

Singapore: Selected Issues

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SINGAPORE

Selected Issues

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Approved by the Asia and Pacific Department

January 21, 2005

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I. QUALITY UPGRADING AND LOW-WAGE COMPETITION¹

A. Introduction

1. **With increased competition from low wage countries in the region, Singapore is searching for different ways to stay competitive.** Singapore has countered these pressures by shifting into new industries, such as biochemical and pharmaceuticals, and by upgrading the quality of the existing product types. Some success has already been noted on the first front. For example, Singapore's exports of pharmaceuticals as a share of its total exports have increased from 1½ percent in 1989 to over 5 percent in 2003. However, the second phenomenon has received less attention primarily due to difficulties in measuring the quality-upgrading effect.² This chapter provides a measure of the size of this effect in a fairly novel way, and analyzes whether this has been due to competitive pressures from low-wage regional countries.
2. **The analysis concludes that quality upgrading is indeed taking place in some products where low-wage competitors are entering.** More generally, Singapore's exports are of a higher quality than its regional competitors and the quality gap has widened over time.

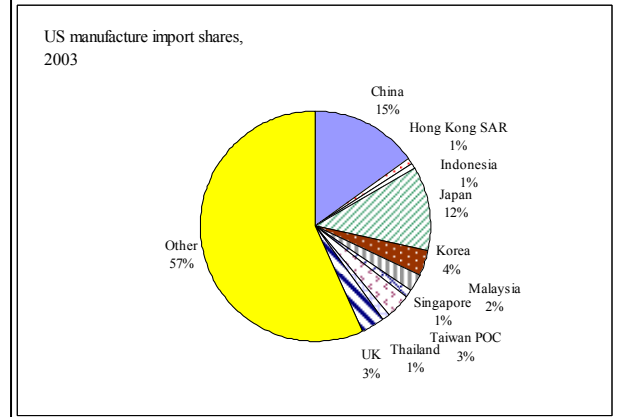
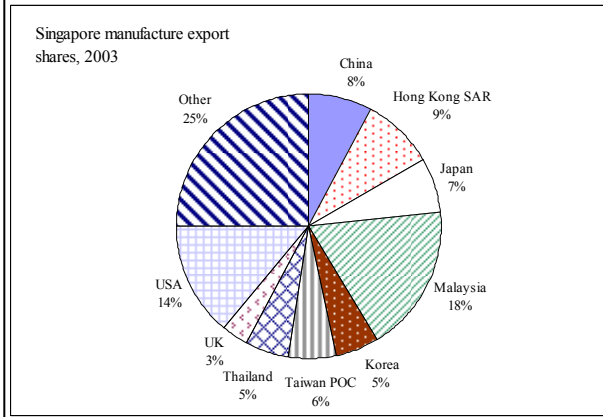
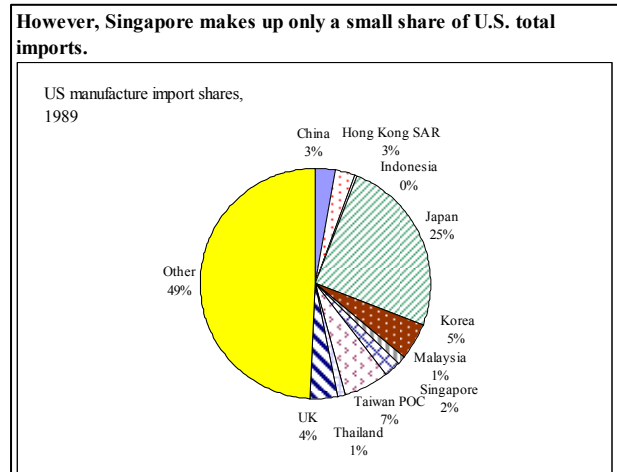
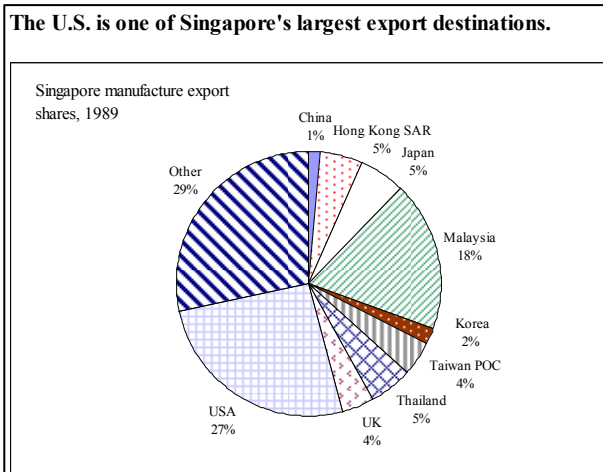
B. Research Strategy and Data Description

3. **Measuring quality differences in products is difficult.** One approach is to use differences in prices as an indicator of quality differences. This approach is feasible provided data is sufficiently disaggregated such that one is comparing similar products. If this is the case, then price differences pick up quality differences rather than simply compositional differences within a product group. However, this holds true if the markets where these products are sold are competitive. Based on this insight the following strategy is adopted to verify and quantify the quality-upgrading effect:

¹ Prepared by Mary Amiti (ext. 37767).

² According to the product cycle theory (Vernon, 1966), advanced economies are the first to introduce new products. As these products become more standardized their production shifts to low-wage countries. The advanced economies then move into newer and more advanced products or upgrade the quality of existing products (Flam and Helpman, 1987; Grossman and Helpman, 1991). The empirical literature on product cycles and quality upgrading, although thin, is supportive of these theories. See for example Feenstra and Rose (2000) and Schott (2003) on product cycles, and Schott (2002) on quality upgrading. However, none of these studies focus on Singapore.

- The analysis utilizes U.S. bilateral manufacturing trade data, which is available at an adequately disaggregated level. For some exporting countries the dataset includes information on more than 10,000 products. The analysis uses data at the SITC 10-digit level, but for brevity the results are for averages at the overall manufacturing sector level and at the 1-digit classification for SITC5 (chemicals), SITC6 (rubber, leather, paper, textiles, and metals), SITC7 (machinery including electronics) and SITC8 (apparel, footwear, and scientific) categories.
- Using this data, we examine how Singapore's exports to the U.S. compare with exports from its main trading partners, and in particular with its low-wage competitors, in similar product lines. The sample of countries includes Malaysia, Hong Kong SAR, China, Japan, Korea, Taiwan Province of China, Thailand, and Indonesia.
- As the U.S. is a sizeable final destination of exports from Singapore and its main regional competitors, if there was evidence of quality upgrading or the introduction of new products, we would expect this to show up in exports to the U.S.

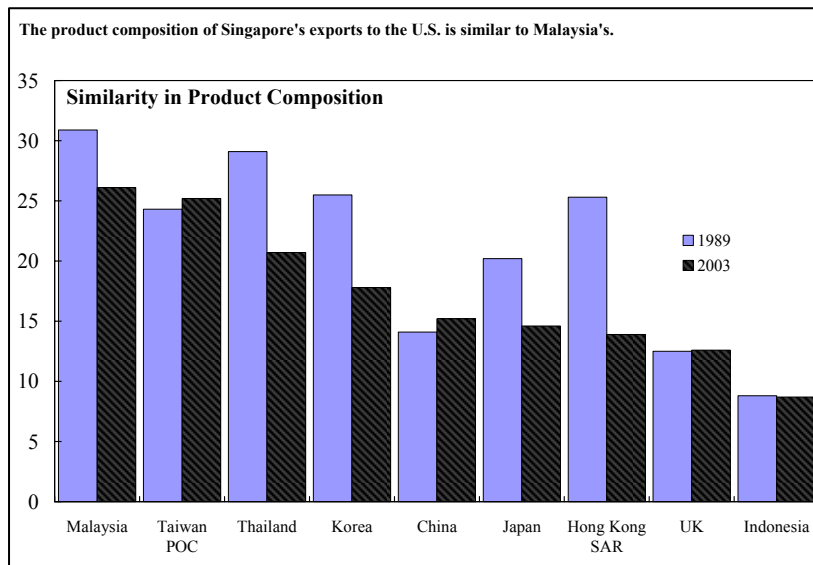


- Given that the U.S. domestic product market is highly competitive, on average, U.S. consumers would not pay a higher price for a product from Singapore than the same product from, say, China unless it was of higher quality. Thus, price-based quality differentiation should hold across most products.
- Imports from Singapore to the U.S. includes re-exports, which we are unable to separate. Since Singapore would channel some lower added export products, originating in other countries in the region, to their final markets in the US, this is likely to bias the estimates downward.

4. **The U.S. data reveals that there is some similarity in the product composition of Singapore’s manufacturing exports and its low wage competitors.** We use a variant of the Grubel-Lloyd index, defined as

$$GL_{c,t} = 100 - \left| \frac{X_{s,t}^p}{X_{s,t}} - \frac{X_{c,t}^p}{X_{c,t}} \right| / 2 * 100, \quad (1)$$

where $X_{s,t}^p$ is Singapore’s exports to the US of product p at time t , and $X_{c,t}^p$ is country c ’s exports to the U.S. of product p at time t at SITC 10 digit level. If two countries have identical product compositions in their exports to the U.S. then $GL_{c,t}=100$; whereas if they have completely different product compositions then $GL_{c,t}=0$. Thus a higher index indicates more similarity. The product composition of Singapore’s exports to the U.S. is closest to that of Malaysia and Taiwan Province of China.



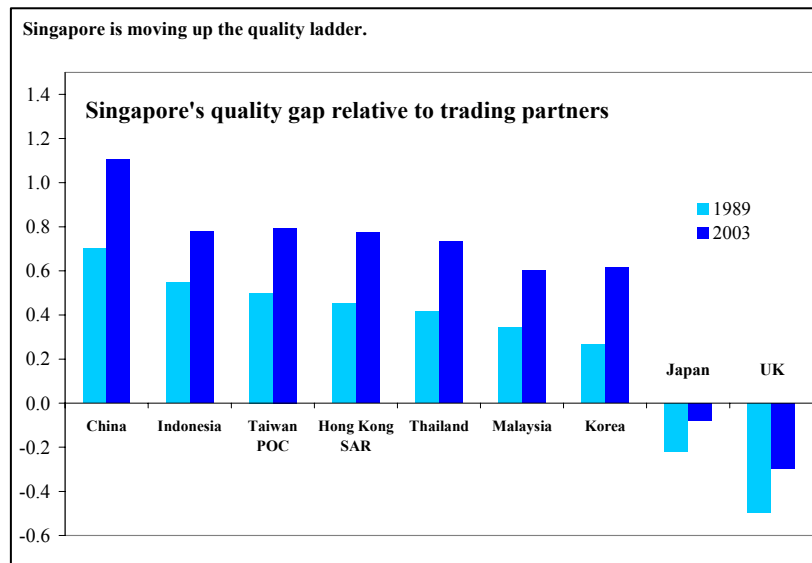
C. Main Results

5. **The main results from the analysis are:**

- *Singapore has moved up the quality ladder.* The quality gap between Singapore and its major trading partners is estimated by:

$$\ln(uv_{c,t}^p) = \alpha_t^p + \delta_{c,t} * c * t + \varepsilon_{c,t}^p. \quad (2)$$

The dependent variable is the unit value, uv , of exports of a product p , from country c to the U.S. at time t (c and t are country and time dummies). The coefficient, $\delta_{c,t}$, gives the difference between the average quality of all manufactured goods produced in country c at time t relative to Singapore. The first coefficient, α_c^p , controls for the average value of each product in each period to take account of temporal changes in the price of goods, e.g., computers cost more on average than pencils but the difference may change over time. The results suggest that Singapore produces higher quality manufacturing goods, on average, compared to its low-wage competitors (the



largest quality gap being with China) and this gap has increased over time. In comparison to countries like Japan and the U.K., although the average quality of Singapore's exports is lower this gap has narrowed over time.

- *Singapore has increased its quality gap across all sectors relative to its low-wage competitors.* We re-estimate equation (2) with 5 of Singapore's lowest wage competitors, namely, China, Malaysia, Thailand, Taiwan Province of China, and Indonesia, which gives us the average quality difference between Singapore and its low-wage competitors,

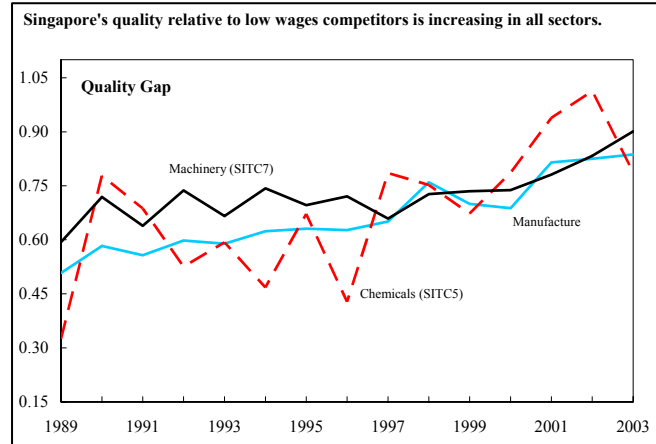
$$\ln(uv_{c,t}^p) = \alpha_t^p + \delta_{s,t} * S_t^p + \varepsilon_{c,t}^p. \quad (3)$$

Here, $\delta_{s,t}$ indicates the difference in average quality between Singapore's exports and its low-wage competitors', and S_t^p is a dummy for Singapore. For all manufactures, and individually for the chemical and the machinery sector, the average quality gap between Singapore and its low-wage competitors has increased markedly.

- *Singapore's quality upgrading appears to be in response to competition from low-wage countries.* By re-estimating equation (3) with an interactive term between the Singapore dummy and a new product indicator, which equals 1 in the years that China exported the product to the U.S., we have:

$$\ln(uv_{c,t}^p) = \alpha_t^p + \delta_s * S + \lambda * S * new_{t-1} + \varepsilon_{c,t}^p \quad (4)$$

Now, δ_s indicates the percentage difference in quality between Singapore's exports and its low-wage competitors over the whole period; and λ indicates the additional quality difference that takes place in the new products that were exported to the U.S. by China. The results show that 20 percent of Singapore's quality upgrading relative to its low wage competitors did take place in the new products that China started to export to the U.S.



- *Singapore's export growth in particular products has been unaffected by export growth of its low wage competitors.* To verify this we estimate the following equation:

$$x_{s,t}^p = \delta_p + \delta_t + \sum \alpha_L x_{L,t}^p + \alpha_W x_{W,t}^p + \varepsilon_{s,t}^p \quad (5)$$

where x_s denotes Singapore's export growth, and x_L the export growth from Singapore's low-wage competitors. If competition from these countries is driving Singapore out of certain products and into new ones, then α_L would be negative. We also include the growth rate of total imports from the world to the U.S. to control for aggregate shifts in demand for certain products. Except for Malaysia, this coefficient is statistically insignificant (Table 1.1).

Singapore export growth to the U.S. is unrelated to its trading partners' export growth.

Table 1.1: Export growth

	Manufacture	SITC5	SITC6	SITC7	SITC8
China	-0.009 (0.010)	-0.064 (0.045)	0.004 (0.029)	0 (0.013)	-0.019 (0.017)
Malaysia	0.035*** (0.009)	0.068 (0.051)	0.047* (0.024)	0.021* (0.012)	0.047*** (0.014)
Taiwan	0.016 (0.011)	0.029 (0.056)	0 (0.033)	0.002 (0.016)	0.032* (0.017)
Thailand	0.011 (0.009)	-0.015 (0.055)	0.027 (0.025)	-0.004 (0.013)	0.025 (0.016)
Indonesia	0.018* (0.010)	0.007 (0.067)	0.013 (0.029)	0.017 (0.014)	0.016 (0.016)
World	0.573*** (0.016)	0.453*** (0.104)	0.358*** (0.060)	0.497*** (0.023)	0.719*** (0.026)
N	101842	3765	13573	42654	41850
R-squared	0.16	0.19	0.21	0.16	0.16

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

- *Singapore appears to be shifting out of some products that low-wage competitors are entering into and moving into new ones, particularly in the electronics and chemicals sectors. We introduce a new variable, entry, which equals 1 if the country starts exporting a product to the U.S. that it did not export in the previous year; it equals -1 if the country stops exporting a product to the U.S. that it did export in the previous year; and zero otherwise. Using this variable, Singapore’s response to the entry and exit of its low wage competitors can then be examined by estimating the following equation:*

$$\ln(uv)_{s,t}^p = \delta_p + \delta_t + \sum \gamma_L * entry_{L,t}^p + \sum \gamma_L' * entry_{L,t-1}^p + \varepsilon_{s,t}^p \quad (6)$$

The results in Table 1.2 indicate that there is indeed a negative coefficient on China in machinery, which includes electronics, (SITC7, column 4), and Taiwan Province of China in chemicals (SITC5, column 2).

Singapore is moving into new products in response to low wage competition.					
Table 1.2: New Competition					
	Manufacture	SITC5	SITC6	SITC7	SITC8
China(t)	-0.003 (0.006)	-0.012 (0.016)	0.01 (0.012)	-0.005 (0.011)	-0.009 (0.012)
China(t-1)	-0.009 (0.006)	0.01 (0.016)	0.006 (0.012)	-0.023** (0.010)	-0.012 (0.012)
Malasia(t)	0.020*** (0.006)	0.016 (0.023)	0.005 (0.012)	0.030*** (0.010)	0.021** (0.009)
Malasia(t-1)	0.002 (0.006)	0.024 (0.023)	0.005 (0.012)	-0.002 (0.010)	0 (0.009)
Thailand(t)	0.013** (0.006)	0.060*** (0.022)	0.033*** (0.011)	0.013 (0.010)	-0.01 (0.009)
Thailand(t-1)	-0.003 (0.006)	0.031 (0.023)	0.01 (0.012)	-0.015 (0.010)	-0.006 (0.009)
Taiwan(t)	0.007 (0.006)	-0.011 (0.017)	0.027** (0.012)	0.005 (0.012)	0.002 (0.011)
Taiwan(t-1)	-0.004 (0.006)	-0.045*** (0.017)	0.017 (0.012)	-0.009 (0.012)	0.002 (0.011)
Indonesia(t)	0.008 (0.006)	0.023 (0.022)	-0.008 (0.012)	0.031*** (0.010)	-0.001 (0.009)
Indonesia(t-1)	0.002 (0.006)	0.011 (0.024)	-0.01 (0.012)	0.015 (0.010)	0.001 (0.009)
Total export growth (t)	0.030*** (0.004)	0.021** (0.010)	0.022*** (0.008)	0.030*** (0.007)	0.037*** (0.006)
Total export growth (t-1)	0.008** (0.003)	0.012 (0.009)	0.022*** (0.008)	0.007 (0.007)	0.001 (0.006)
N	73943	6776	17250	23415	26502
R-squared	0.02	0.03	0.02	0.03	0.03

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

D. Conclusions

6. **The analyses suggest that Singapore is moving out of some products that its low wage competitors are entering and producing new ones.** It also appears to have successfully moved up the quality ladder, exporting higher quality products than its low wage competitors, and narrowing the quality gap with its more technologically advanced competitors. This is a very encouraging sign for its future growth prospect. By differentiating its products from its low wage competitors, exports can continue to be a key driver of high growth rates in the future.

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II. OUTWARD EXPANSION OF SINGAPORE BANKS¹

A. Introduction

1. **In recent years, the entry of foreign banks and the difficult post-Asian-crisis environment have challenged the traditionally profitable Singapore banks.** Interest margins have declined and the limited size of the domestic market has become increasingly a constraint in the less buoyant post-crisis economy. These competitive pressures have led domestic banks to consolidate at home and expand abroad. While the consolidation has helped to reduce cost and increase profits, the results of the outward expansion have been mixed, with greater success in Hong Kong SAR and Malaysia, and relatively less in Thailand and the Philippines.

2. **This chapter assesses the factors behind the mixed results of Singapore banks' outward expansion by examining the region's industry structure and competitive conditions.** The objective is to provide a comparative view of the current state of bank competition in the region where Singaporean banks' have expanded. The analysis shows that the performance abroad is largely determined by market conditions in those markets and the efficiency of the entering bank is a less critical factor.

B. Liberalization, Consolidation, and Outward Expansion

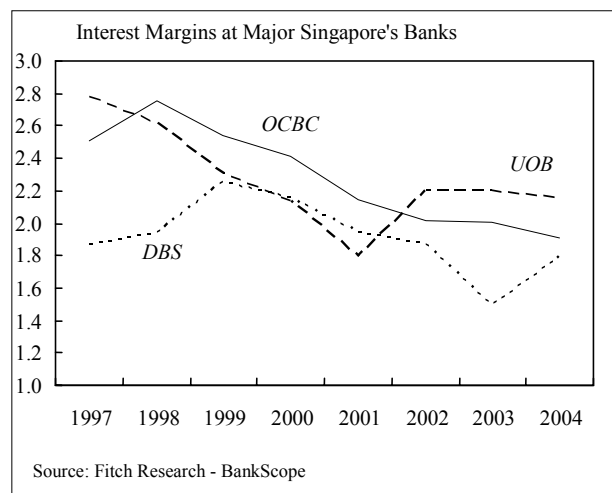
3. **Until recently, foreign banks faced a number of restrictions on their access to the Singapore domestic banking market.** Since 1999, the progressive removal of barriers to the local activities of foreign banks has largely levelled the playing field for foreign intermediaries and has increased contestability in the domestic banking system.

4. **Currently, six foreign banks (Qualifying Foreign Banks) are licensed to operate up to 25 branches locally.** In addition, MAS plans to gradually upgrade all offshore banks to "Wholesale Bank" status, allowing them to develop their own wholesale business, while the 40 percent foreign ownership limit for domestic banks has already been lifted.²

¹ Prepared by Giovanni Dell'Ariceia (38135).

²However, the new regulation requires that the Articles of Association are amended to include the appointment of a Nominating Committee, which has to be approved by MAS. This committee oversees the appointment of directors and key managers. Its stated aim is to prevent groups of foreign investors to act in a manner inconsistent with national interest (see "Singapore – Country Banking Report" by Capital Intelligence).

5. **These reforms have led to an expansion in the market share of foreign banks to around 40 percent.**³ The reforms have also increased competition especially in segments of the market where localized knowledge is needed less, such as, in mortgage lending. Partly in reaction to the increased competition domestic banks have consolidated at home. The number of domestic banks fell from 5 to 3 between 1999–2003, as larger banks acquired the smaller ones. The share of bank deposits controlled by the three largest banks was about 60 percent in 2003. The consolidation helped banks to use their larger scale to cut down the costs, which, along with the greater contestability, compressed intermediation margins. Net interest rate margins have been on a declining trend since the liberalization and are among the lowest in the region at 1.9 percent.



6. **Singapore banks have also expanded abroad in response to the increased competition.** Since 1999, Singaporean banks have expanded into Hong Kong SAR, Thailand, the Philippines, and Indonesia. The expansion into Malaysia occurred in 1994. In addition, Temasek, the government's holding company and the lead share-holder of Singapore's largest bank—DBS, has also been active acquiring shares in Indian, Malaysian, and Indonesian banks.

C. Competition and Profitability in Asian Banking System

7. **Banking systems in the region are fairly heterogeneous.** Market structure and competitive conditions vary widely as do efficiency, bank capitalization, NPL ratios, the role of state-owned banks, and the degree of openness to foreign entry. These differences often reflect the substantial differences in the state of economic development. In this section, the analysis focuses on two of these aspects: market structure and the role of state-owned and foreign banks.

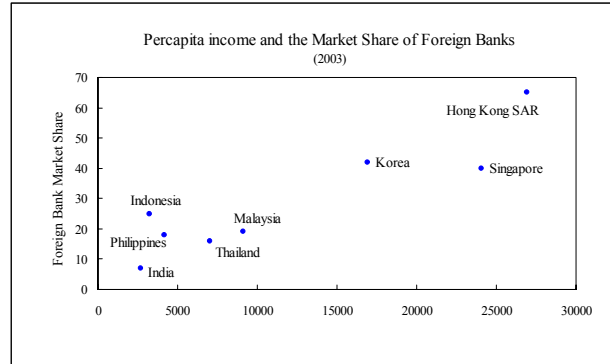
8. **In recent years, banking industries in many emerging markets have gone through a wave of mergers and acquisitions.** This has resulted in reduced numbers of domestic banks and increased market concentration.⁴ In most Asian economies, this consolidation process has been the result of a policy-driven effort aimed at improving bank

³ Source: Capital Intelligence, based on non-bank resident deposits.

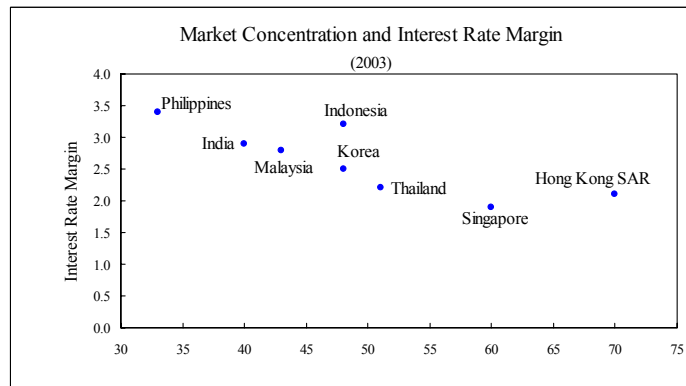
⁴ See Berger et al. (2004).

efficiency and at increasing financial stability. In some countries, such as Thailand and Indonesia, the consolidation has been a response to the Asian crisis; in others, such as in Singapore, it has been part of a strategic plan aimed at preparing domestic banks for foreign competition.

Notwithstanding this process, bank concentration in the region has remained low by international standards, and in many banking systems a large number of small banks still coexist with three or four major players.⁵



9. **The higher market concentration has not reduced competition.** The empirical literature on bank competition finds mixed evidence on the relationship between market concentration and various measures of profitability, such as interest rate margins and returns on average assets (ROA).⁶ In Asia, the more concentrated markets have relatively lower interest rate margins.



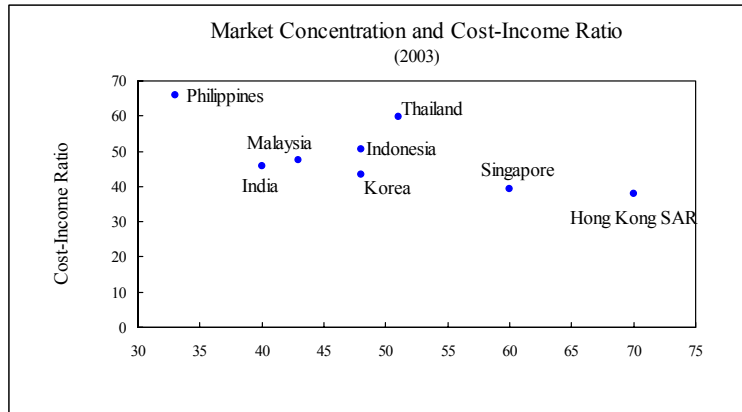
This counterintuitive outcome is the result of two factors. First, in most cases, bank consolidation has been accompanied by other financial sector reforms that have increased contestability by facilitating foreign competition and the entry of new institutions. Second, higher market concentration has led to more efficient banking systems, where larger banks have exploited economies of scale, superior risk management, and new technologies.

10. **State- and foreign-owned banks have played critical roles in the way the banking sector has developed in the region.** In crisis countries, the restructuring of the banking system has often involved government bailouts and the recourse to foreign capital, resulting in large portions of the banking system under government or foreign control. In other countries, the presence of foreign-owned banks (Hong Kong SAR) or state-owned banks (Vietnam, India, and Taiwan Province of China) has been an historical phenomenon. That said, there are some empirical regularities associated with a large foreign or government presence in the banking system:

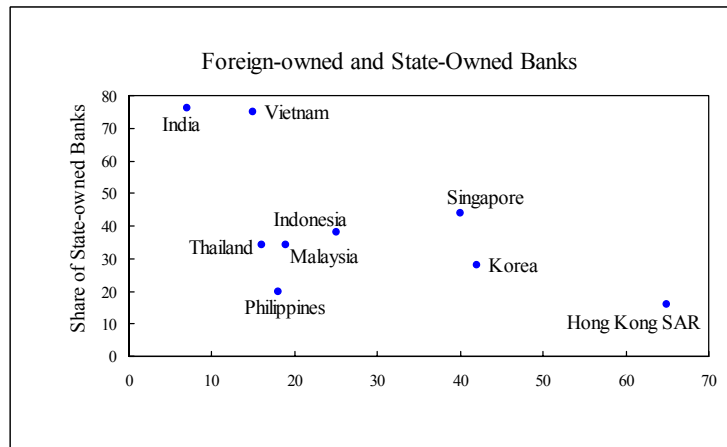
⁵ In most countries in the region the market share of the five largest banks is below the world-wide median according to the World Bank Dataset on Regulation and Supervision.

⁶ See Berger et al. (2004) for a review.

- First, the state- and foreign-owned banks appear to be substitutes for each other. To some extent, this reflects the fact that state-owned banks are often sold to foreigners. However, it also results from banking systems with heavy government participation often limiting foreign ownership and thus being unattractive to foreign banks.



- Second, the market share of state- and foreign-owned banks are correlated with system-wide efficiency and interest rate margins.⁷ A large government presence is associated with high interest margins and high cost-to-income ratios. A large foreign presence is often correlated with the opposite. These findings support the generally



held view that state-owned banks are relatively less efficient and that foreign banks bring new discipline to emerging markets through better technology and superior risk-management. However, there is likely to be a simultaneity bias in this result to the extent that foreign banks are often attracted to markets that are more developed and typically characterized by more efficient institutions, as confirmed by the fact that the countries with a larger foreign presence are generally more developed.

D. Singapore Bank's Overseas Performance

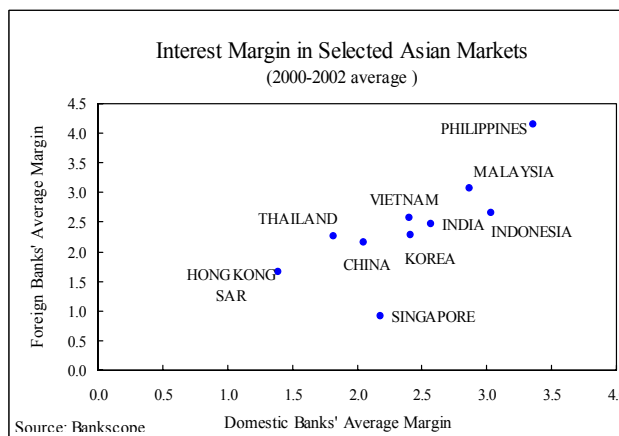
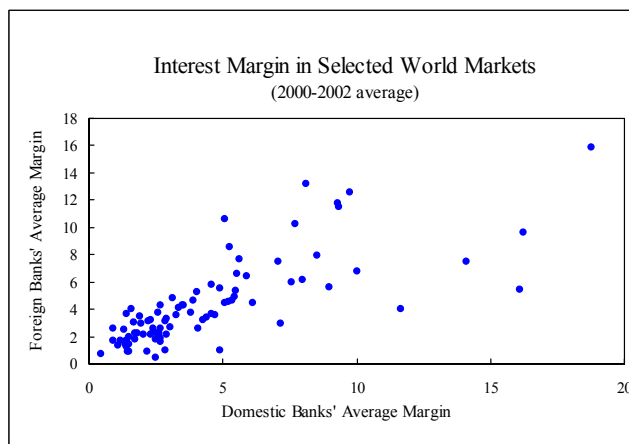
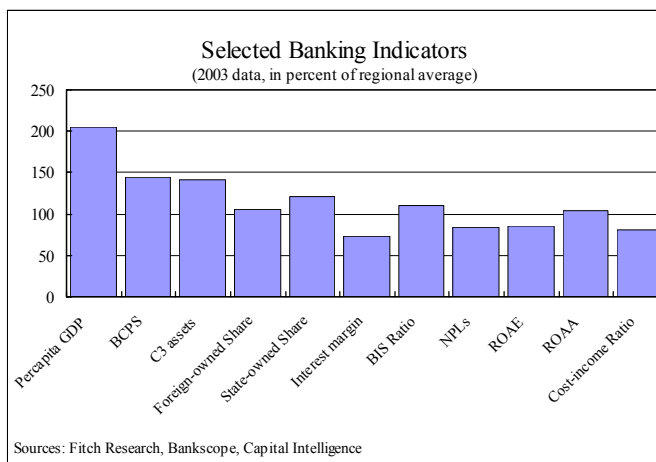
11. **So far, the regional expansion of Singapore's banks has led to mixed results**, with relatively successful operations in Hong Kong SAR and Malaysia, but less so in Thailand, Indonesia, and the Philippines. For example, in 2003, average returns on equity (ROE) in Hong Kong SAR and Malaysia were over 17 percent, while they were below 12 percent and about 9 percent in Thailand and the Philippines, respectively.⁸ Rather than a result of the

⁷ This is consistent with the findings of Martinez-Peria and Mody (2004) for a group for banking systems in Latin America, and those of Claessens and Laeven (2004) for a larger sample of countries.

⁸ Sources: Fitch Ratings and Capital Intelligence.

relative efficiency of Singapore banks, this pattern is largely due to differences in market conditions across these countries.

- Singapore's banks have several comparative advantages on their side. They are among the most efficient in the region with the second lowest cost-income ratios. They have low nonperforming loans (NPLs), especially when compared to the Asian-crisis countries. They benefit from a well established reputation built on the back of a superior regulatory framework, and they are located in a major international financial center.



- Despite these relative advantages, their performance in the regional markets appears to be largely influenced by local market conditions. Cross-sectional evidence from a large set of countries suggests that in any given year, between a third and a half of the variance of foreign banks' net interest margins is explained by the variance in the average net interest margins of domestic banks in the host country in which they operate. This helps to explain why the foreign subsidiaries of Singapore banks have done well in markets where local banks have been successful such as in Hong Kong SAR and Malaysia, and have performed less well in countries such as Indonesia and the Philippines, where domestic banks have also performed relatively poorly.

E. Conclusions

12. **Singapore banks have started expanding abroad in response to increasing foreign competition at home.** The results of this strategy have been so far mixed, largely reflecting differences in competitive conditions across host markets. That said, the strategic location, higher efficiency, low nonperforming loans (NPLs), well established reputation, and superior home-country regulatory framework of Singapore banks will help them face the competitive challenges that will emerge as banking sectors in the region continue to liberalize.⁹

13. **The increasing expansion abroad may also pose new challenges for bank regulators.** The growing presence of foreign banks raises new supervisory issues—the objectives of the parent bank and the local institution may differ and local regulators may lack important information about the parent bank’s financial stability.¹⁰ The expansion of local banks into foreign countries with different market, legal, and regulatory infrastructure also brings new risks—problems in their foreign ventures may threaten the stability of the parent banks. The MAS is well aware of these risks and has been actively seeking cooperation with bank regulators in countries hosting Singapore’s banks subsidiaries and in the home countries of the major foreign banks active in Singapore.

⁹ Abiad and Mody (2003).

¹⁰ A comprehensive review of the regulatory challenges associated with cross-border banking integration is in Song (2004).

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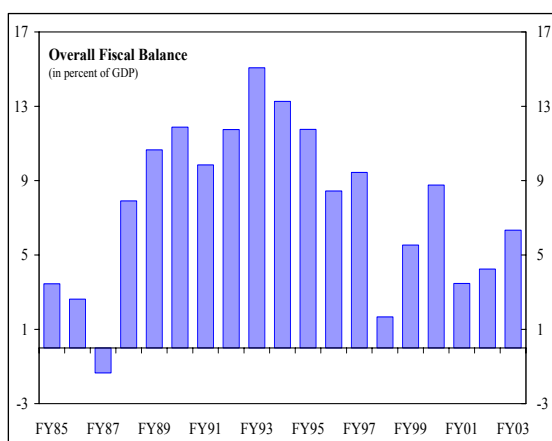
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III. SOME ISSUES IN MEDIUM-TERM FISCAL POLICY¹

A. Introduction

1. **Singapore's fiscal performance has been impressive, with the public finances in surplus for many years.** The overall fiscal balance recorded a deficit only one year over the past two decades, and this has resulted in a substantial government net asset position, estimated at over 120 percent of GDP in March 2004.

2. **Until recently, the authorities had eschewed countercyclical policies in favor of a medium-term focus.** However, in the face of a series of external shocks, the authorities judiciously responded with sizable fiscal stimulus packages. At the same time, the tax and pension systems were reformed to reduce business costs as competitive pressures from low-cost regional economies intensified. This chapter reviews these developments and assess some of the policy options over the medium term, given Singapore's development stage and the challenges of an ageing population and continued competitive pressures from regional economies.



	Billions of Singapore dollars	Percent of GDP
Assets	399.1	227.9
Cash	86.6	49.4
Investments	312.5	178.4
Liabilities	399.1	227.9
Consolidated Fund	98.0	56.0
Development Fund	72.2	41.2
Gov't Securities Fund	181.9	103.9
Pension Fund	10.9	6.2
Sinking Fund	11.6	6.6
Other	24.5	14.0

B. The Current State of Public Finances

3. **The structure of Singapore's budget revenue has the following broad features:**

- Singapore's total revenue in percent of GDP is comparable to OECD countries, and is much higher than that in most other Asian countries.² However, this masks marked

¹ Prepared by Byung K. Jang (ext. 37916) and Shinichi Nakabayashi (ext. 38918).

² Most of the data used in this analysis is from the IMF's *Government Finance Statistics*. For Singapore, the fiscal data relates largely to the central government, and information on consolidated public sector accounts is unavailable. There is also no comprehensive information on the market value of the government's assets, including those of the Government of Singapore Investment Corporation (GIC). The conclusions of this chapter are thus limited by these data weaknesses.

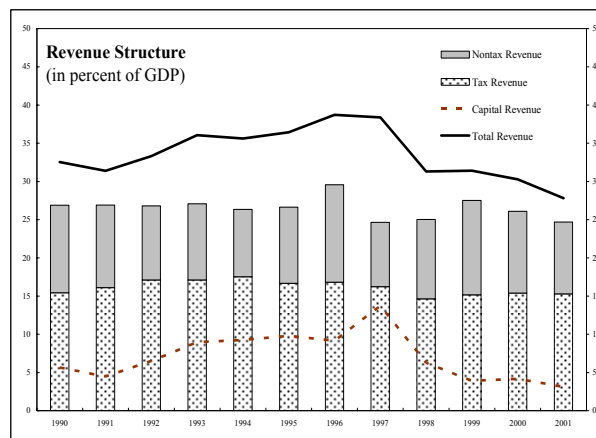
differences in the composition of revenue. Two components of revenue—nontax revenue and capital revenue—are particularly large for Singapore, reflecting the government’s substantial financial assets and ownership of land.³ Singapore’s tax revenue to GDP ratio is only around half of OECD countries, and is similar to regional economies.

Comparative Central Government Revenue and Expenditure, 1990-2001 (In percent of GDP; period average)									
	Singapore	OECD (median)	Japan 1/ ...	Korea 2/ ...	Malaysia 2/ ...	Thailand	Indonesia	Philippines	Hong Kong SAR 3/ ...
Total revenue	33.6	33.3	30.0	18.2	26.1	17.8	17.9	17.5	15.3
Current revenue	26.5	33.3	...	17.8	26.0	17.8	17.9	17.1	...
Tax revenue	16.1	30.8	27.5	15.7	19.8	15.9	15.7	15.3	9.3
Tax on income, profit and capital gains	7.3	9.1	...	5.5	8.9	5.1	9.3	5.8	5.8
Social security contributions	0.0	8.4	9.2	1.3	0.3	0.3	0.3	0.0	0.0
Domestic taxes on goods and services	4.7	10.6	...	6.0	5.9	7.5	5.0	4.7	1.9
Taxes on international trade	0.4	0.2	...	1.3	3.7	2.6	0.8	4.1	0.1
Nontax revenue	10.4	2.8	...	2.2	6.2	1.9	2.2	1.8	...
Capital revenue	7.1	0.1	...	0.4	0.1	0.0	0.0	0.4	...
Total expenditure and net lending	23.0	36.9	33.5	18.5	25.0	18.3	18.0	19.3	21.8
Current expenditure	14.0	34.5	26.6	13.5	19.7	11.8	10.1 4/	16.4	...
of which: interest payments	1.3	3.5	3.4	0.5	4.0	0.8	2.2 4/	4.6	0.0
Capital expenditure	5.1	2.1	6.9	2.8	5.1	6.0	7.1 4/	2.6	...
Net lending	3.9	0.0	...	2.3	0.3	0.5	0.1	0.3	...
Overall surplus/deficit	10.6	-3.6	-3.4	-0.3	1.1	-0.5	-0.1	-1.8	-6.5

Source: IMF, Government Finance Statistics.

1/ For general government. The data are from country desk. For Japan, GFS data are not available.
 2/ Data for 1990-1997.
 3/ Data for 2002.
 4/ Data for 1990-99.

- *Since the Asian crisis, revenue has declined as a ratio of GDP.⁴ This reflects a sharp reduction in revenue from land lease. Capital revenue reached nearly 14 percent of GDP in 1997 before declining to just 1½ percent of GDP in 2003.*



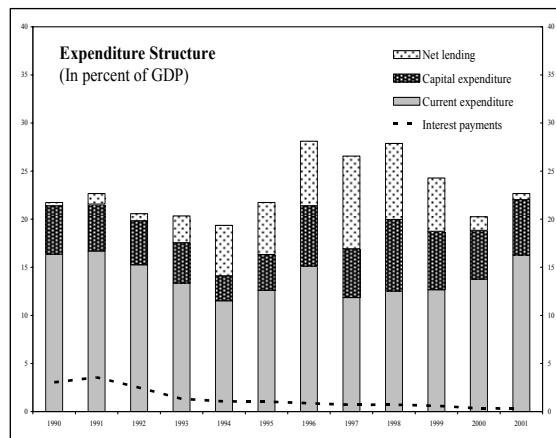
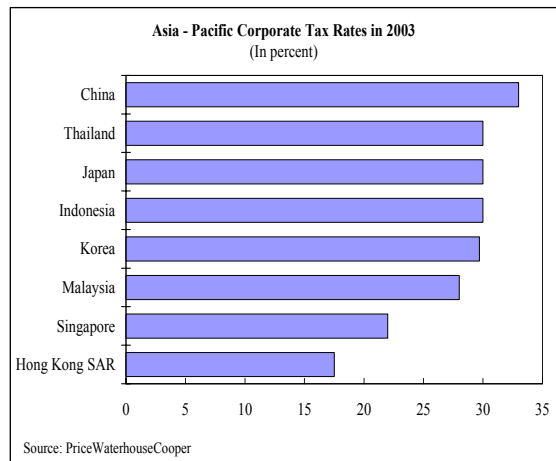
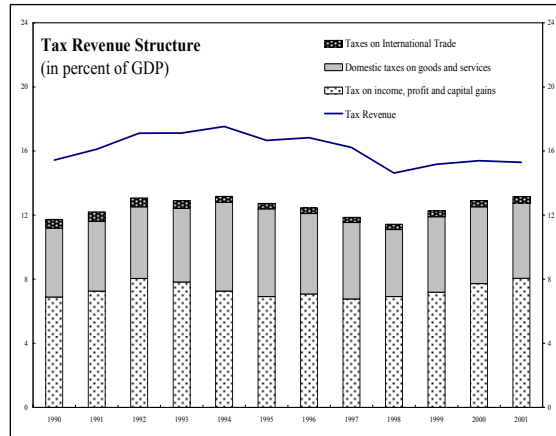
³ Capital revenue in Singapore is mostly revenue from land lease as the government owns more than 80 percent of total land. About 65 percent of nontax revenue reflects the return on the large accumulated stock of government assets and interest earnings on development loans.

⁴ Singapore is currently operating a preceding year basis of tax assessment; income tax payable in a year is based on income earned in the previous year.

- *The structure of the tax system has remained broadly stable.* About half of revenue comes from corporate and personal income tax, and the remainder from indirect taxes on a narrow range of goods.⁵ Tariffs are minimal, given the virtual absence of import duties. There is no capital gains or social security tax.
- *Income tax rates have declined.* Most recently, corporate and top personal income tax rates were lowered from 24.5 percent and 26 percent respectively to 22 percent in 2003. Corporate income tax rate will be further lowered to 20 percent from 2005. To compensate the decline in direct taxes, the goods and services tax rate was raised from 3 percent to 4 percent in 2003, and to 5 percent in 2004. However, a wide range of tax incentives remains in use to attract investment in key strategic sectors.

4. The main features of the structure of expenditures are:

- *Total expenditure in percent of GDP is only about 60 percent of OECD economies.* Within the region, Singapore's expenditure is lower (by 2–10 percentage points of GDP) than in Japan and Malaysia, but is higher by 4–5 percentage points of GDP compared to that in Indonesia, Korea, Thailand, and the Philippines.
- *Unlike OECD countries, Singapore has focused its public spending largely on capital expenditure and net lending.* Reflecting Singapore's emphasis on



⁵ The breakdown of income tax into corporate and individual income tax is estimated to be 70 percent and 30 percent, respectively.

infrastructure development and public housing, these items are about 7 percentage points of GDP higher than the OECD countries' median. Much of net lending goes to finance one statutory board, the Housing and Development Board (HDB); there are nearly 70 statutory boards.⁶ However, net lending has declined in recent years, reflecting lower new loans and higher repayments.

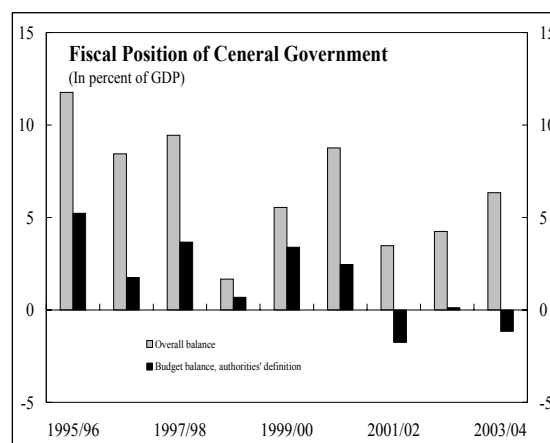
- *Relative to its level of development, social spending is strikingly low.* Total social spending in Singapore is just about one third of the OECD countries' median. High levels of expenditure on education and housing reflect the government's priorities, which aim at providing high levels of accessibility and affordability in education and public housing.

Comparative Central Government Social Spending, 1990-2001 (In percent of GDP; average)									
	Singapore	OECD (median)	Japan	Korea	Malaysia 1/	Thailand	Indonesia	Philippines	Hong Kong SAR 4/
Government Expenditures on									
Education 2/	3.8	4.7	3.5	4.3	5.1	3.6	1.4	3.4	4.3
Health 3/	1.2	6.4	6.4	3.2	1.4	1.3	0.4	0.6	2.7
Social security and welfare	0.8	12.7	8.1	1.6	1.4	0.7	0.7	0.6	2.6
Housing and community amenities	1.6	0.5	2.4	0.3	1.5	0.7	1.7	0.2	2.3
Total Social Spending	7.4	24.4	20.4	9.4	9.4	6.4	4.3	4.7	11.9

Source: IMF, Government Finance Statistics; and OECD, OECD in Figures.

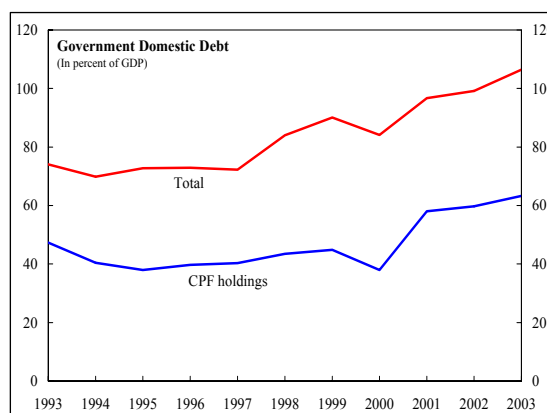
1/ Data for 1990-97.
 2/ Public expenditure data for 2000 for OECD, Japan and Korea.
 3/ Public expenditure data for OECD (2002), Japan (2001) and Korea (2001).
 4/ Data for 2002.

5. Prudence has been the hallmark of Singapore's fiscal policy. Except once, the overall fiscal balance has been in surplus throughout the last two decades. The overall surplus averaged 10½ percent of GDP during 1990–2001, compared with a deficit of 3½ percent of GDP in the OECD countries. However, the government's definition of the budget balance underestimates the strength of Singapore's fiscal position as operating revenue excludes substantial portion of investment income and earnings from land leases.



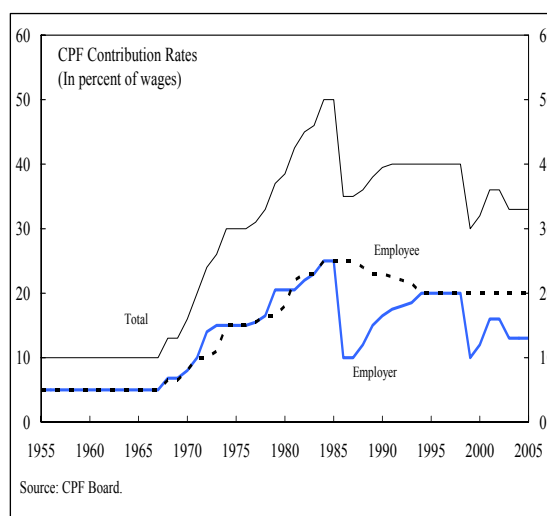
⁶ The HDB, which is financed directly by the Ministry of Finance and through bond issuances, was established in 1960 as a statutory board of the Ministry of National Development to develop public housing. About 85 percent of Singaporeans currently live in HDB housing, compared with 9 percent in 1960. The HDB also provides housing loans at a concessionary interest rate (currently 2.6 percent), which is set at 0.1 percentage point above the rate on CPF ordinary account balances.

6. **With a large net asset position, government securities have been issued mainly to develop Singapore’s capital market.** Government securities have provided a liquid and risk-free instrument that has served as a benchmark for the corporate debt securities market. The bulk of domestic debt represents Central Provident Fund (CPF) members’ balances, which are invested overseas by the GIC.



7. **In the absence of any defined-benefit social security program, for most Singaporeans, balances held with the CPF form the mainstay of retirement savings.**

The CPF was established in 1955 as a mandatory, fully funded, defined contribution, individual account system to provide financial security for workers in their old age.⁷ Over time, the CPF has evolved into a scheme that has come to be used for various public policy objectives, including macroeconomic management through changes in employer contribution rates as a means of reducing business costs (Box 1).



8. **Net contribution to the CPF is relatively low.** Gross contributions to the CPF in Singapore averaged 10½ percent of GDP during 1993-2003, well above the median of the OECD countries’ social security contribution and those in Asian countries. However, net CPF contributions in Singapore amounted to only 3¼ percent of GDP a year during the same period, well below 8½ percent of GDP, the median of the OECD countries. The high level of withdrawals reflects the use of CPF to further various government objectives, including universal home ownership, and the enhancement of members’ retirement savings through the liberalization of the CPF investment schemes. Indeed, the withdrawal for housing amounted

⁷ Each member has four accounts: (i) Ordinary Account—savings in this account are available for pre-retirement withdrawals for home purchases, education, and investment; (ii) Special Account, which is reserved for old age, contingency purposes, and investment in retirement-related financial products and can only be withdrawn at age 55; (iii) Medisave Account, which can be used for hospitalization expenses and to pay premiums for approved medical insurance schemes such as MediShield (designed to help meet the cost of catastrophic illnesses); and (iv) Retirement Account—at age 55, a member can withdraw the remaining balance in the Ordinary Account and the balance in the Special Account as a tax exempt lump sum after setting aside a minimum sum in this account.

to almost half of the gross CPF contribution, resulting in Singapore's high home ownership rate (94 percent).

Box III.1. Recent Changes to the Central Provident Fund

- **CPF contribution rates:** From October 2003, the contribution rate was cut from 36 percent to 33 percent, reflecting a 3 percentage point reduction in the employer contribution rate (from 16 to 13 percent). This cut would save employers about 0.8 percent of GDP a year. For 50–55 year old workers, the contribution rate will be further reduced to 30 percent in 2005, and to 27 percent from 2006. Despite the cut in the total CPF contribution rates, the special account contribution rates were increased by one percentage point.
- **CPF salary ceiling:** The ceiling of salary subject to CPF contributions was reduced from S\$6,000 to S\$5,500 on January 1, 2004. It will be further lowered to S\$5,000 in 2005 and S\$4,500 from 2006. In total, these reductions will save employers about S\$400 million in wage costs in 2006.
- **CPF and Medisave minimum sums:** From July 2004, the CPF minimum sum (the minimum combined balances in the Ordinary and Special Accounts) will be raised gradually from S\$80,000 to S\$120,000 (in 2003 dollars) by 2013; it is currently set at S\$84,500. Moreover, the Medisave minimum sum of S\$25,000 will be adjusted annually for inflation of healthcare costs.
- **Withdrawal rule at age 55:** Starting 2009, the current 50 percent rule for withdrawals from the Ordinary and Special Accounts will be phased out gradually by 2013. Currently, at age 55, CPF members may withdraw 50 percent of their combined Ordinary and Special Account balances. From 2013, CPF members must meet the CPF and Medisave minimum sums first before they can withdraw their remaining Ordinary and Special Accounts balances at age 55.

Owing to the measures taken to increase the minimum sums and changes to housing-related withdrawals, the income replacement rate is not expected to be adversely affected by the above CPF changes and is projected to remain at about 20–40 percent, according to the authorities' estimates. Currently about 40 percent of active CPF members turning age 55 meet the minimum sum, and by 2013 about half of CPF members are projected to be able to meet the minimum sum owing to the above changes to the CPF scheme.

C. Medium-Term Outlook

9. **Singapore's medium-term fiscal policy making is guided by maintaining a balanced budget over the election cycle.**⁸ Over the medium term, the government currently

⁸ By law a government cannot run down the reserves accumulated by previous governments without the consent of the President. Moreover, each year the government can use only up to 50 percent of the investment income from government assets. Two main concepts of the fiscal position are used for Singapore: the overall balance, which is measured on a GFS basis, and the budget balance, which excludes capital revenue, net lending, part of investment income, and land-related development expenditure, and is the authorities' preferred fiscal concept. The government's use of the budget balance clearly underestimates the strength of Singapore's fiscal position; while the budget surplus averaged 1½ percent of GDP during FY1995/96-FY2003/04, the overall fiscal surplus amounted to 6½ percent of GDP a year during the same period. Moreover, only a portion of government investment income accrues to the budget and the remainder is credited to various extra-budgetary accounts (mostly to the Government Securities Fund, which manages payment of interest on public debt and income earned from government assets).

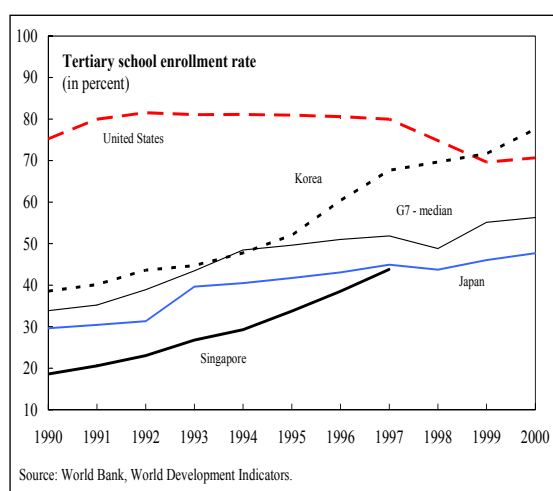
aims to maintain operating revenue at the current level of about 18 percent of GDP. The only pending tax measure is to cut the top personal income tax rate from 22 percent to 20 percent, which will cost about ¼ percent of GDP; the government has already implemented all other key tax measures recommended by the Economic Review Committee (ERC). Net investment income for the budgetary purpose is expected to grow in line with nominal GDP.

10. **Expenditure, however, is likely to increase.** Additional spending on education, health, and social security over the medium term are likely given Singapore’s development stage, aging population, and ongoing structural changes:

- *The need for Singapore to upgrade human capital will generate new demands on educational spending.* Faced with increasing competitive pressures from low-cost economies, long-term unemployment among the unskilled has emerged. Ongoing corporate restructuring toward higher-value-added industries will require more skilled labor. Using average years of schooling as a measure of human capital, Singapore ranks below the G7 countries; while the level in the United States is about 12 years, that in Singapore is about 8 years. Further investment in human capital can thus enhance growth prospects. According to staff’s growth accounting exercise, given the high labor force participation rate in Singapore and the relatively high capital-output ratio, returns from education are likely to be high.⁹ However, since the size of the school age population is projected to decline, pressures on the budget for additional spending on education could be limited.

Average Years of Education of Population 15 years and Older	
United States	12.12
Canada	12.02
Japan	10.78
Germany	11.04
France	8.86
Italy	8.27
United Kingdom	11.36
Singapore	8.15

Source: Barro and Lee (2000)

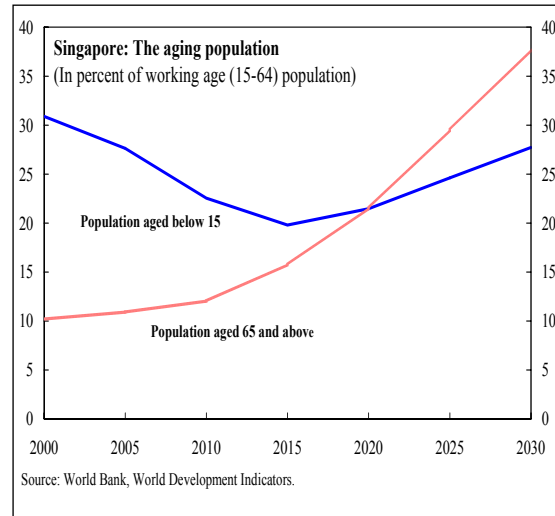


Public Expenditure on Education in 2000 (In percent of GDP)	
Turkey (OECD min)	3.4
Denmark (OECD max)	6.5
OECD (median)	4.7
Japan	3.5
Korea	4.3
United Kingdom	4.5
United States	4.8

Source: OECD in Figures (2004)

⁹ For details see Chapter II, Singapore: Selected Issues, IMF Country Report No. 04/103, April 2004.

- An aging population will raise demands on the healthcare system. Total health expenditure in Singapore is estimated at around 3 percent of GDP, which is low compared to that in the OECD countries. Moreover, the share of public health expenditure is only around 25 percent (Lim, 2004). Healthcare costs have also risen by 3–4 percent a year, faster than CPI inflation. It is anticipated that over the next two decades the share of the public sector in healthcare expenditure will need to be increased significantly to provide adequate healthcare service to the aging population. Thus if government’s share of public health is increased to 50 percent, still lower than the current OECD country average, budgetary expenditure could increase to around 2.4 percent of GDP, which would be only one-third of public health spending in OECD countries.¹⁰*



	Total expenditure as % of GDP	Public expenditure as % of total expenditure on health
Finland	7.3	75.7
Japan 1/	7.8	81.7
Korea 1/	5.9	54.4
United Kingdom	7.7	83.4
United States	14.6	44.9
OECD (median)	7.2	65.6

Source: OECD in Figures (2004)
1/ Data for 2001

- Singapore’s social security system is almost entirely based on a mandatory savings scheme (CPF), which is unusual among advanced economies. As compared to a multi-pillar social security framework, reliance on a single pillar is quite risky (Asher, 2004). Given experiences of OECD countries, it is likely that a multi-pillar framework that incorporates some form of social insurance may be needed to address the needs of the poor. Heller (1999) estimates that it would cost about 1¼ percent of GDP by 2010 for the government to provide pensions to the elderly population not*

¹⁰ The government has increased spending on public health on an ad hoc basis. For example, in 2004 the government topped up the Medisave Accounts of individuals aged 50 and above by about 0.06 percent of GDP. Moreover, an additional 0.06 percent of GDP was provided to the government’s medical fund to help needy patients. The authorities are currently considering revamping CPF’s medical insurance scheme to provide better coverage.

covered by the CPF.¹¹ Singapore government's spending on social security is just 6 percent (or 15 percent, including CPF withdrawals) of the median OECD country. Given increasing structural unemployment among the less skilled, provision of additional social safety to the unemployed is worth considering, in addition to job training programs.

11. **Looking forward, Singapore's fiscal position is likely to remain strong.** There are good reasons—primarily the need to prepare for the ageing of the population and the desire to build up a sizable “rainy day” reserve given the lack of natural resources in Singapore—underlying the government's cautious approach to fiscal policy. Given that Singapore has already joined the ranks of advanced economies in light of rapid growth since its independence in 1965, the government could consider expanding its social safety net as the country faces the challenges of an aging population and rising structural unemployment, as well as to enhance medium-term growth prospects through higher human capital. Although information on government's net asset position is limited, it appears that the government could afford additional social spending by 2–3 percent of GDP over the medium term without impairing the strength of its reserves position.¹²

12. **The authorities are fully cognizant of these challenges and have taken several measures in response.** Among these measures is targeted assistance to low-income earners for health care and retirement. On unemployment, the authorities have strengthened a number of retraining and job-matching schemes. At present, they consider such programs better suited to provide social insurance by enhancing employment opportunities rather than introducing any entitlement program.

¹¹ The analysis assumed that about one third of the labor force is not covered by the CPF, with a replacement rate of 30 percent of per-capita income. The coverage of the CPF is currently estimated to have increased to about three fourths of the labor force.

¹² In the FY2003 budget the government used about one third (1¼ percent of GDP) of the net investment income included in the fiscal data, and plans to do the same in the FY2004 budget.

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