number of years in the period

**Age Dependency Ratio:** The number of persons aged under 15 or aged 65 and over per 1 000 persons aged 15-64.

**Age-sex-specific Death Rate:** The number of deaths occurring among 1 000 persons for a given sex in a given age group in a given year.

**Age-specific Fertility Rate:** The number of live births occurring among 1 000 women in a given age group in a given year.

**Cohort:** A group of persons all born during the same year being analysed as a unit through their lifetime.

**Expectation of Life at Birth:** The average number of years of life that a person born in a given year can expect to live, if he were subjected to the prevalent mortality conditions as reflected by the set of age-specific death rates for that year.

**Excess Male Mortality:** The ratio of the male mortality rate for a given age group to the female mortality rate for the same age group.

**Median Age:** The age such that 50% of the total number of persons in question are above this age while the other 50% are below it.

**Natural Increase:** The surplus (or deficit) of births over deaths in a population in a given period.

**Replacement Level:** For a population to replace itself, it requires that each woman would produce an average of one daughter, who may be said to "replace" her mother in the population. A total fertility rate of 2 100 per 1 000 women is considered to correspond to the replacement level, allowing for slightly more boys than girls given at birth.

**Sex ratio:** The number of males per 1 000 females.

**Total Fertility Rate:** The average number of children that would be born alive to 1 000 women during their lifetime if they were to pass through all their childbearing years conforming to the age-specific fertility rates of a given year.

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