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# Income Inequality in Singapore: Causes, Consequences and Policy Options

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# Summary

More than forty years ago, Singapore began its quest for rapid economic development, a quest that would reap benefits for each Singaporean and the society as a whole. However, this rapid tide of growth and material wealth, favored some far more than the others. During 2005-2007, the average income for families in the bottom decile of the income distribution increased just 3-4% while that of the topmost decile grew by 6-11%. As a result income inequality has grown markedly in Singapore, far more than most developing and developed countries which also experienced long periods of high growth. Though, globalization and the largely open nature of the Singapore economy have played a key part in creating this inequity, strong commitment to meritocracy in education, recent adaptations to the tax structure and government's manpower policies towards attracting foreign talent have further intensified the problem in recent years.

Evidence from economic research indicates that income inequality can have profound ill-effects, especially for a service-oriented economy and multi-religious society like Singapore – It creates price distortion which can push low income families into poverty. Racial bias of income inequality in Singapore could trigger social unrest. Increased sense of vulnerability may drive up mortality rates and crime. Thus inequity can rob Singapore of the very factors – law and order and efficiency, which placed Singapore at the helm of the globalized world.

Yet, inequality in Singapore is neither unalterable nor a social aspect ignored by the government. Attempts to establishing a robust security system that addresses the longevity issue have already begun with the introduction of the CPF Life scheme. WIS would also play its part in addressing income inequality in the low-wage segment. In addition, policies such as a progressive tax structure (for both income and goods and services tax) along with a minimum wage scheme could be explored to reduce inequity. Singapore could adopt a system like Earned Income Tax Credit (EITC) with graduated tax rates, which has worked in countries like USA that have been able to deal with income inequality a little better than us. These policies supported by a multi-tier social security system could turn the tide on inequality and ensure that the gains from economic growth are more widely shared.

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# Introduction

Rising income inequality is often experienced together with high growth, and Singapore is no exception. It registered consistent GDP growth of 6-7% over most of 1990s and 2000s <sup>[1]</sup>. At the same time its Gini coefficient rose from 0.43 to 0.47 <sup>[4]</sup>. This raises an interesting argument - Does income inequality drive growth? Or is it a natural consequence of growth? Or is income disparity systematically bred by the very policies and strategies that Singapore pursued to grow?

The affluent and rapidly ageing state has pursued a policy of meritocracy <sup>[6]</sup>, high net immigration, and minimal social risk-pooling <sup>[4]</sup>. It adopted a single-tier mandatory savings system to finance retirement, housing as well as health care; unlike other OECD and Asian countries. It increased its non-citizen population by three times between 1990 and 2005 to maintain global competitiveness on one hand; and resolve its low fertility issue on the other <sup>[4]</sup>. It strategically supported the high performers to carve a niche for them. These enabled Singapore to leverage on globalization to attain material wealth. However, as a side-effect did these policies subtly alter the social dynamics of the Singapore society by promulgating income inequality? And if it did, how big is the impact of this income disparity for Singapore? What could be possibly done today to alter this trend?

This essay systematically analyzes these questions to firstly identify the causes of income inequality and then argues how serious the consequences of inequity could be for a city state like Singapore. The last part highlights new government policies that address income inequality in Singapore, and then introduces further ideas for re-instating the order.

All in all, this write-up sheds light on growing income inequality with all its subtle influences on the society and explores policies of reversing this trend or at least minimizing its consequences.

# Income Trends in Singapore

Data on income and expenditure is sparingly available in Singapore. The only data available is that published by DOS since early 2000s which provides only a limited time frame for comparison and analysis. Even from the limited information, it is possible to draw four pieces of evidence highlighting widening income disparity in Singapore.

## 2.1 Household Income Trends

- a. Current Mean Income: **SGD 6, 830**                      Current Median Income: **SGD 4,870**

Thus, Singapore presents a unique situation where the income distribution is so skewed that more than half the people earn only two thirds of the average wage. The acuteness of this skew (almost an inverted normal) is shown in the household income distribution of Singapore for the year 2007 (Figure 1).

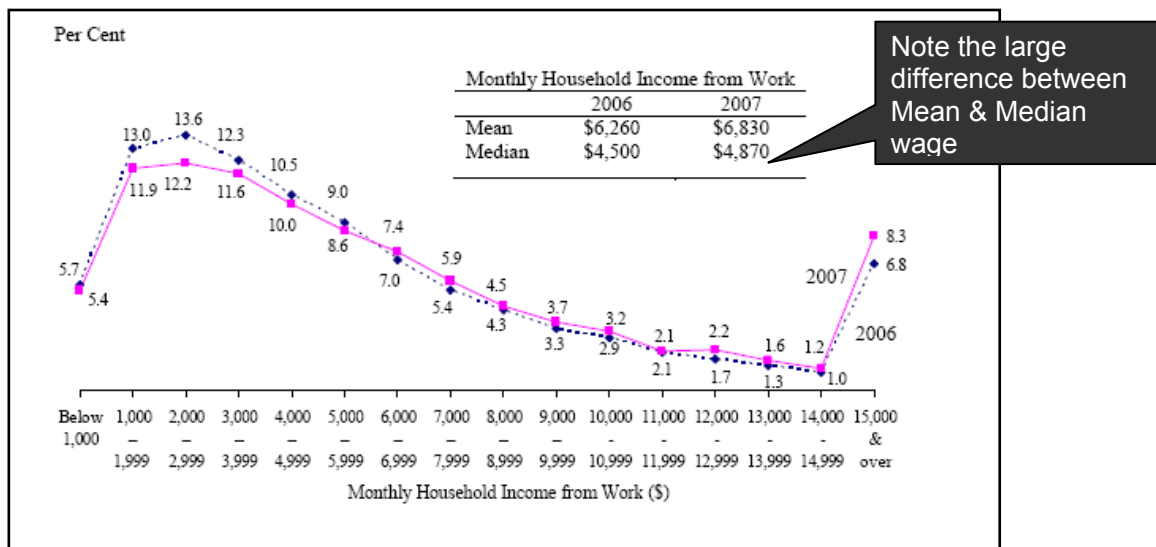


Figure 1: Household Income Distribution of Singapore in 2007; Source: Occasional Paper on Income Statistics - 2008; DOS – Singapore

- b. The ratios of the top to bottom quintiles of households by income from work fell from 14.4 in 1980 to 11.4 in 1990 and rose again to 20.9 in 2000, showing that **income inequality improved in the 1980s and deteriorated in the 1990s** <sup>[1]</sup> (Table 1). The seemingly large disparity of 1990s is attributable to growing number of households with retirees whose income is derived not from wages and salaries but from pensions, property income, and transfer payments (Table 2). Chia (1995) showed that many of those who fall in the lowest 10% bracket live in luxurious apartments <sup>[1]</sup>.

**Table 1: Household Income from work in Singapore; Source: DOS - Singapore Census 2000 advanced data release no. 7**

	Average household income from work (S\$)		
	1980	1990	2000
<b>Total</b>	<b>1,228</b>	<b>3,076</b>	<b>4,943</b>
<b>Lowest 10%</b>	95	370	61
<b>Next 10%</b>	348	934	1,145
<b>Next 10%</b>	476	1,321	1,862
<b>Next 10%</b>	597	1,686	2,535
<b>Next 10%</b>	747	2,076	3,237
<b>Next 10%</b>	934	2,541	4,036
<b>Next 10%</b>	1,174	3,116	5,017
<b>Next 10%</b>	1,521	3,897	6,316
<b>Next 10%</b>	2,089	5,152	8,419
<b>Top 10%</b>	4,295	9,671	16,804
<b>Ratio of top 10% to lowest 10%</b>	45.2	26.1	275.
<b>Ratio top 20% to lowest 20%</b>	14.41	11.37	20.91

Decline & growth of income inequality

- c. High growth in average monthly household income between 1980s to 2000s is attributed to females joining the labor force which lead to almost doubling of the household income (S\$1510 in 1990 to S\$3114 in 2000 or 2.06 times)<sup>4)</sup>.
- d. Another trend that deserves mentioning is that the average monthly income per individual increased significantly as the household size decreased from 4.2 persons in 1990 to 3.7 in 2000s (Table 3)

**Table 2: Lowest 10% households by Economic Activity - note the greater number of retiree households;  
Source: Department of Statistics [3]**

	Per Cent				
	1990	1997	1998	1999	2000
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Households with No Income Earner</b>	<b>40.4</b>	<b>54.3</b>	<b>62.1</b>	<b>74.9</b>	<b>86.8</b>
"Retiree" Households	15.8	27.0	31.6	35.4	36.7
Households with At Least One Unemployed Person Below 60 Years*	4.3	6.5	10.4	16.1	21.5
Households with Only Economically Inactive Persons Below 60 Years	20.4	20.8	20.1	23.5	28.5
<b>Households with Income Earners</b>	<b>59.6</b>	<b>45.7</b>	<b>37.9</b>	<b>25.1</b>	<b>13.2</b>

Note : "Retiree" households refer to those comprising only non-working persons aged 60 years and over.

\* Includes households with both retirees and unemployed persons below 60 years.

**Table 3: Size of Household and average monthly household income**

Household size	Average Monthly Household Income (\$)						Percent of Households (%)			
	1972/73	1977/78	1982/83	1987/88	1992/93	1997/98	1972/73	1987/88	1992/93	1997/98
2	350	753	1,552	1,596	2,586	3,582	4.8	10.7	13.3	n.a
3	405	847	1,606	1,804	3,078	4,370	9.8	17.9	18.4	n.a
4	583	977	1,656	2,057	3,492	5,008	13.2	27.8	29.5	n.a
5	548	1,009	1,653	2,287	4,330	6,255	16.4	22.8	22.7	n.a
6	576	1,102	1,997	2,769	5,058	7,893	14.1	11.8	9.7	n.a
7	611	1,131	2,117	3,195	6,025		12.7	5.3	4.0	n.a
8	600	1,240	2,539	3,408	7,053		9.6	2.1	1.3	n.a
9	643	1,172	2,527	3,724	7,313		7.6	0.9	0.6	n.a
10 or more	869	1,620	2,830	3,424	8,756		11.8	0.7	0.4	n.a
<b>Total</b>	<b>591</b>	<b>1,066</b>	<b>1,724</b>	<b>2,213</b>	<b>3,829</b>	<b>5,262</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>n.a</b>

## 2.2 Income Growth by Income Group

All income groups of the employed households showed significant income growth per household member in real terms in the past decade. However, the income growth of the **topmost quintile (6-11%) was almost double that of the lowest quintile (3-4%)** <sup>[2]</sup>. The growth trends for the average monthly household income by income group are presented in Table 4 from the Occasional Paper on Income Statistics published by DOS in February 2008.

**Table 4: Average Monthly Household Income from Work per Household Member among Employed Household by Deciles; Source: Occasional Paper on Income Statistics by DOS, Feb 2008**

Decile <sup>1</sup>	Average Household Income from Work Per Household Member (Nominal)			Real <sup>2</sup> Annual Change (%)		
	2005 (\$)	2006 (\$)	2007 (\$)	2005	2006	2007
Total	1,820	1,950	2,140	4.1	5.7	7.4
1 <sup>st</sup> – 10 <sup>th</sup>	270	300	310	-2.6	6.6	3.3
11 <sup>th</sup> – 20 <sup>th</sup>	510	540	570	0.8	5.2	3.6
21 <sup>st</sup> – 30 <sup>th</sup>	700	750	790	1.3	5.6	3.5
31 <sup>st</sup> – 40 <sup>th</sup>	900	960	1,010	2.6	4.6	4.0
41 <sup>st</sup> – 50 <sup>th</sup>	1,120	1,180	1,260	3.3	4.2	4.7
51 <sup>st</sup> – 60 <sup>th</sup>	1,390	1,460	1,560	3.7	3.9	4.7
61 <sup>st</sup> – 70 <sup>th</sup>	1,720	1,800	1,950	4.0	3.6	6.0
71 <sup>st</sup> – 80 <sup>th</sup>	2,190	2,310	2,500	4.3	4.4	6.5
81 <sup>st</sup> – 90 <sup>th</sup>	3,000	3,190	3,460	4.8	5.7	6.0
91 <sup>st</sup> – 100 <sup>th</sup>	6,440	6,990	7,940	5.7	8.0	11.1

Faster growth in high-income households compared to low-income households

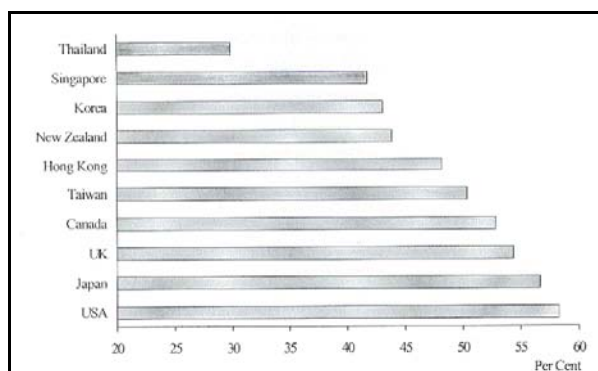
1 All employed households are ranked by their household income from work per household member in ascending order and then divided into ten equal groups or deciles.

2 The Consumer Price Indices for the lowest 20%, middle 60% and top 20% of households are used for computation.

### 2.3 Wage share of GDP

Based on statistics published by DOS in 2007, Asher and Nandy (2008) have found that the share of wages in GDP has declined from 47% in 2001 to 41% in 2006.

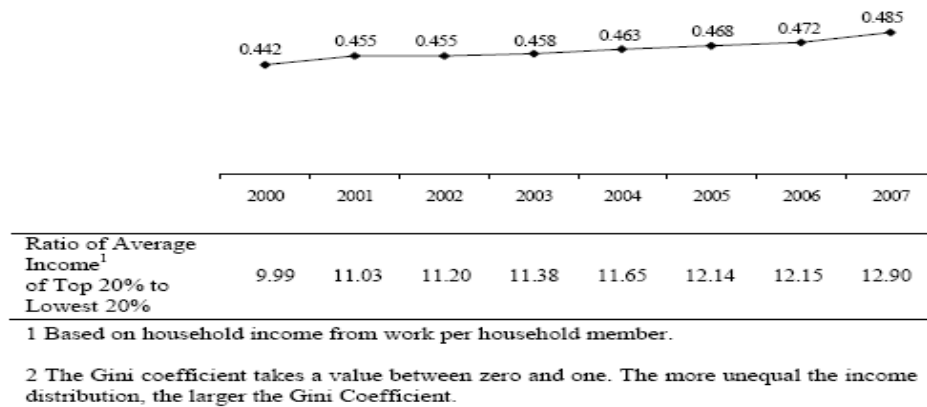
Correspondingly, the share of capital has increased. Capital income, by its nature is more unequally distributed<sup>[4]</sup>. Thus, a rising share of capital income implies increasing income inequality leaving low and middle income households with constrained consumption capacity. Also, Soon and Ong in 2001 showed (Figure 5) that the wage share of GDP in Singapore is lower than other Asian NIEs (South Korea, HK & Taiwan) and considerably lower than that of many developed economies (Japan, US and UK)<sup>[1]</sup>.



**Figure 2: Wage Share of GDP; Source: Soon and Ng (2001) from Income Distribution in Singapore by Chia & Chen [1]**

## 2.4 Gini Coefficient

- a. Several studies have been done on the Gini coefficient, which is the traditional measure of income inequality. Pang (1975) and Rao and Ramakrishna (1980) found that Gini coefficients declined between 1966-1973 and 1966-1975 but it has grown continuously after that. The 2007 DOS report shows **Gini coefficient rising from 0.436 in 1990 to 0.467 in 1999 and still continuing on its rising path to reach 0.485 in 2007** (Figure 3).



**Figure 3: Gini coefficient among employed households; Source: Occasional Paper on Income Statistics by DOS, Feb 2008**

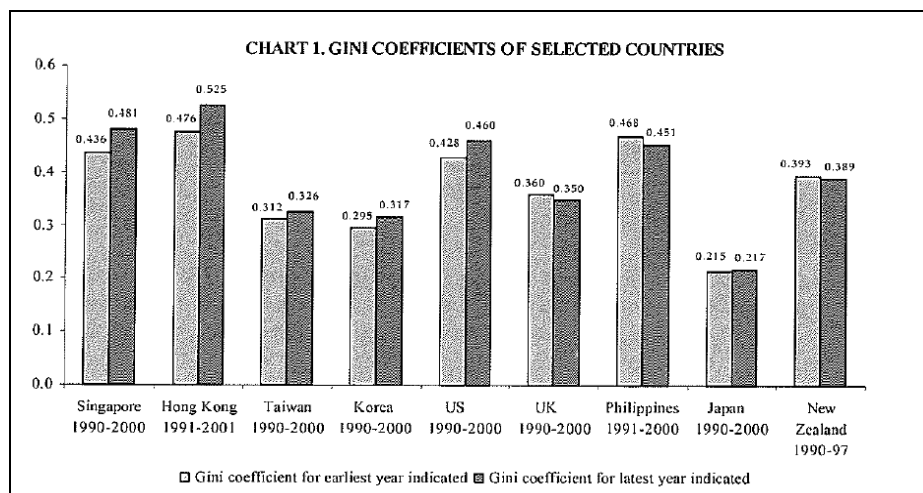
- b. During the financial crisis, income inequality worsened in 1999 due to the overall economic slowdown that resulted in higher unemployment and then re-employment at lower wage rates after National Wage Council intervened <sup>[1, 4]</sup>.

# Causes of Income Inequality in Singapore

Income inequality consistently increased as Singapore gained affluence, with the exception of the short era of 1980s. Surely, this trend has been partly shaped by globalization. What were the other forces that caused income disparity in Singapore to proliferate deeper and faster than elsewhere? Was it Singapore’s unique pattern of growth or are there any government policies to blame? A closer look into the economic progress and the underlying strategy uncovers causes of deepening income rift in Singapore.

## 3.1 Globalization & its impact on Pattern of Growth in Singapore

The widening disparity in Singapore was roughly inline with the trends observed in other growing economies like US, Taiwan, Hong Kong. However, in terms of magnitude, Singapore & Hong Kong were more severely effected (Figure 4). The mass transition of economies to knowledge based economies seems to have caused this general trend <sup>[3]</sup>. Skilled workers were able to exploit career and business opportunities in the globalized world; thus enjoying faster income growth than those who were un/semi-skilled <sup>[5]</sup>.



**Figure 4: Trends in income inequality across selected countries; Source: Income Inequality paper by DOS, 2002**

However, what intensified the problem for Singapore was its unique pattern of growth as it facilitated rapid segregation of wages. In the 1960s and 1970s, Singapore's industrialization strategy focused on labor intensive manufacturing for the export market. Manufacturing of garments, food products and electronic assembly could absorb a large share of semi-skilled and unskilled workforce. Given the small size of domestic market, Singapore did not pursue import substitution rather developed into an open, export-oriented manufacturing house. This attracted foreign direct investment which played a crucial role in providing industrial capital, industrial technology and export marketing capability. As a result, Singapore economy enjoyed double digit growth and unemployment and poverty incidence declined [8]. This was the time when workers in manufacturing industry enjoyed the highest pay packages (Figure 5a and 6a) . Income distribution improved during this period (Table 1) [11].

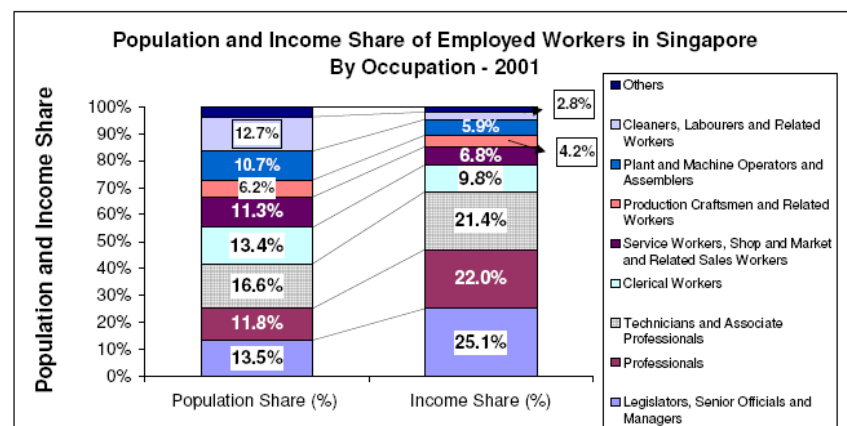
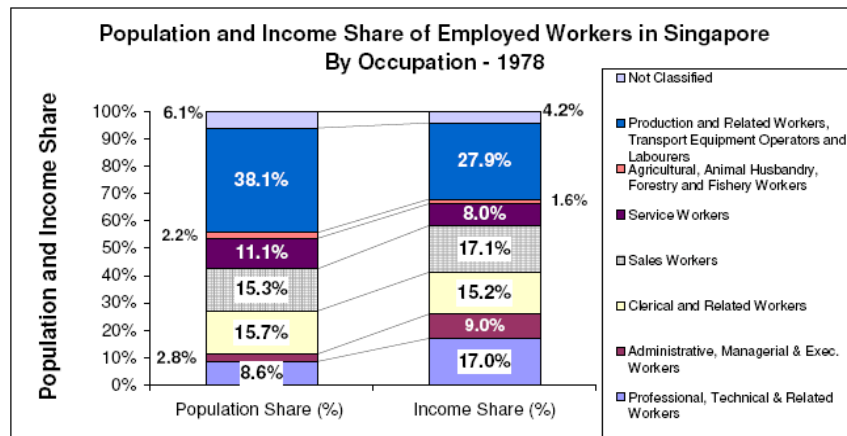


Figure 5a and 5b: Comparison of Income Share of Employed Workers by Occupation between 1978 and 2001; Source: Chia & Chen, 2003

The outlook changed in 1980s. Facing a tight labor market, Singapore aggressively embarked upon the strategy of economic restructuring and upgrading skills. This sudden transition was

largely induced by government policies and directed investments. There was a strong impetus to move towards a knowledge based economy with value added manufacturing and services (such as finance) as the two engines for growth. Educational institutions increased intake in Electronics and Finance, high-tech firms/ banks were provided tax incentives and government statutory boards such as EDB were set-up to propel Singapore into the new era. Thus, the Singapore transition happened at a much faster pace than in other countries like US, whose economies evolved slowly in response to market dynamics. In this fast paced, knowledge oriented age, employment opportunities for the highly skilled expanded rapidly while the unskilled and semi-skilled found themselves confronted with not only structural unemployment but also little time to adapt to the changing needs of the economy<sup>[10]</sup>. This increased the earnings gap between the highly skilled and the unskilled and pushed employees of the services sector to the high earning bracket as seen in Figure 5b & 6b.

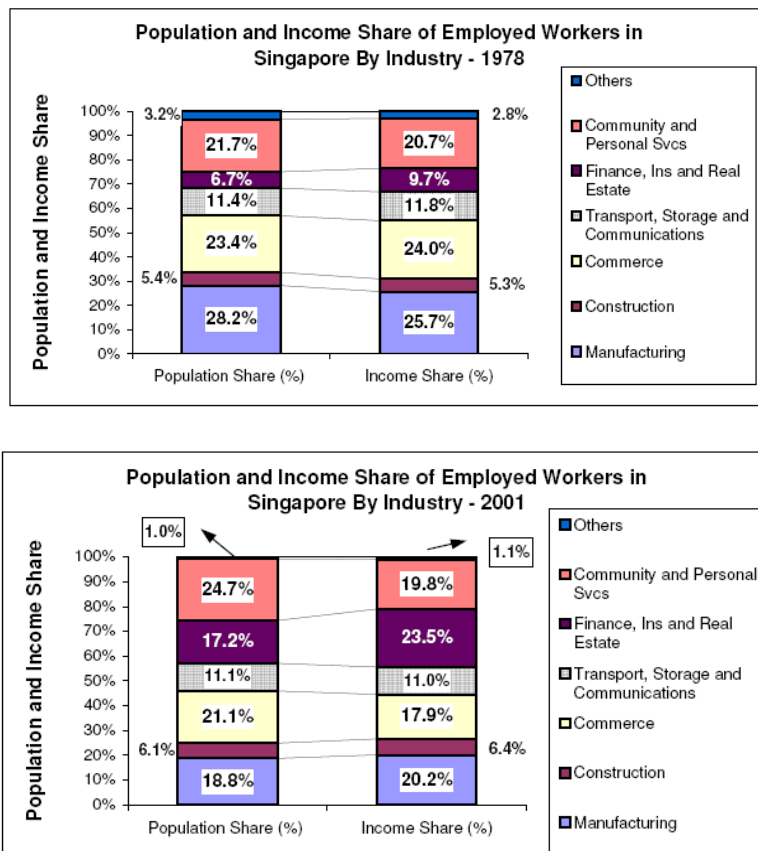


Figure 6a and b: Figure 5a and 5b: Comparison of Income Share of Employed Workers by Industry between 1978 and 2001; Source: Chia & Chen, 2003

### 3.2 Policy of Meritocracy

The state strongly upholds meritocracy, and only provides education and growth opportunities to its deserving citizens so that they achieve greater goals for the society (in line with the Confucian principle). As a result, individual economic well-being is entirely dependent upon an individual's capability and hard work with limited or no support from the government. This meritocracy principle has affected the societal dynamics in two ways:

- a. Labor markets in Singapore separate skilled & well-paid from the unskilled & low-paid by increasing sharpness. From 2000-2006 incomes for the top 10% of resident households grew over 8% while incomes for the bottom 10% of wage-earning households shrank (Table 5). The premium for educational performance and credentials premium has become higher than ever before (Figure 7) <sup>[11]</sup>.

**Table 5: Annual Change in Real (2000 Dollars) average Monthly Income of Households from Work; Source: Occasional Paper on Income Statistics by DOS, Feb 2008**

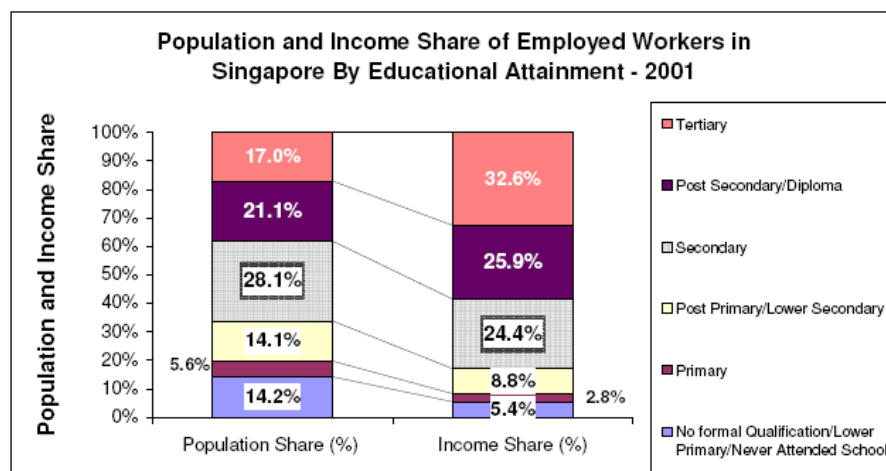
Decile <sup>1</sup>	Average Monthly Household Income from Work (\$)					Annual Change in Average Monthly Household Income (%)				
	1995	2000	2005	2006	2007	1995 - 2000	2000 - 2005	2004 - 2005	2005 - 2006	2006 - 2007
Total	4,550	5,410	5,830	6,010	6,420	3.5	1.4	4.1	3.2	6.9
1 <sup>st</sup> - 10 <sup>th</sup>	1,130	1,270	1,080	1,080	1,100	2.1	-3.2	-0.8	-0.4	1.9
11 <sup>th</sup> - 20 <sup>th</sup>	1,840	2,060	1,940	1,960	2,020	2.2	-1.1	1.3	1.0	3.0
21 <sup>st</sup> - 30 <sup>th</sup>	2,360	2,730	2,750	2,760	2,870	3.0	0.1	3.7	0.6	3.8
31 <sup>st</sup> - 40 <sup>th</sup>	2,930	3,340	3,450	3,320	3,700	2.7	0.6	1.7	2.0	5.0
41 <sup>st</sup> - 50 <sup>th</sup>	3,500	4,030	4,280	4,310	4,600	2.8	1.2	6.7	0.5	6.9
51 <sup>st</sup> - 60 <sup>th</sup>	4,150	4,800	5,080	5,260	5,510	3.0	1.1	3.3	3.5	4.9
61 <sup>st</sup> - 70 <sup>th</sup>	4,910	5,690	6,230	6,200	6,680	3.0	1.8	7.3	-0.5	7.8
71 <sup>st</sup> - 80 <sup>th</sup>	5,940	6,830	7,480	7,710	8,230	2.9	1.8	6.2	3.1	6.8
81 <sup>st</sup> - 90 <sup>th</sup>	7,030	8,540	9,830	10,210	11,020	4.0	2.9	4.1	3.9	7.9
91 <sup>st</sup> - 100 <sup>th</sup>	11,250	14,840	17,280	18,440	19,920	5.7	3.1	3.4	6.7	8.1

<sup>1</sup> All employed households are ranked by their household income from work per household member in ascending order and then divided into ten equal groups or deciles.

<sup>2</sup> The Consumer Price Indices for the lowest 20%, middle 60% and top 20% of households are used for computation.

- b. Similar to the labor markets, Singapore's schools demonstrate a strong bias to the cognitive elite. For marginal students, the choice of education is relatively limited. For instance, students who are clearly university-bound, and could do well in a less structured environment have the choice of IP. IP schools take in the top 6 percent of each cohort. For the less academically able who are unable to enter polytechnics or university based on

state wide examination, the only alternative is to enter the Institute of Technical Education (ITE) after their secondary education <sup>[12]</sup>. As the job market rewards strongly in favor of educational accomplishments, such vocational and technical training is not held in high esteem in Singapore, unlike other countries like South Korea. Technical institutes are viewed as ‘dumping grounds’ or ‘catch-nets’ for those who failed to meet up with academic rigor. This favoring of the top 10% & limiting options for the rest is resulting in ‘**trained incapacity**’ in Singapore’s work, thereby exacerbating the income divide <sup>[11]</sup>. Well-educated parents provide better opportunities, encouragement, exposure and developmental support to their children. As a result, children of these well-to-do Singaporeans enter better schools, gain university education, benefit from IP like study options and hence continue to command high salaries; which vary strongly with educational credentials (Figure 7). Thus, while the families of cognitive elite enter an upward spiral, the progress of the down-trodden is limited at each step pushing them into a downward spiral <sup>[12]</sup>.



**Figure 7: Income Share of Employed Workers in Singapore by Educational Attainment - 2001; Source: Labor Force Survey 2001 available in Chia & Chen, 2003**

The utilitarian ideal of meritocracy has not earned Singapore a reputation of transparency and capability. So long as the economy was growing and there were jobs for all there was less resistance to structural inequality in the education system. But in a much more volatile economic environment, and indeed one that is said to value innovation, creativity and risk taking, it can be argued that limiting options for large numbers of school goers is subtly distorting the social fabric by creating two extremes that may never meet until the government intervenes with some form of affirmative action.

### 3.3. Policy towards foreign workers

Since the mid-1970s Singapore has become increasingly dependent on foreign labor to fuel its high growth and competitive position. In later years (1990's), foreign workers were welcomed with even greater gusto to address falling fertility rates as well as to steer Singapore's transition into a knowledge based economy. The foreign workers in Singapore tripled between 1990 to 2005 to constitute nearly 30% of the labor force<sup>4)</sup> (Table 6).

**Table 6: Population Composition of Singapore in thousands and % over last 15 years; Source: Chua, 2007 available in Asher and Nandy, 2008**

	1990	2000	2005
Total population	3,047 (100.0)	4,018 (100.0)	4,351 (100.0)
Citizens	2,624 (86.1)	2,973 (74.0)	3,113 (71.5)
Permanent Residents	112 (3.7)	290 (7.2)	441 (10.1)
Non-resident population	311 (10.2)	754 (18.8)	798 (18.3)

Foreign labor is allowed into the country under two schemes - employment passes for professionals and managers, and work permits for semi-skilled and unskilled workers in manufacturing, construction and services. The managers and professional personnel in MNCs based in Singapore come from developed countries like Japan, Western Europe and North America. They are paid expatriate salaries which reflect their remuneration in their home countries. This has a spill-over effect of raising the remuneration packages of local managers and professionals working in the MNCs and other business firms. At the lower end, the unskilled and semi-skilled foreign workers come from developing or under-developed nations like India, Sri Lanka, Bangladesh and Philippines. They are paid lower wages than their counterpart Singaporeans, although much higher than the wage levels of their less developed home countries. Thus, the large pool of foreign semi-skilled and unskilled workers has kept the salaries of this income segment low.

### 3.4 Changes in Taxation Policy

In concept, the individual tax system in Singapore is progressive such that low-income households do not pay any tax and at the same time receive subsidized governments services, while the high earners pay progressively higher tax. Thus, the disparity in post-tax (or real income) is much lower. However, changes in the tax structure in the past decade or so have reduced this equalizing effect of Singapore's taxes.

- a. Singapore has never taxed capital gain. Even the estate duty has been abolished in 2008 under the rationale of, firstly, encouraging thrift and secondly, discouraging wealth transfer to other countries to avoid taxation <sup>[16]</sup>. Thus, the rich can now transfer most of their wealth to the next generation. This raises the asset incomes of the richer class, thus causing a rub-off effect on income inequality.
- b. Although the personal income tax rates remain progressive, they have declined over the past years to once again, encourage savings ethics. Currently the marginal tax rate (Table 7) is 3.5% on annual income of S\$30,000, rising to the maximum marginal tax rate of 22% on annual income above S\$320,000. This is a decline from the tax rates in 2003-05 (Table 8). This reduction in the personal tax base benefits the higher income groups more the lower income segment. This is further exemplified by the exemption of interest income from income tax.

**Table 7: Marginal Income Tax rates - 2007;**  
**Source: IRAS Website**

Chargeable Income	Rate (%)	Gross Tax Payable (\$)
First \$20,000 Next \$10,000	0 3.50	0 350
First \$30,000 Next \$10,000	- 5.50	350 550
First \$40,000 Next \$40,000	- 8.50	900 3 400
First \$80,000 Next \$80,000	- 14	4 300 11 200
First \$160,000 Next \$160,000	- 17	15 500 27 200
First \$320,000 Next \$320,000	- 20	42 700

**Table 8: Marginal Income Tax Rates - 2003-05;**  
**Source: IRAS Website**

Chargeable Income	Rate (%)	Gross Tax Payable (\$)
First \$20,000 Next \$10,000	0 4	0 400
First \$30,000 Next \$10,000	- 6	400 600
First \$40,000 Next \$40,000	- 9	1000 3 600
First \$80,000 Next \$80,000	- 15	4 600 12 000
First \$160,000 Next \$160,000	- 19	16 600 30 400
First \$320,000 Next \$320,000	- 22	47 000

c. In an effort to encourage business enterprise, including foreign enterprises, the corporate income tax has been progressively reduced over the years, from over 40% in the 1960s to 18% currently. To offset the reduced dependence of government revenue on direct corporate and personal income taxes and to broaden the revenue base, the government introduced the Goods and Services Tax (GST) in April 1994 – a consumption tax on all goods and services other than sale/ lease of property and financial services. With further reduction in corporate and personal income tax, the government made up by progressively increasing the GST from 3% to 4% in January 2003, 5% in January 2004 and to 7% in June 2008.

Like any other direct consumption tax, GST is regressive in nature. It equally affects all consumption baskets (rich and poor), thus undermining the equalizing role of the taxation policy. Even the GST offset packages do little to ease the pain of the low/ middle income households. The cumulative effect of decreasing personal and corporate taxes and increasing GST has led to preponderance of income inequality.

This deep dive thus suggests that though income divide was definitely a spillover of Singapore's high growth, its Educational, Fiscal and Manpower policies are also share some blame for exacerbating the problem.

# IV Consequences of Income Inequality

It is clear that Singapore's very own policies favor Income Inequality. These same policies are also pivotal to Singapore's high growth strategy and competitiveness. So, is the impact of income inequality on the Singapore economy and society significant enough to put these policies to scrutiny? How large are the benefits and ill-effects of rising disparities for Singapore?

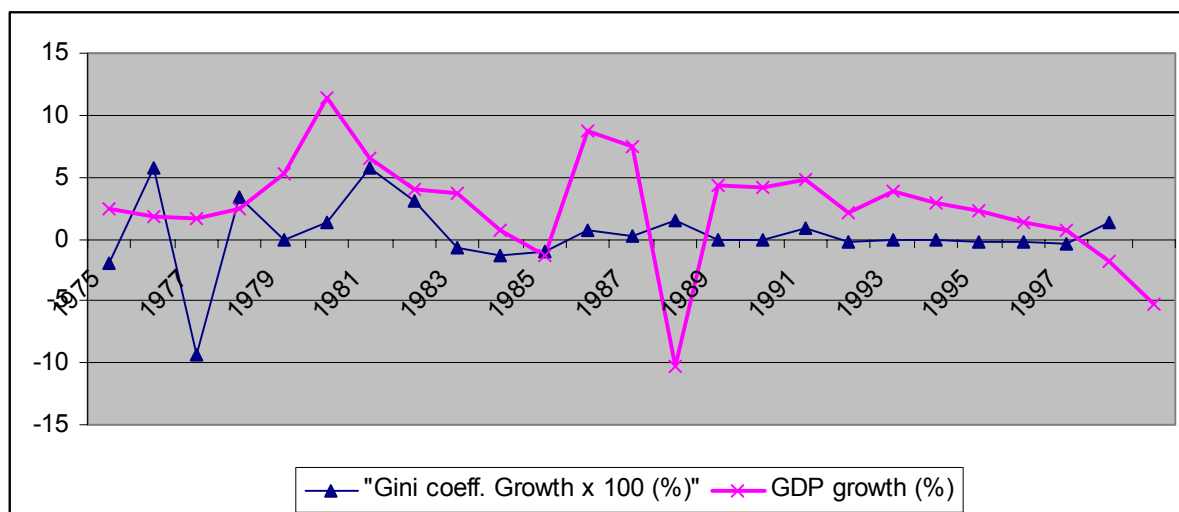
## 4.1 Impact on Growth

Traditionally, studies of the relationship between aggregate economic activity and income distribution emphasized the link from output to the distribution of income. Simon Kuznets (1955) hypothesized that as countries developed, the degree of inequality initially increased and then fell i.e. they follow an inverted-U, which has become famous as the "Kuznets curve." Kuznets' result was also held in high esteem in Singapore, which is known to even encourage perpetrators of income inequality to foster growth.

However Kuznet's work was based on a sample of only a few data points from three countries (the United States, the United Kingdom, and Germany). More comprehensive studies, find little evidence of a Kuznets curve in the data. Klaus Deininger and Lyn Squire (1996) analyzed their new comprehensive and carefully constructed data set on inequality. They found that out of 88 spells of decade-long growth, inequality improved only in 45, while it worsened in the remaining 43 of them. In most of the cases, the changes in inequality were relatively small and they were uncorrelated with initial income <sup>[9]</sup>.

A similar non-conclusive result is obtained for Singapore as well. The plot of y-o-y GDP growth versus the growth in Gini coefficient (as calculated by Mukopadhyay, 2001; available in Chia and Chen, 2003) does not exhibit a common trend (Figure 8). The two series move

independently of each other. Thus, the widely believed notion that income inequality fostered high growth in Singapore does not stand.



**Figure 8: Trends in GDP growth and Gini coefficient for Singapore; Data Source: Gini coefficient as calculated by Mukopadhyay in 2001 & GDP growth rate from Year Book of Statistics, DOS**

#### 4.2. Income Inequality creates Price Distortion

Robert H. Frank of Cornell University, in an essay in the new book ‘Inequality Matters’, highlights the existence of “spending cascades,” linked to uneven distributions of income, “in which top earners...initiate a process that leads to increased expenditures on those down the line, even among those whose incomes have not risen.” When the income of the wealthier households rises at a fast pace in comparison to the rest of the segments, their spending spree results in an “expenditure cascade”, which creates higher demand for bigger and better homes or safer cars, even going to the extent of creating new standards for those lower down on the economic scale. However, for the rest, incomes are not growing fast enough to keep up, leading to “welfare loss.” Frank sites housing markets as particular instances of this effect arguing that “median house prices depend not only on median incomes, but also on income inequality” – that is, greater degrees of inequality may push up housing prices”<sup>[9]</sup>.

This analysis is not far from the real-estate boom that we are currently witnessing in Singapore. With HDB prices shooting through the roof, even the middle income group is having a difficult time funding their haven. (Fortunately, the Singapore government provides significant housing subsidies to the very poor and it is this generous gesture that saves us

from seeing the crippling effect of rising property prices in Singapore.) A further increase in property prices will bring a vast majority of households under financial stress to provide a solid life for their families. This will leave them less inclined to pay for public services such as highway maintenance, port security and food inspection, thus initiating the break-down of today's efficient city state, with a grievous blow to Singapore's competitiveness. With average salary increase of only 4.8% in 2007 <sup>[18]</sup> and inflation as high as 6.6% in January 2008, largely caused by the real-estate boom, Singapore may already be rolling into this price distortion trap at a fast pace.

### **4.3. Religious and Racial Instability (Potential Risk)**

An alarming aspect of the income inequality issue in Singapore is the associated racial bias in the income bands. Studies (Lim, Chong Yah, Poor in Singapore and Chia & Chen, 2003) have shown that Malays form the lowest societal strata in terms of income distribution (Table 9). This is despite constitutional acknowledgement of "special position" of Malays as the indigenous people of Singapore <sup>[10]</sup>.

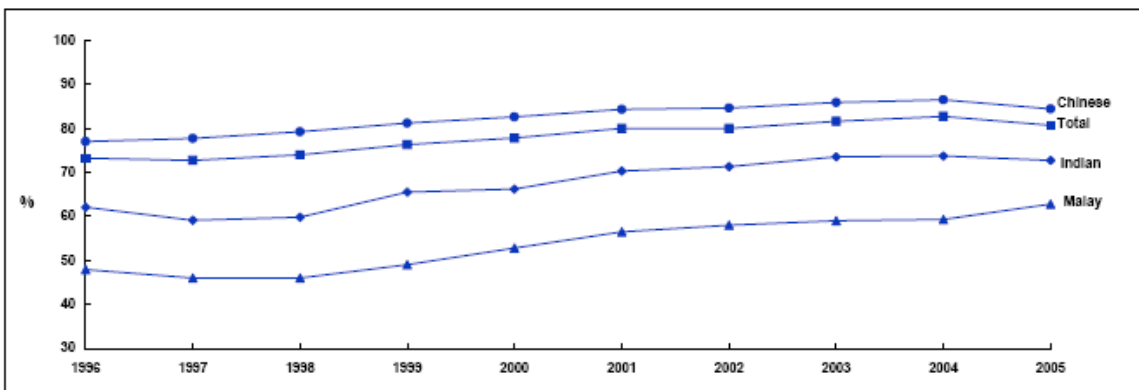
The government concentrates on meritocracy - creating equality of opportunity, especially in education; and leaves results to individual capability. So far, most Malay Muslims come from low-educated, poor families. Their younger generations thus enjoy fewer developmental opportunities. Result, they continue to perform poorly in schools (Figure 9 shows the poor pass percentage of Malays in secondary schools), eventually ending-up in low paying jobs. Thus, the Malay Muslim community is finding it difficult to break-free from the low income trap. This breeds discontent. This is further aggravated by the fact that, instead of providing a helping hand, the government openly links Malays' lag in economic and educational achievements to the "backwardness" of Malay culture which holds on to feudalistic values and lacks the spirit of hard work <sup>[9]</sup>. Additionally, the war on terrorism and anti-Islamic sentiments of the western media fuel the existing vulnerability.

If such dissatisfaction is allowed to grow unabated, it can spark racial/ religious strife, resulting in riots in the multi-racial, multi-religious Singapore society. In this regard, ample evidence is provided by the Thailand riots of 1940s, 1960s, 1980s and 2001 when the poorer Malay-Muslims south of Bangkok clashed with economically well-off Thai Buddhists of the north. Croissant (2001) has identified economic deprivation, ethnic differences and feeling of

neglect as the key triggers for these riots <sup>[19]</sup>. In post 9/11 world, the possibilities of such social discord are higher than ever before, and there is a lot at stake for a service oriented economy like Singapore.

**Table 9: Household Income by Races - Malays form the lowest strata. They also have the largest household size, thus further reducing the income per individual; Source: DOS, 2000**

	Total		Chinese		Malays		Indians		Others	
	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000
<i>Labour Force</i>										
Average Monthly Income from Work (S\$)	1,510	3,114	1,582	3,237	1,099	2,040	1,373	3,093	2,113	5,349
Median Monthly Income from Work (S\$)	1,094	2,234	1,139	2,335	954	1,790	1,011	2,167	1,418	3,019
<i>Households and Housing</i>										
Average Household Size (Persons)	4.2	3.7	4.2	3.6	4.7	4.2	4.2	3.7	3.8	3.4
Average Monthly Household Income	3,076	4,943	3,213	5,219	2,246	3,148	2,859	4,556	3,885	7,250
Median Monthly Household Income	2,296	3,607	2,400	3,848	1,880	2,708	2,174	3,387	2,782	4,775



**Figure 9: Pass in 'O' level by ethnic group; Source: MOE, 2007**

#### 4.4. Social Instability: Increased sense of insecurity & vulnerability (Potential Risk)

A study done by Journal of Public Health in US determined that: “Individuals living in high-income-inequality states were at increased risk of mortality...compared with individuals living in low-income-inequality states.” Recent research by Susan Mayer at the University of Chicago also found evidence that growing gap in college enrollment in US among low and upper income families is largely due to income inequality. Furthermore, areas with higher incidence of income inequality higher personal bankruptcy rates and divorce rates <sup>[8]</sup>.

Though, no similar empirical evidence is available for Singapore, there is a high possibility that the city-state may face similar societal turmoil if income inequality continues to grow unabated.

#### **4.5. Self-perpetuating effects of Income Inequality (Potential Risk)**

Perhaps one of the greatest concern is that income inequality may be self-perpetuating i.e. difficult to reverse. If the households who are lagging in the economic race also fall behind in obtaining right education for their children, this trend would be difficult to reverse (a phenomenon currently being witnessed among the Malay Muslims). Given Singapore's policy of meritocracy, children of uneducated families in the lowest quintile attend poor quality schools, do not attend universities and end up low-paying jobs. This reinforces income inequality and the trend perpetuates. On the other end of the economic spectrum are the high-income families who are advantaged by the upward spiral. In due course, they may become wealthy enough to purchase private substitutes for public goods and withdraw political support for public investments in schools and social insurance systems that benefit the poor <sup>[9]</sup>.

#### **4.6 Poverty**

Income Inequality, in its extreme form results in poverty. Thus, to complete the discussion on income inequality, it is necessary the look at that facet of Income Inequality that matters most and has the gravest consequences.

With economic progress, the incidence of poverty has dropped dramatically, so that the poor form only a small minority in Singapore. The lower income households in Singapore live in owner occupied apartment blocks built by the government through the Housing and Development Board. Studies of the low-income households show not only overwhelming home ownership but also ownership of television sets, refrigerators and telephones.

In 1991, the Population Planning Unit set the absolute poverty line at S\$510 for a four-person household living in a one room flat. An estimated 38,000 households fell below this minimum household expenditure level. Goh (1991) found that based on an average household

size of 4.1 persons, about 5% population or 155,800 persons, were in economic distress and living in poverty. Poverty in Singapore, however, is largely hidden behind the doors of Housing Development Board (HDB) flats. It is not the crushing poverty of some cities, where masses of homeless sleep in the streets or beg for food. The poor households in Singapore are those of the elderly retired without savings and assets; or households with young children and no earning members; and those with mental and physical disabilities. These poverty groups and individuals depend on government agencies as well public charities for their survival. Thus, it may seem that despite a growing incidence of income inequality, Singapore has largely been able to tackle the problem of poverty, at least at the moment.

However, the situation may once again deteriorate in future. A national survey done by the government in 1991 found that 31.1% of men and 73.5% of women above the age of 55 have no personal income. Further, more than 55% of those surveyed had no savings and 44.2% were facing financial problems post-retirement. These financial problems are expected to multiply in the next decades as the proportion of elderly (majority with limited CPF savings) increases, with elderly women experiencing more financial insecurity and poverty than men due to their longer life expectancy and lesser savings. Fortunately, the Singapore government is already taking first steps to prevent such catastrophe. These have been discussed in detail in the next section on Recommendations and Policy Options.

Hence, a deep-dive into the consequences of income inequality strongly suggests that rising income disparity could rob Singapore of the very factors – rule of law, order and efficiency that enabled Singapore to become a vibrant financial hub and technology centre within four decades. To save all that has been achieved, it is necessary that the state acts, acts now!

# V Policy Options & Recommendations

Remedies, in the form of public policies are available to address the ills associated with income inequality. By installing policies that create an equitable income distribution and by simultaneously strengthening the social security system, the Singapore government can create a society where everyone benefits from their contributions to economic growth.

In this section, some of these policy options have been explored. A short assessment of new government policies for reversing this trends or at least minimizing its consequences has also been presented, where relevant.

## 5.1 Taxation

As discussed in section 3.4, recent changes in the tax structure (lower tax rates for high income groups and zero tax on capital games) has reduced the impact that taxation had on lowering income inequality. As a remedy:

- a. The government could re-instate the progressive tax regime that was doing its bit to equalize income inequality. Other options would be to adopt the graduated rate structure found in the federal income tax for US, which shifts greater responsibility for taxes on to those whose incomes have risen the fastest. At the same time, lower income groups benefit from refundable earned income tax credit (EITC). Obviously, this option demands further research and feasibility study. The key argument here is that Singapore could learn from the policy options adopted by other countries such as the US and Canada which have been able to deal with income inequality in a slightly better way, despite robust growth <sup>[9]</sup>

- b. Another efficient taxation mechanism could be a ‘means based tax’ system, where individuals are taxed based on their assets and expenses, instead of their income. This would be like a progressive GST (good and services tax) where taxes vary by products, example possession of luxury goods (hi-tech consumer goods, jewels etc) and use of expensive services (such as golfing) could be subject to a higher tax rate than essential goods. This product based tax regime is not new to Singapore, which already imposes more than 100% tax on vices (cigarettes and alcohol) and cars. The drawback here is that a product based tax regime would increase the complexity of the tax system, thereby increasing the burden of tax collection. A deeper analysis is hence required to quantify the merits (reduction in income inequality and generation of funds to set-up a broader social security net) and the incremental cost to the economy (tax collection burden and potential disincentive for foreigners wanting to work in Singapore)

## 5.2 Wage Policies

One part of solution to the income inequality problem could come from instituting a minimum wage (Currently, Singapore does not have a minimum wage policy). Research done in the US has demonstrated that decline in the real value of federal minimal wage significantly increased income inequality among the low-wage workers. At the same time, increases in the minimum wage have mitigated income inequality in the same segment. More specifically, David Lee, Assistant Professor of Economics at the University of California, Berkeley found, that “a great majority of the observed growth in inequality in the lower tail of the (wage) distribution is attributable to the erosion of the real value of the federal minimum wage rate during the 1980s”<sup>[9]</sup>. Thus, establishing a minimum wage could tremendously help the unskilled, low-income group in two ways – firstly, partially mitigating the present income inequality problem and secondly, enabling this segment to save for their retirement and future needs.

Contrary to this runs the unemployment argument. The Singapore system has always emphasized full employment rather than income maintenance, and a potential minimum wage could deter employers from hiring the un/ semi -skilled workers, something that was observed in the years of economic recession when the National Wage Council intervened and reduced wages to ensure employment for all (or most). However, considering that Singapore economy is growing at a robust pace and generating enough jobs to not only employ semi-skilled workers from within the country but also from overseas, there is

reason to believe that there is definite demand for the semi/ un-skilled workforce in Singapore.

### 5.3 Social Security

Broader public assistance programs combined with risk pooling by the government in CPF system are potential levers to alleviate the ill-effects of income inequality. A detailed discussion on current status, recent achievements and further policy options is presented below:

- a. **Public Assistance Programs:** Singapore's anti-poverty program, for poverty alleviation and retirement income protection consists of an extremely limited public assistance scheme and a self financing Central Provident Fund (CPF). This is also evident from the fact that in 1995 Singapore's expenditure on welfare related programs accounted for 2% of government expenditure <sup>[4]</sup>. Despite being transformed from an undeveloped to an affluent society in a relatively short period of 40 years, Singapore continues to practice the provident-fund strategy for providing social security, a strategy used by the Third World countries only. Even under the public assistance program, the government provides only for those who are in extreme need to avoid misuse of tax-payer's money. Furthermore, Dixon (1986), Asher (1991) and Ramesh (1992) explain that these stringent criteria defining 'extreme need' are expensive and difficult to implement <sup>[6]</sup>.

As the number of old people grows rapidly after 2010, it is recommended that these assistance programs become broader, relying upon the strong fiscal, institutional and organizational capacities of Singapore government as argued by Asher and Nandy (2008) <sup>[4]</sup>. Further, the entitlement criteria should become generalized so that firstly, even those with limited knowledge of procedures and formalities could benefit from them and secondly, the government does not spend more on the transactional costs than on the actual benefits.

- b. **Workforce Income Supplement (WIS) Scheme:** To provide a holistic view, it is necessary to also highlight recent policies that play a significant role in lowering income inequity. Hence, the newly introduced WIS scheme is discussed here. Credit goes to the Singapore government for launching WIS in their 2007 budget. Under WIS, the government provides a lump-sum amount, which decreases with the wage level to employees earning between SGD 50 to SGD 1500 per month, in the cash to CPF ratio

of 1:2.5. Approximately, 438,000 workers, which constitute 18.5% of the work force, would receive payouts of upto SGD 12,000 an year for 3 years. This scheme would not only mitigate income inequality in short-run but it would also support them after they retire <sup>[4]</sup>.

- c. **CPF Scheme:** The adequacy of Singapore's CPF scheme has been argued time and again. Asher and Nandy (2008) have found it inadequate on two counts: "First, given the multiple focus of the CPF, the proportion of contributions withdrawn during the pre-retirement period is very high, averaging 82.7 per cent during the 2001-06 period. The share of contributions devoted to retirement is therefore low. In some years, discretionary policy measures have reduced the CPF contributions towards retirement to zero. Second, design and governance issues also act against the adequacy objective; and so does the tendency to use the CPF system as a short-term stabilization instrument." <sup>[4]</sup>.

A part of this adequacy issue has been resolved through the new CPF Life scheme which guarantees Singaporeans a fixed monthly allowance till death. This is a considerable improvement from the existing scheme, whose payments terminated at the age of 85, leaving elderly without any financial assistance <sup>[17]</sup>. Having said that, it is also necessary to realize that a single-tier, mandatory savings based system such as CPF Life scheme can never address inflation risks or provide disability benefits. Thus, what is needed is a multi-tier system with a mixture of contribution and benefit schemes, such that there is a higher degree of risk pooling by the government (than in the CPF Life scheme). Asher and Nandy (2008) believe that only such a multi-tier system would be adequate in relinquishing the needs of Singapore's fast-ageing society. It would also ease the vulnerability and anxiety experienced by the low-income earners about their future.

# VI Conclusion

More than forty years ago, Singapore began its quest for rapid economic development, a quest that would reap benefits for each Singaporean and the society as a whole. However, this rapid tide of growth and material wealth, favored some far more than the others. Between 2005-2007, the average income for families in the bottom decile of the income distribution rose just 3-4% while that of the topmost decile grew by 6-11%. As a result income inequality has grown markedly in Singapore, far more than most developing and developed countries which also experienced long periods of high growth. Though, globalization and the largely open nature of the Singapore economy have played a key part in creating this inequity, strong commitment to meritocracy in education, recent adaptations to the tax structure and government's manpower policies towards attracting foreign talent have further intensified the problem in recent years.

Evidence from economic research indicates that income inequality can have profound ill-effects, especially for a service-oriented economy and multi-religious society like Singapore – It creates price distortion which can push low income families into poverty. Racial bias of income inequality in Singapore could trigger social unrest. Increased sense of vulnerability may drive up mortality rates and crime. Thus inequity can rob Singapore of the very factors – law and order and efficiency, which placed Singapore at the helm of the globalized world.

Yet, inequality in Singapore is neither unalterable nor a social aspect ignored by the government. Attempts to establishing a robust security system that addresses the longevity issue have already begin with the introduction of the CPF Life scheme. WIS would also play its part in addressing income inequality in the low-wage segment. In addition, policies such as a progressive tax structure (for both income and goods and services tax) along with a minimum wage scheme could be explored to reduce inequity. Singapore could adopt a system

like Earned Income Tax Credit (EITF) with graduated tax rates, which has worked in countries like USA that have been able to deal with income inequality a little better than Singapore. These policies supported by a multi-tier social security system could turn the tide on inequality and ensure that the gains from economic growth are more widely shared.

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