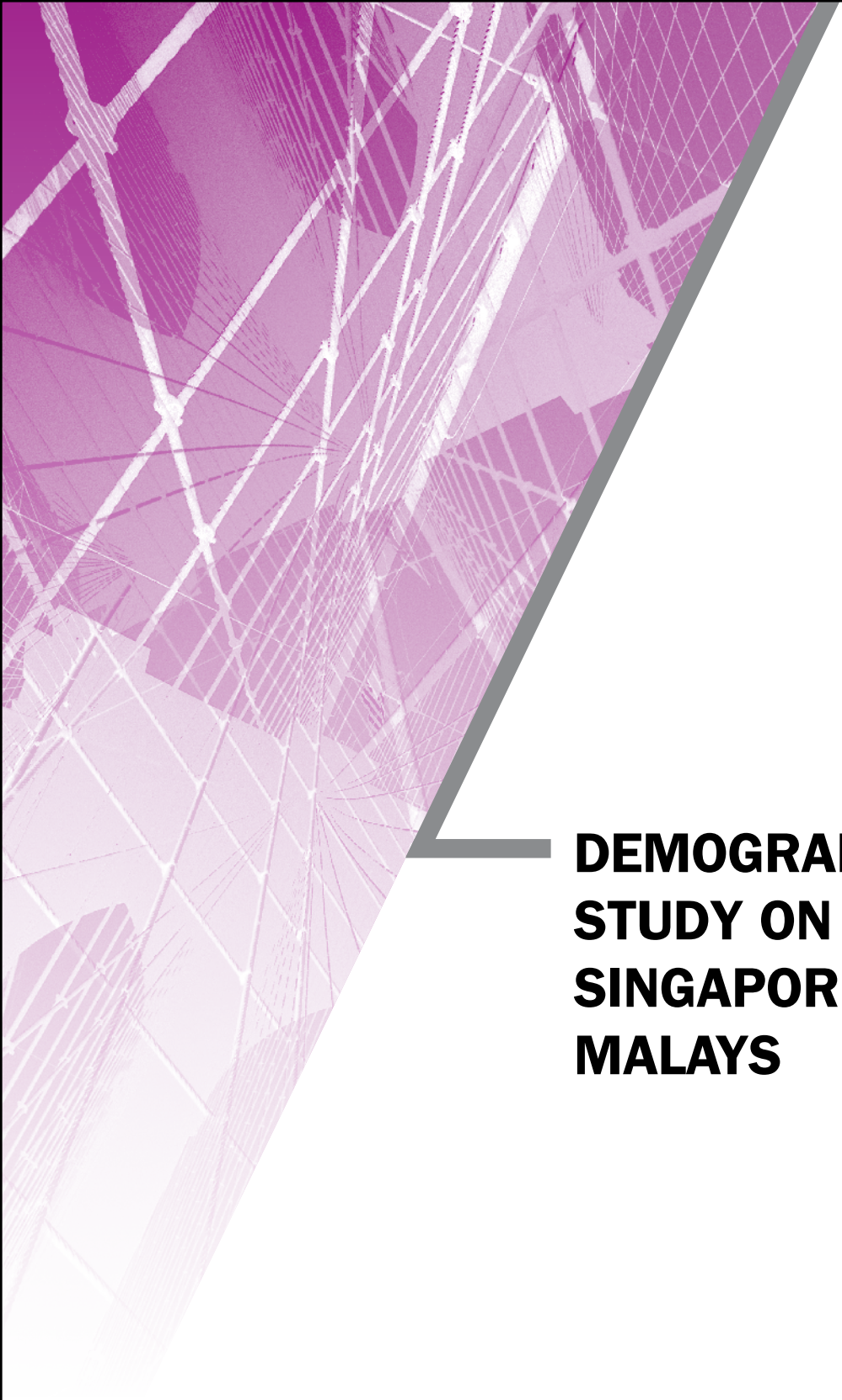

DEMOGRAPHIC STUDY ON SINGAPORE MALAYS

AMP commissioned a demographics study to analyse population trends of the Malay populace in Singapore. The study used publicly available data as well as statistical techniques to project future trends in the population.

DEMOGRAPHICS, ANALYSES AND PROJECTIONS

The Singaporean Malays

Singapore Malays are the largest minority, the indigenous race, and are facing a declining share in total resident population. Some of the areas of concern for the Malays are:

1. Share in total population
2. Growth and replacement rates
3. Opportunities in labour market
4. Cultural preservation
5. Religious independence
6. Civil participation

Expected Future Malay Population

While there has been immigration of different races, there is a lack of Malays from the region coming into the country as migrants. The sizeable shifts in the number of Chinese, Indians and Other racial groups since the 1990s are a result of a heavy influx of migrants rather than natural increase. This has led to a proportionate decline in the percentage of Malays from 15% (1970) to 13.4% (2010).

The proportion of Malays could decline further by 2020. This can only be circumvented by increases in Malay marriages and fertility, plus higher influx from the neighbouring Malay diaspora through relaxed immigration rules.

Demography of Ageing

In 2010, the Malay population in Singapore was just about half a million, at 503,900. Malays make up 13.4% of the total resident population, as well as the second largest population after the Chinese. Malays are a youthful population with a median age of 31.4, as compared to the national median age of 37.4.

Table 1: % Dependency Ratios

Population Group	Malays (%)		All races (%)	
	2000	2010	2000	2010
Youth Dependency Ratio (YDR)	46.5	31.3	30.9	23.5
Old Dependency Ratio (ODR)	8.6	8.6	10.1	12.2
Total Dependency Ratio (TDR)	55.1	39.9	41.0	35.7
Old Support Ratio (1/ODR)	11.6	11.6	9.9	8.2

Source: G Shantakumar, Singapore Malays in the New Millennium: Demographics and Developmental Perspectives, 2011.

The youthful Malay population reflects a high YDR but lower ODR compared to national levels (Table 1). This means Malays must continue to support youths within the community until they reach working ages. Another implication is the burden of supporting older family members is not as high as that in other communities. About 8.6 older persons were supported by 100 who are in the working ages (or 86 per 1,000) in 2000-2010. This contrasts with 12.2 at the national level. The Old Support Ratio tells us that there are more working persons to support the older persons, as compared with all races at the moment. Continuous fertility decline and lack of population replacement will increase the YDR and the Old Support Ratio in the future for all races.

Those of working age among Malays make up 71.5% of the Malay population against the national level of 73.7%. This would mean that future development in Malay society will be tied up to the growth of its upcoming working population. The future developments of the Malays

may also be tied to the implications of these figures on the socio-economic health of the community.

There are more females now in the Malay population, 992 Malay males per 1000 Malay females, compared to the national level of 974 males per 1000 females. This means that females are likely to be overly represented within the ageing population of Malays, given that women have longer life expectancies.

Socioeconomic Profile of Singaporean Malays

Marriage

There has been an increasing proportion of singles among Malays from the year 2000 onwards. Singles made up 35% of the Malay population in 2010, up from 29% in 2000. This is the first time Malay singles proportionately surpassed national levels (31%). Moreover, there has also been increasing singlehood at younger ages (e.g. 20^+ years old) which is expected to lead to delayed nuptiality and subsequently, fertility declines.

Some reasons for higher singlehood among Malays are the higher educational attainment, late marriages, mismatch between couples' expectations on prospective spouses, a lack of suitable local partners and higher educated females looking to marry upwards.

Family Size

Family size is measured by the total number of children borne by women aged 40-49. In general, it has decreased for every ethnic group. The family size is still slightly higher for Malays compared to other races. However, reduced family size or preference for a smaller family could further decline to numbers reflected at the national levels in future. Changes in marriage patterns reduce fecund period available (fecundity

refers to reproductive span of females). Singaporean Malays have undergone a very dramatic demographic transition when compared to Malays in the region, as there was prolonged high fertility among Malays in the past.

Literacy

The general literacy among Malays has always been high; in fact, higher than national levels. Their literacy levels in English and even in two or more languages are very high; surpassing the national level. There has also been an increase in rates of spoken English in the last decade (although still lagging behind the nation) but there is a decline in spoken Malay in the same period. This may be a result of children increasingly speaking English and a higher number of inter-marriages with non-Malays.

Table 2: Literacy and Language

Literacy and Language	Malays		Total	
	2000	2010	2000	2010
General Literacy Rate (%)	93.6	**97.1**	92.5	95.9
Literate Population (%):				
In English	79.7	**86.9**	70.9	79.9
In 2+ languages	78.0	**86.3**	56.0	70.5

Source: G Shantakumar, Singapore Malays in the New Millennium: Demographics and Developmental Perspectives, 2011.

Educational Attainment

In 2000 to 2010, Singapore saw better attainment levels for the entire population, including Malays. Malay females have improved most significantly but attainments of Malays are still below national rates. The attainment levels are for all Singaporeans, PRs and new citizens. The influx of better-educated non-Malay races will deflate the relative achievements of Malays, since there has been far less influx of Malays (educated or otherwise). Thus, Malay attainments are generally compared against a disproportionate non-Malay group of the educationally-endowed.

Table 3 presents the indices of the development of Singapore Malay students' educational performance. It can be seen that Singapore Malay students have made tremendous absolute progress over the decades. For instance, using year 2000 as a base with an index of 100.00, the education index rose from 36.72 in 1980 to 146.39 in 2010. The indices for post-secondary enrolment and tertiary enrolment have also increased very significantly.

Table 3: Education Development Indices, Singapore Malays, 1980 – 2010

(Base 2000 = 100.00)

Field/Sub-field	1980	1985	1990	1995	2000	2005	2010
1. Education Index	**36.72**	**63.58**	**76.75**	**85.68**	**100**	**123.14**	**146.39**
2. PSLE Index	**45.26**	**76.66**	**79.95**	**97.27**	**100**	**101.10**	**100.16**
2.1. Secondary Eligible	81.26	77.88	86.79	98.87	100	106.55	104.44
2.2. English Language	76.3	84.44	87.59	100.2	100	96.74	98.98
2.3. Mathematics	43.34	60.37	69.97	97.21	100	92.41	94.58
2.4. Science	80.49	85.37	94.76	98.9	100	93.66	99.02
3. Secondary Index	**42.27**	**66.24**	**81.19**	**90.88**	**100**	**116.05**	**112.84**
3.1. 5 'O' Level passes	30.3	68.18	81.63	87.12	100	119.7	114.4
3.2. 3 'O' Level passes	60.61	94.7	97.35	95.45	100	112.88	108.71
3.3. English Language	30.12	55.12	74.25	81.17	100	128.16	121.54
3.4. Mathematics	45.17	56.85	83.02	102.18	100	107.94	108.57
3.5. Science	54.01	63.01	72.01	89.85	100	112.6	111.46
4. 'A' Level Index [2A/2AO (+GP)]	**83.33**	**87.37**	**76.08**	**96.91**	**100**	**113.17**	**119.89**
5. Post-secondary Index (Enrolment)	**53.37**	**70.12**	**86.87**	**65.56**	**100**	**132.05**	**181.78**
6. Tertiary Index (Enrolment)	**4.72**	**33.4**	**62.07**	**82.2**	**100**	**161.49**	**272.92**

Source: G Shantakumar, Derivation of Composite Development Indices for the Singapore Malay Community, 2011.

In 2000, there was an equal proportion of working Malay males and females who attained university qualifications. There are existing schemes aimed at pushing for higher attainments, although an impediment to attaining this is the lack of sufficient resources. By 2005, there was a higher proportion of university-educated Malay females than males. Malays face challenges from local non-Malays and incoming non-Malays. This serves as a catalyst for development in skill content of future working Malays.

Table 4: Highest Qualification Attained

Highest Qualification Attained	Malays (%): 2005	All races (%): 2005	Malays (%): 2010	All races (%): 2010
No Formal Education	6.4	7.0	6.5	6.9
Incomplete Primary	10.9	8.5	na	na
Completed Primary	13.1	10.3	6.7	5.3
Incomplete Secondary	35.4	23.2	10.9	9.0
Secondary	18.0	11.9	29.0	19.5
Upper Secondary	7.6	10.7	24.5	12.7
Polytechnic	3.5	6.0	15.6	18.4
University	5.1	22.4	6.8	28.3
Total	100.0	100.0	100.0	100.0

Source: G Shantakumar, Singapore Malays in the New Millennium: Demographics and Developmental Perspectives, 2011.

Disciplines of Study among Malays

The spread of educational disciplines among Malays is crucial for their participation in the Singapore economy. Malays are below all races in attaining degrees in science and hard disciplines. Although there has been some increase in the number of Malays in non-arts disciplines, there remains a concentration of Malays in arts and social sciences. There are also some increases seen in management, commerce and accountancy, computer studies and engineering. Thus, community leaders should not just be concerned with increases in higher attainment per se but also encourage subject specialisation. There is a need to diversify in order for the community to make inroads into technology-driven industries.

Table 5: Major Field of Study

Major Field of Study	1990 (%)		2000 (%)		2010 (%)	
	All races	Malays	All races	Malays	All races	Malays
Arts/Social Sciences	25.0	35.5	22.6	31.3	16.1	33.2
Management/Accountancy /Commerce	24.4	13.3	25.6	17.1	32.2	22.7
Law	3.7	11.0	3.2	6.7	1.9	2.2
Statistics/Computer Studies	4.7	2.3	7.4	4.8	12.0	12.2
Natural /Physical Sciences	10.7	12.8	9.8	11.8	7.6	6.6
Medical/Dental/Health	6.1	8.2	4.3	4.2	4.7	5.4
Engineering	20.2	13.6	22.5	22.4	21.4	13.5
Architecture/Building Science	3.6	1.1	3.8	1.0	2.5	2.3
Other	1.6	2.2	0.8	0.7	1.6	2.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: G Shantakumar, Singapore Malays in the New Millennium: Demographics and Developmental Perspectives, 2011.

Labour Force Participation

Labour Force Participation Rate (LFPR) is the measure of economic activity among the population. Malay LFPR has always been lower than other races. Many Malay women were not working, but this has improved over the years. There is an increasing trend of labour participation among Malays but unemployment rates have been fluctuating. Malay unemployment rates are higher, especially for women, and are above normal unemployment rates. Of course, economic restructuring has affected the labour market in general, and those lagging in commensurate skills and retraining are affected the most. Some workers are discouraged to seek employment when redundancies arise, and Malays could be most affected by this process. As a result of shifts in the economy, non-requisite skills become redundant and Malays with no or low skills or with low qualifications have to be retrained.

Income

The income profile of working Malays reveals economic status, not necessarily wealth. Incomes for the total working population have risen since the 1980s; simultaneously, incomes of Malays have also

increased but at a slower pace. While the Malays are still lagging behind their counterparts, they have made progress in other areas such as improvements in educational attainments, skill endowment, and attainment of higher incomes. Further attainments will facilitate more improvements within a growing economy.

Table 6: Composite Development Indices for Economy and Business, 1980 – 2010

(Base 2000 = 100.00)

Field/Sub-field	1980	1985	1990	1995	2000	2005	2010
Overall Economy Index	**55.63**	**64.30**	**76.62**	**88.74**	**100.00**	**108.21**	**114.18**
1. Labour Force Index	**69.70**	**73.57**	**75.22**	**85.53**	**100.00**	**111.25**	**115.87**
1.1. Economically Active Population Index	90.37	85.03	84.43	93.39	100.00	107.19	100.71
1.2. Economically Inactive Population Index	50.64	66.94	83.24	96.29	100.00	110.54	117.13
1.3. Unemployed Population Index	42.86	34.59	26.32	43.61	100.00	124.06	98.95
1.3.1. Unemployment Rate (% of LF)	49.32	37.67	26.03	41.10	100.00	112.33	78.08
1.4. Malay LFPR Index	111.17	108.42	105.67	101.37	100.00	99.66	103.26
2. Occupational Distribution of Working Persons Index	**64.55**	**71.87**	**77.58**	**92.02**	**100.00**	**103.64**	**107.36**
2.1. Professional, Technical, related	29.41	38.48	47.55	75.00	100.00	101.96	123.53
2.2. Administrative, Managerial, related	24.14	31.03	37.93	58.62	100.00	82.76	89.66
2.3. Clerical, related	49.50	63.25	77.00	90.50	100.00	93.00	88.00
2.4. Sales/services	74.07	80.25	86.42	81.48	100.00	125.31	124.07
2.5. Production, related	177.49	163.35	149.21	126.70	100.00	96.60	80.89
2.6. Others	156.52	139.13	121.74	147.83	100.00	130.43	156.52
3. Incomes Index	**26.04**	**34.19**	**65.54**	**82.66**	**100.00**	**102.10**	**114.60**
3.1. Nominal Income Index	**22.41**	**23.35**	**61.39**	**81.41**	**100.00**	**105.46**	**121.55**
3.1.1. Average Household Income ($ pm)	28.44	4.79	71.30	87.52	100.00	109.21	145.24
3.1.2. Median Household Income ($ pm)	27.27	48.34	69.37	91.11	100.00	104.43	141.85
3.1.3. Average Personal Income ($ pm)	19.02	36.47	53.87	73.04	100.00	107.84	123.38
3.1.4. Median Personal Income ($ pm)	17.09	35.20	53.30	75.42	100.00	100.56	85.87
3.2. Real Income Index	**33.45**	**53.07**	**73.04**	**84.91**	**100.00**	**96.73**	**103.82**
3.2.1. Average Household Income ($ pm)	42.44	63.14	84.89	91.17	100.00	100.19	123.13

Table 6: Composite Development Indices for Economy and Business, 1980 – 2010 (continued)

(Base 2000 = 100.00)

Field/Sub-field	1980	1985	1990	1995	2000	2005	2010
3.2.2. Median Household Income ($ pm)	40.70	61.11	82.40	95.39	100.00	95.79	120.92
3.2.3. Average Personal Income ($ pm)	28.38	46.18	64.12	76.08	100.00	98.92	105.44
3.2.4. Median Personal Income ($ pm)	25.53	44.53	63.46	78.55	100.00	92.23	73.41
4. Dwellings Index	**83.27**	**92.86**	**95.52**	**93.23**	**100.00**	**122.34**	**130.32**
4.1. Home ownership (%)	53.21	79.23	98.82	96.25	100.00	99.79	95.93
4.2. HDB Dwellings (%)	73.35	85.81	98.27	99.90	100.00	99.21	98.47
4.3. Private flats, Condos (%)	37.50	43.75	50.00	50.00	100.00	160.00	237.50
4.4. Landed Properties (%)	328.57	250.00	171.43	157.14	100.00	141.43	128.57

Source: G Shantakumar, Derivation of Composite Development Indices for the Singapore Malay Community, 2011.

Table 6 shows how the labour force index has risen from 69.70 in 1980 to 115.87 in 2010. The unemployment rate as a percentage of the labour force doubled from 49.32 in 1980 to 100.00 in 2000. It has since dipped slightly to 78.08 in 2010. However, this is still an increase in the unemployment rate by about 30 percentage points.

In terms of occupational distribution, increasing proportions of Malays are in the professional and technical, administrative, managerial and related fields. The number of Malays in the production sector has decreased from 177.49 in 1980 to 80.89 in 2010.

Both nominal and real incomes have increased, as have average and median household and personal incomes.

Home ownership rates have increased and the proportion of Malays living in condominiums or private flats has increased six-fold from 37.50 in 1980 to 237.50 in 2010. The percentage of those living in landed properties has decreased from 328.57 in 1980 to 128.57 in 2010.

Table 7: Personal Income of Working Malay Population

Personal Income Class ($)pm	Working Malay Population (%)						
	1980	1990	1995	1998	2000	2005	2010
< 500	**81.7**	9.4	12.0	na	4.1	4.4	4.8
500 - < 1000	15.7	**47.8**	17.5	30.9	11.0	14.4	11.9
1000 - < 1500	1.8	27.0	**27.4**	**37.9**	22.0	19.5	15.4
1500 - < 2000	0.5	9.4	**20.7**	17.6	22.0	17.5	16.7
2000 - <3000	0.2	4.6	16.0	9.3	**26.0**	**22.9**	23.6
< 3000	0.1	1.8	6.4	4.6	14.9	21.3	**27.6**
Total	100	100	100	100	100	100	100
Mean $pm	*388*	*1049*	*1490*	*1343*	*2040*	*2200*	*2517*
Median $pm	*306*	*954*	*1350*	*1252*	*1790*	*1800*	*1537*

Note: Highest proportionate population highlighted in bold

Source: G Shantakumar, Singapore Malays in the New Millennium: Demographics and Developmental Perspectives, 2011.

Average Incomes

The median average income is a better measure than the simple average income as it is not distorted by extremes. The difference between Malay and national median incomes was minimal in 1970s. Malays had better income ratio in 1975-80 (> 100%). The income gap widened when non-Malays superseded the Malays by attaining higher education and skills, hence reducing the ratio by 1990. This was further amplified as foreign skilled workers pulled average incomes to higher levels thus extending the income gaps.

Household and personal incomes have generally increased after 2000. However, median personal income has decreased while median household income increased. This shows that those in the median income class are in lower-paying jobs which are no longer attractive or available and tend to push wages down; thereby discouraging workers from seeking work altogether. On the other hand, household median income increase as result of the young or more educated earning more in a family. The question is: How do we grow the personal and the household incomes at the same time when vastly variant skills are presented to the labour market?

Table 8: Average Household and Personal Income

Income Indicator	Household Income ($ per month)						
	Malays						
	1980	1990	1995	1998	2000	2005	2010
Mean	896	2246	2757	2030	3150	3440	4575
Median	739	1880	2469	1660	2710	2830	3844
Income Indicator	**Personal income ($ per month)**						
	Malays						
	1980	1990	1995	1998	2000	2005	2010
Mean	388	1099	1490	1343	2040	2200	2517
Median	306	954	1350	1252	1790	1800	1537
Income Ratio	81.2	72.4	84.2	N.a.	82.7	67.3	65.8

Source: G Shantakumar, Singapore Malays in the New Millennium: Demographics and Developmental Perspectives, 2011.

Future Population Growth of Singaporean Malays

Due to the lack of Malay immigration into Singapore, the population proportion of the Malays has fallen to 13.4% during 2010-11 from an earlier ratio of 15.0% (in 1970). Can future policy fine-tune the ratios so as to maintain the present status quo?

Two projected scenarios (I and II) are presented where:

- Projection I is based on census releases (1871-2010) and annual population estimates for 2000-2010
- Projection II is based on census releases only

In order to assume plausible upper boundary values, we assume, firstly, that Singapore's population (residents and non-residents) is bounded at 6.5 million, which is the latest assumption used by the government in designing the long-term policies of Singapore[1]. Secondly, proportion of non-residents among the total population will be maintained at the current level. Lastly, we also assume that the ethnic proportion over

the next several decades would still reflect the proportion of the current Singapore resident population. These two assumptions are plausible with the recent statement by the Prime Minister on the government's commitment to maintain the racial mix among Singapore residents[2]. The boundaries are summarised in the following table:

Table 9: Basic Population Data and Essential Parameters

Population Category	Current		Upper Limit
	Numbers ('000)	%	Numbers ('000)
Total Population	**5076.7**	-	**6500.0**
Resident Population	***3771.7***	-	***4829.1***
Chinese	2793.9	74.1	3577.2
Malays	503.9	13.4	645.2
Indians	348.1	9.2	445.7
Others	124.5	3.3	159.4

Note: The assumptions are stringent and fixed.

Source: Department of Statistics Singapore, Census of Population 2010, 2011.

Graph 1: Future Malay Population Growth ('000): 1871 - 2030

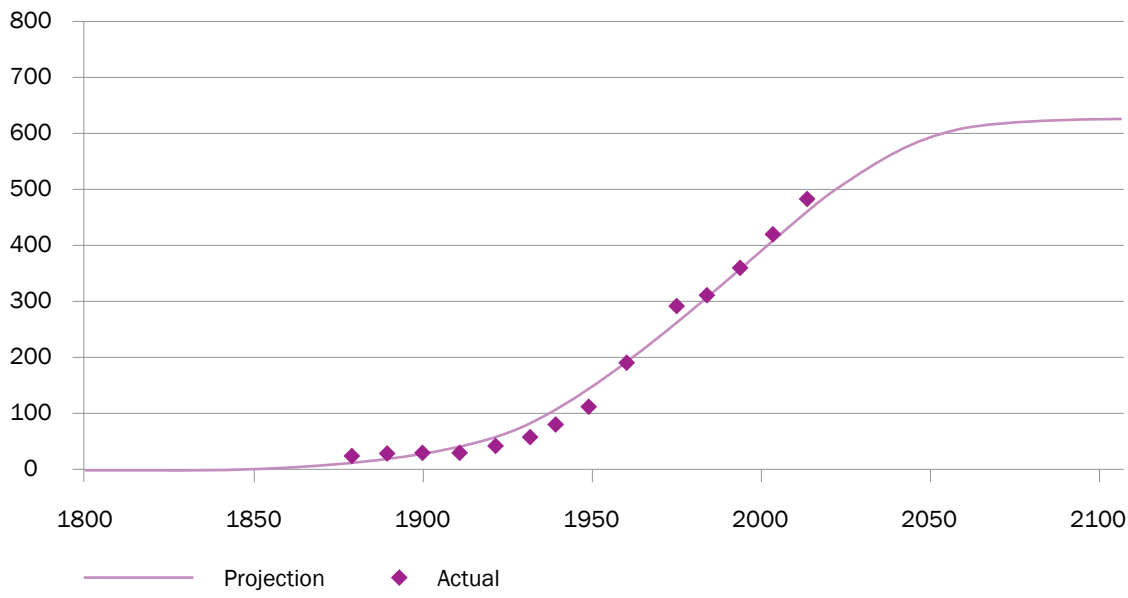

Table 10: Projection: Malays, Scenarios I and II

Year	Total I	Total II
2010	503.9 (13.36%)	503.9 (13.36%)
2015	512.4 (13.50%)	492.4 (13.19%)
2020	530.1 (13.46%)	511.1 (13.19%)

An alternative (although simplistic) method using the compound growth model was tried to simulate the population in 2010-20 which resulted in ethnic ratios as reflected in Table 10. Graph 1 shows the population distribution for selected years during the period 1871-2010. This is to highlight the rapidly changing composition of the ethnic groups within the population, especially after 1990. Notice the large influx of Indians and "Others", the latter comprising peoples from outside this region. Selected periods are presented and growth rates are compounded for periods in per annum terms. This selection is to highlight the significant shifts in sizes due to policy.

Table 11: Population by Ethnic Group, 1990-2010

Year	Population ('000)				
	Malays	Chinese	Indians	Others	All Races
1990*	384.3	2127.9	194.0	29.7	2735.9
1995**	415.3	2332.9	220.3	45.0	3013.5
2000*	455.2	2513.8	257.9	46.5	3273.4
2005**	480.7	2626.7	291.1	69.3	3467.8
2006	490.5	2656.4	303.1	75.9	3525.9
2007	490.6	2687.0	313.4	92.1	3583.1
2008	495.1	2721.8	323.4	102.4	3642.7
2009	500.1	2770.3	343.5	120.0	3733.9
2010*	503.9	2794.0	348.1	125.7	3771.7

Note: **Censuses, ** Surveys, Rest annual estimates*

The proportionate population composition is shown in Table 12. The rapid growth of the smaller groups (i.e. Indians and Others) will distort the overall growth rates. For example, Indians once stood at 6% in 1980 but are now closer to 9.2%. Other races only made up 1% in the past but now make up more than 3%. As such, three different sets of growth rates have been suggested for the sub-groups.

Table 12: Proportionate Population by Ethnic Group, 1990-2010

Year	Proportionate Population (%)				
	Malays	Chinese	Indians	Others	All Races
1990*	14.0	77.8	7.1	1.1	100.0
1995**	13.8	77.4	7.3	1.5	100.0
2000*	13.9	76.8	7.9	1.4	100.0
2005**	13.9	75.7	8.4	2.0	100.0
2006	13.9	75.3	8.6	2.2	100.0
2007	13.7	75.0	8.8	2.5	100.0
2008	13.6	74.7	8.9	2.8	100.0
2009	13.4	74.2	9.2	3.2	100.0
2010*	13.4	74.1	9.2	3.3	100.0

Note: **Censuses, ** Surveys, Rest annual estimates*

Table 13: Growth Rate (% pa) by Ethnic Group, 1871-2010

Year	Population: Growth rate %pa				
	Malays	Chinese	Indians	Others	All Races
1871-1911	1.2	3.5	2.2	0.1	2.9
1911-1957	3.4	3.5	3.4	1.5	3.5
1957-1990	2.0	2.0	1.2	0.1	2.0
1990-1995	1.6	1.9	2.6	**8.7**	2.0
1995-2000	1.9	1.5	**3.2**	0.7	1.7
2000-2005	1.1	0.9	2.5	**8.3**	1.2
2005-2010	0.9	1.2	**3.6**	**12.6**	1.7
2009-2010	0.8	0.9	1.3	**4.8**	1.0
2000-2010	1.0	1.1	**3.0**	**10.5**	1.4

Source: G Shantakumar, Singapore Malays in the New Millennium: Demographics and Developmental Perspectives, 2011.

As seen from Table 2, sizeable shifts occurred for Indians, Chinese and Others in the 1990s, mostly from the heavy influx of skilled immigrants. The influx of migrants alone has been the main growth factor for Indians and the Others category. Recent declines in Malay fertility led to a natural decrease and this, coupled by little or no influx of skilled Malays from elsewhere, contributed to the current figure of 13.4% in total resident population.

The Malay population had remained constant at 13.4% in 2011 (according to recent official releases, but not shown in above tables), while the Indian ratio also remained at 9.2%. Anecdotal evidence suggests that the granting of PR and citizenship status had become very stringent and might have been a contributory factor to this trend in population ratio. The question of whether this policy is sustainable remains unclear at this stage, but the expected decline in economic growth may encourage the government to sustain this revised policy in some modified form. The government is unlikely to depart from the policy of increasing the influx of migrants if the economy is in need of new foreign skills to secure growth. Nevertheless, the government is likely to be more conservative in the granting of PRs and citizenships. This is especially so for the PRs. The latest slew of cooling measures to discourage escalating housing prices are aimed at foreigners who may shy away from investing here and this will decrease demand for PR status too. Thus it is probable that the ethnic ratios may yet be preserved. Malays may have to represent 13.4% of the population for some time, unless they increase their fertility and encourage more Malays from elsewhere to settle here. Both of these are distant prospects.

The following analyses are meant to be an experiment at 'predicting' the changes that could occur to the Malay ratio, given certain assumptions of growth. The period selected is 2010-2020. Three sets of compound

growth rates represent the recent shifts that might have pushed down Malay ratios. These schedules are designated as A, B and C respectively representing the growth periods assumed.

Table 14: Compound Growth Rates, 3 Assumptions

Assumption	Compound Growth Rates(% pa)					
	Period	Malays	Chinese	Indians	Others	All Races
A	***2009-2010***	0.8	0.9	1.3	4.8	1.0
B	***2005-2010***	0.9	1.2	3.6	12.6	1.7
C	***2000-2010***	1.0	1.1	3.0	10.5	1.4

Source: G Shantakumar, Singapore Malays in the New Millennium: Demographics and Developmental Perspectives, 2011.

If the growth rates of 2009-10 (Assumption A) were considered, then it is probable that policy is aimed at maintaining the status quo of present ethnic ratios. However, this could be an interim measure. If Assumptions B and C were considered, there are two scenarios of high growth of Indians and Others to contend with: this offers a glimpse as to how much of a decline would be expected in the Malay ratio. The main concern is with the Malay ratio, but growth rates for the rest of the population may also be useful indicators.

The actual populations expected, presented in Table 15, concern the ethnic ratios. The difference between the All Races total and the MCIO total is minimal and is the measure of error in the forecasts.

Table 15: Projected Population by Ethnic Group, 2010-2020, 3 Assumptions

Year	Projected Population('000)					
	Malays	Chinese	Indians	Others	All Races	MCIO**
Growth rate (%pa): A	0.8	0.9	1.3	4.8	1.0	
2010*	503.9	2794.0	348.1	125.7	3771.7	3771.7
2015	524.4	2922.0	371.3	158.9	3964.1	3976.6
2020	545.7	3055.9	398.1	200.9	4166.3	4198.6
Growth rate (%pa):B	0.9	1.2	3.6	12.6	1.7	
2010*	503.9	2794.0	348.1	125.7	3771.7	3771.7
2015	527.0	2965.7	415.4	227.5	4103.4	4135.6
2020	551.1	3148.0	495.8	411.8	4464.2	4606.7
Growth rate (%pa):C	1.0	1.1	3.0	10.5	1.4	
2010*	503.9	2794.0	348.1	125.7	3771.7	3771.7
2015	529.6	2951.1	403.5	207.1	4043.2	4091.3
2020	556.6	3117.0	467.8	341.2	4334.3	4482.6

Note: **Census. ** Adding Malays, Chinese, Indians, and Others as derived.*

In Assumption A (2009-10 growth experience), the Malay population is expected to reach some 524,000 by 2015, and 546,000 by 2020. In Assumption B (2005-10 growth experience), the respective populations would be 527,000 by 2015 and 551,000 by 2020. In Assumption C (2000-10 growth experience), the estimated population is 530,000 and 557,000 respectively for 2015 and 2020. In the logistic forecast (the logistic forecasting model is a commonly used method to forecast population), the asymptote or long-term population would be around 600,000 to 650,000, or nearly 700,000. Thus, whichever model is used, the position of Malays as the largest minority in the total Singapore resident population remains unchanged, despite growth in numbers and ratios of the Indian and other minorities. The general feeling is that the category of those defined as Others would not grow to any significant level, if policy is stringent enough to favour the indigenous races. It is probable that Malays could improve their ratio further by this latter

criterion. The expected changes in ethnic ratios in the present decade are depicted below (Malay ratios are highlighted).

Table 16: Projected Proportionate Population by Ethnic Group, 2010-2020, 3 Assumptions

Year	Proportionate Population (%) **					
	Malays	Chinese	Indians	Others	All Races	Error%
Growth rate (%pa): A	0.8	0.9	1.3	4.8	1.0	-
2010*	***13.4***	74.1	9.2	3.3	100.0	0.0
2015	***13.2***	73.5	9.3	4.0	100.0	0.3
2020	***13.0***	72.8	9.5	4.7	100.0	0.8
Growth rate (%pa): B	0.9	1.2	3.6	12.6	1.7	-
2010*	***13.4***	74.1	9.2	3.3	100.0	0.0
2015	***12.7***	71.7	10.0	5.6	100.0	0.8
2020	***12.0***	68.3	10.8	8.9	100.0	3.2
Growth rate (%pa): C	1.0	1.1	3.0	10.5	1.4	-
2010*	***13.4***	74.1	9.2	3.3	100.0	0.0
2015	***12.9***	72.1	9.9	5.1	100.0	1.2
2020	***12.4***	69.5	10.4	7.4	100.0	3.4

Note: *Census. ** Based on MCIO Total.*

In Assumption A, Malay ratios could decline marginally to 13.0% by 2020, compared to 13.4% in 2010-11. By Assumptions B and C, the Malay ratio could decline a bit more to 12.0 to 12.4%. These declines are due to increases in Indian and Other ratios to 10.4-10.8% and 7.4-8.9% levels respectively.

Falling Malay ratios can be circumvented only by increases in Malay nuptiality and fertility as well as higher influx from neighbouring Malay diaspora. In a practical or realistic sense, Assumption C is improbable. However, the homogenous Malay community could induce upward shifts in nuptiality and fertility through the appeal of culture. This is not an alarmist alternative, as it is feasible to encourage nuptial unions by

increasing the pool of prospective brides and grooms via relaxing entry rules that presently apply to all outsiders (of any ethnic background). This can be done by carefully-calibrated measures by community leaders from all strands of life and persuasion, including other communities within Singapore. If economic growth is a priority rather than a political concern, then the expedient measure should be relaxing immigration rules to indigenous races within the region.

Sources:

[1]Rachel Lin, That 6.5 milion population figure, 8 September 2010, http://yoursdp.org/index.php/news/singapore/4106-that-65-million-population-figure
[2]Lee Hsien Loong, National Day Rally Speech, 29 August 2010, http://www.pmo.gov.sg/content/pmosite/mediacentre/speechesninterviews/primeminister/2010/August/national_day_rallyspeechenglishbyprimeministerleehsienloongon29a.html