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October 26, 1983

To: Members of the Executive Board

From: The Secretary

Subject: Singapore - Staff Report for the 1983 Article IV Consultation

Attached for consideration by the Executive Directors is the staff report for the 1983 Article IV consultation with Singapore, which has been tentatively scheduled for discussion on Wednesday, November 16, 1983.

If Executive Directors have technical or factual questions relating to this paper prior to the Board discussion, they should contact Mr. Aghevli (ext. (5)7177) or Mr. Baban (ext. (5)7334).

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INTERNATIONAL MONETARY FUND

SINGAPORE

Staff Report for the 1983 Article IV Consultation

Prepared by the Asian Department

Approved by Tun Thin and Donald K. Palmer

October 26, 1983

Contents | Page

Text Tables

Contents

I. Introduction

The 1983 Article IV consultation discussions were held in Singapore during August 15-27. 1/ Discussions were held with Mr. Ngiam Tong Dow, the Permanent Secretary of the Ministry of Trade and Industry, Mr. J. Y. M. Pillay, Permanent Secretary of the Ministry of Finance (Revenue), and Dr. Richard Hu, the Managing Director of the Monetary Authority of Singapore (MAS). Meetings were chaired by Dr. Teh Kok Peng, Manager, Economics Department of the MAS. The staff team consisted of Messrs. Aghevli, Baban, Di Calogero, Citrin, and Ms. Sauz.

II. Economic Developments

1. Historical perspective

Since independence in 1965, Singapore's record of economic performance has been remarkable. Output has grown by more than 10 percent per annum (Table 1), and per capita income has increased more than tenfold to about US$6,000 in 1982. The rapid economic expansion has not created excessive pressures on prices or the balance of payments. Domestic inflation has remained well below foreign inflation, reflecting an appreciation of the Singapore dollar in effective terms, and the balance of payments has been in surplus in every year since 1967. These achievements are largely attributable to the authorities' cautious financial policies. Continuing surpluses of the public sector have exerted a contractionary impact on money supply, creating a chronic excess demand for money. Consequently, the bulk of the increase in the demand for money has been satisfied from external sources--the increase in net foreign assets has accounted for about 60 percent of total liquidity expansion since 1970--allowing the authorities to accumulate substantial international reserves and maintain a strong currency.

Stable financial conditions, a well-disciplined and relatively skilled labor force, and an advantageous geographical setting have encouraged substantial capital formation by both domestic and foreign investors. During 1965-82, the ratio of investment to GDP more than doubled to 46 percent. Self-financing direct foreign investment accounted for most of the increase in the investment-GDP ratio during 1965-74, as domestic savings remained about 23 percent of GDP. Since the mid-1970s, however, higher domestic savings have financed an increasing share of total investment.

The authorities have effectively adapted their growth strategy at each stage of development to make efficient use of the country's limited natural and human resources, thereby facilitating the transformation of Singapore from an entrepot economy to a major manufacturing

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1/ The last consultation discussions were concluded by the Executive Board on September 17, 1982. Singapore has accepted the obligations of Article VIII, Sections 2, 3, and 4.

exporter and financial center. In the 1960s, labor-intensive, import-substituting industries were encouraged by protective measures in order to generate employment. This strategy was modified in the 1970s in favor of the promotion of exports, particularly those with high domestic value-added. The development of a major oil refining industry to service the region contributed to the attainment of this goal. During 1965-82, the share of manufacturing in GDP doubled to almost 30 percent, and the share of exports (excluding oil and entrepot trade) tripled to 40 percent. The financial and business services sector also expanded rapidly since the inception of the Asian Dollar Market in 1968. The elimination of remaining exchange controls and restrictions on international transactions in 1978 and the provision of financial incentives to the banking industry further enhanced the development of Singapore into a major financial center in the region.

Table 1. Singapore: Investment, Savings, Growth, and Price Performance, 1965-82

	1965-69	1970-74	1975-79	1980	1981	1982
			(As percent of GDP)			
Gross domestic investment 1/	28	41	39	46	45	46
Gross national savings	23	23	29	32	35	37
Foreign savings	5	18	10	14	10	9
			(Percentage change per annum)			
GDP (real)	12	12	8	10	10	6
Inflation (CPI)	1	11	3	8	8	4

Source: Data provided by the Singapore authorities.

1/ Includes increase in stocks.

2. The recent past

The Singapore economy continued to perform well in the aftermath of the second oil crisis. During 1979-81, real GDP expanded by about 10 percent a year, domestic inflation (CPI) was contained to single digits, and the surplus in the balance of payments doubled to about US$1 billion (Table 2). Despite a marked weakening of foreign markets, the external sector continued to provide the major impetus to growth (Table 3). Exports of goods and services (excluding entrepot trade)

Table 2. Singapore: Selected Economic and Financial Indicators, 1979-83

	1979	1980	1981	1982	1983 1/
	(Annual percent changes, unless otherwise specified)				
National income and prices					
GDP at constant prices	9.4	10.3	9.9	6.3	7.0
GDP deflator	5.3	7.3	6.6	3.9	1.0
Consumer prices	4.0	8.5	8.2	3.9	1.0
Gross fixed capital formation (real)	12.2	20.1	15.8	24.1	...
Manufacturing production	15.1	12.3	9.8	-5.6	...
Unemployment rate (in percent)	3.3	3.1	2.9	2.6	...
External sector (in U.S. dollars)					
Exports, f.o.b.	39.8	35.6	7.9	-1.2	6.6
Imports, f.o.b.	36.0	36.2	15.1	2.2	4.4
Export volume 2/	14.4	13.4	9.7	-0.4	6.5
Import volume 2/	10.5	11.6	12.6	9.4	6.0
Terms of trade 2/	3.5	1.1	2.2	1.4	0.9
Nominal effective exchange rate 3/	3.8	2.1	6.9	6.0	4.4
Real effective exchange rate 3/	-0.1	-0.6	5.8	3.7	0.9
Central Government 4/					
Revenue	19.5	30.3	31.7	15.3	12.3
Total expenditures	13.4	32.7	21.3	18.8	18.2
Money and credit					
Net domestic assets 5/	4.3	17.2	12.9	7.1	14.9 6/
Government 5/	-18.5	-17.4	-19.7	-22.2	-20.5 6/
Private sector 5/	24.6	32.1	31.4	22.1	27.7 6/
Money and quasi-money	18.8	24.5	22.4	15.9	21.5 6/
Velocity	-7.4	-5.0	-4.6	-4.9	...
Interest rate (end of period, one-year fixed term deposit, in percent per annum)	7.7	10.6	9.0	7.1	6.6 7/
	(In percent of GDP)				
Central Government 4/					
Expenditure	23.0	25.7	26.6	28.6	31.3
Revenue	24.2	26.7	30.0	31.4	32.5
Surplus/deficit	1.2	1.0	3.4	2.7	1.2
Domestic financing	-1.0	-0.8	-3.3	-2.6	...
Government securities and advance deposits 8/	7.3	7.7	9.2	12.1	...
Treasury bills	1.3	2.8	-0.2	-0.4	...
Accumulation of cash balances	-9.6	-11.3	-12.3	-14.3	...
External financing	-0.2	-0.2	-0.1	-0.1	...
Gross fixed capital formation	35.0	39.5	42.3	47.4	...
Gross national savings	34.1	31.6	34.6	37.3	...
External current account	-7.8	-13.8	-10.3	-8.7	-3.6
External public debt	7.2	5.8	4.7	4.0	3.5
External public debt service ratio 9/	0.6	0.4	0.3	0.3	0.5
	(In millions of U.S. dollars, unless otherwise specified)				
Current account of the BOP	-736	-1,564	-1,382	-1,279	-585
Overall balance of payments	516	748	983	931	950
Gross official reserves	5,819	6,567	7,549	8,480	9,430
Months of total imports, f.o.b.	4.2	3.5	3.5	3.9	4.1
Months of retained imports, f.o.b.	5.5	4.5	4.3	4.7	5.1

Sources: Data provided by the Singapore authorities; and staff projections.

1/ Staff projections unless otherwise indicated.

2/ Excluding entrepot trade.

3/ Changes in annual averages in 1979-82 and change in first half average in 1983; decline represents depreciation.

4/ Fiscal year beginning April 1; data for 1983 are staff projections.

5/ As a percentage of previous year's stock of money and quasi-money.

6/ Twelve months ending June 1983.

7/ June 1983.

8/ Deposits placed by the Central Provident Fund and the Post Office Savings Bank in the Government's account with the Monetary Authority of Singapore for future subscriptions to government securities.

9/ As a percent of exports of goods and nonfactor services.

rose by about 15 percent per annum in real terms, attesting to the diversity and strength of Singapore's export industries. 1/ The contribution of the external sector to growth was reinforced by the continued strength of domestic demand. Capital formation rose by an impressive 16 percent a year in real terms, and consumption, by about 7 percent.

Table 3. Singapore: Components of Aggregate Demand (in Constant 1968 Prices), 1979-82

(Percentage increase)

	1979	1980	1981	1982
Domestic demand	8	12	10	12
Consumption	6	8	7	5
Gross fixed capital formation	12	20	16	24
External demand 1/	14	16	15	3
Increase in stocks 2/	6	4	2	-1
Aggregate demand	12	13	11	6
Memorandum item:				
Growth in foreign markets 3/	7	-1	2	-2

Sources: Data provided by the Singapore authorities; and staff estimates.

1/ Excluding entrepot trade.
2/ Changes in stock as percentage of previous year's GDP.
3/ Weighted average of growth in Singapore's export markets.

The stimulus to growth provided by the foreign sector weakened sharply in 1982. Nevertheless, real GDP grew by 6 percent on the strength of domestic demand. The primary sources of growth in the economy were the further expansion of the business and financial services sector, and the continued construction boom in both the public

1/ Entrepot trade decelerated sharply during this period, reflecting a slowdown in interregional trade. The impact of this deceleration on the Singapore economy, however, was not substantial because of the relatively small contribution of entrepot trade (in value-added terms) to GDP.

and private sectors which led to a record increase in capital formation (24 percent in real terms). However, inventories were drawn down as manufacturing production declined for the first time since 1975. Despite slower economic growth, the unemployment rate declined slightly to 2.6 percent. Jobs were created in the expanding services and construction sectors, while manufacturing firms hoarded workers in the expectation of a quick turnaround in economic activity. As a result, productivity in manufacturing fell by 3 percent, partly reversing the substantial gains of the previous years.

Movements of domestic prices in Singapore closely follow those of foreign prices because of the importance of foreign trade in the economy and the virtual absence of any trade restrictions or domestic price controls. With the decline in foreign prices and continued strength of the currency, domestic inflation fell sharply during 1982. Consumer prices rose by 4 percent and wholesale prices fell by 4 percent.

Labor costs continued to rise rapidly in 1982 as a result of the last phase of the Government's three-year wage correction policy which had been introduced in 1979. Under this policy, the National Wages Council (NWC)--consisting of representatives of the Government, the employers, and the unions--recommended substantial wage increases each year with the aim of encouraging the phasing out of labor-intensive industries and releasing labor for the development of capital-intensive and highly technological modes of production. Initially, higher labor costs did not affect profitability in the manufacturing sector because of productivity gains and unanticipated increases in manufacturing prices (Table 4). In fact, real unit labor costs (unit labor costs deflated by nonfuel wholesale prices) fell slightly during 1979-80, a factor which contributed to the adjustment of the economy to the oil price shock. However, during 1981-82, the decline in manufacturing prices, coupled with a loss of productivity in 1982, led to rapid increases in real unit labor costs (28 percent during the two years) and exacerbated the impact of adverse external demand on profitability in manufacturing. Following the termination of the wage correction policy in mid-1982, the Government withdrew from active participation in the NWC but remained on the council as an employer.

After six years of vigorous expansion, the volume of domestic exports declined in 1982 (Table 5). Nevertheless, the current account deficit was reduced slightly to US$1.3 billion (8.7 percent of GDP) because of a slower growth of import volume, a fall in foreign prices that was coupled with a small improvement in the terms of trade, and higher service receipts, particularly from financial and business services. The current account deficit was more than offset by the traditional inflows of direct foreign investment and by some inflows of short-term funds. The overall payments surplus declined slightly to US$0.9 billion and gross official reserves rose to US$8.5 billion (about 4.7 months of retained imports). The external public debt declined to 4 percent of GDP, and the associated debt service payments remained negligible.

Table 4. Singapore: Labor Costs and Productivity in Manufacturing, 1979-82

(Percentage changes)

	1979	1980	1981	1982
Nominal labor costs in manufacturing 1/	15	15	17	12
Labor productivity in manufacturing	6	5	9	-3
Unit labor costs in manufacturing	8	9	7	15
Prices of manufactures 2/	10	9	-1	-3
Real unit labor costs in manufacturing 3/	-2	--	8	19

Sources: Singapore Department of Statistics; and staff estimates.

1/ Mid-period average weekly earnings in manufacturing plus contributions to the Central Provident Fund and Skills Development Fund.
2/ Nonfuel wholesale prices.
3/ Unit labor costs deflated by nonfuel wholesale prices.

Notwithstanding the slowdown of activity in the international capital markets during 1982, the Asian Dollar Market in Singapore expanded rapidly, although at a reduced rate. Although interbank activity stagnated in the latter part of the year, total assets/liabilities of the market increased by 20 percent (compared with 50 percent per annum in the previous three years), surpassing the US$100 billion mark. The growth in lending to nonbank customers in the surrounding countries was maintained at a rapid pace (42 percent). The major net suppliers of funds to the market continued to be the United Kingdom, the United States, and countries in the Middle East and the Caribbean.

Table 5. Singapore: Balance of Payments and External Public Debt, 1979-83

(In billions of U.S. dollars unless otherwise indicated) 1/

	1979	1980	1981	1982	1983 Proj.
Exports, f.o.b.	13.4	18.2	19.6	19.4	20.6
Of which:					
Domestic exports, f.o.b. 2/	7.6	10.9	12.5	12.1	12.7
(Volume increase)3/	14.4	13.4	9.7	-0.4	6.5
(Unit value increase)3/	24.6	26.7	5.3	-3.4	-1.4
Imports, f.o.b,	-16.4	-22.4	-25.8	-26.3	-27.5
Of which:					
Retained imports, f.o.b. 2/	-12.7	-17.6	-21.0	-21.7	-22.3
(Volume increase)3/	10.5	11.6	12.6	9.4	6.0
(Unit value increase)3/	23.1	23.7	6.2	-5.7	-2.9
Services and transfers, net	2.3	2.7	4.8	5.7	6.3
Current account balance	-0.7	-1.6	-1.4	-1.3	-0.6
(as percent of GDP)	(-7.8)	(-13.8)	(-10.9)	(-8.7)	(-3.6)
Long-term capital, net	1.2	1.6	1.8	1.9	1.1
Of which: direct investment	0.9	1.7	1.9	2.1	1.2
Short-term capital 4/	--	0.7	0.6	0.3	0.5
Overall balance	0.5	0.7	1.0	0.9	1.0
Memorandum items:					
External public debt	0.7	0.7	0.7	0.6	0.6
(as percent of GDP)	(7.2)	(5.8)	(4.7)	(4.0)	(3.5)
Debt service ratio 5/	0.6	0.4	0.4	0.3	0.3

Sources: Data provided by the Singapore authorities; and staff projections.

1/ Totals may not add exactly due to rounding.
2/ Excludes entrepot trade. Domestic exports also excludes oil bunkers.
3/ In percent.
4/ Includes SDR allocations in 1979-81, valuation changes in reserves, and errors and omissions.
5/ As percent of exports of goods and nonfactor services.

III. Report on Discussions

Discussions focused on the short-term economic outlook, as well as on an assessment of recent and prospective financial policies and the industrial restructuring policies aimed at medium-term growth objectives.

1. Short-term outlook

The Singapore economy is in a good position to take advantage of the emerging recovery in the industrial countries and to play an important role in promoting the expansion of trade in the region. Domestic non-oil exports have already picked up, as evinced by a 9 percent rate volume growth in the first half of 1983. Greater strength of the external sector should alleviate the persistent weakness in manufacturing. Domestic demand in the construction and services sectors is expected to remain strong, although investment in machinery and equipment is likely to decline from the peak 1981-82 levels. Preliminary staff estimates show some acceleration of growth in 1983, easily surpassing the official forecast of 6-7 percent real growth if external demand is sustained. With the expected small decline in external prices 1/ and reduced wage pressures, domestic prices should remain relatively stable.

Staff projections of the balance of payments indicate a 6 percent volume growth in both domestic exports and retained imports and a modest improvement in the terms of trade (Table 5). These trade developments, together with a further increase in the service account surplus, would result in a halving of the current account deficit to US$0.6 billion (3.6 percent of GDP). Direct investment is expected to decline in 1983, because high levels of investment in machinery and equipment in the previous years have created excess capacity in a number of industries, particularly shipping, civil aviation, and petroleum refining. Nevertheless, capital inflows are anticipated to more than offset the current account deficit and result in an overall payments surplus of US$1 billion, allowing an increase in official reserves to close to five months of retained imports. Although there are no official balance of payments projections for 1983, the authorities are in broad agreement with the staff projections.

The Asian Dollar Market is undergoing a period of consolidation. The level of assets and liabilities of Asian Currency Units has declined somewhat from the peak reached at the end of last year on account of a fall-off in interbank transactions and a slowdown in lending to nonbanks. The authorities expect that, with the spread of economic recovery throughout the ASEAN region, lending activity would be revived toward the end of the year.

1/ The recent decrease in international oil prices has been passed on to consumers. The impact of lower prices on energy consumption is expected to be minimized by continued fiscal incentives for conservation.

2. Financial policies

a. Budgetary policy

Strict adherence to fiscal discipline has been the linchpin of successful management of the economy. The Central Government has consistently recorded budgetary surpluses, which, together with the substantial surpluses of the Central Provident Fund, has exerted a strong contractionary impact on domestic liquidity. 1/ The Government's efforts in recent years to meet the need for housing and infrastructure (e.g., airport, railways) have resulted in a relatively sharp rise in the share of government expenditures in GDP, from 23 percent in 1979 to 29 percent in 1982 (Table 6). Increased revenues generated by rapid economic growth and a buoyant tax system have ensured a continuing surplus in the budget.

In FY 1982/83 (April-March), the surplus of the Central Government declined slightly to 2.7 percent of GDP. Development expenditures continued to rise rapidly (22 percent), largely on account of the Government's housing program--the share of development in total expenditures has risen from about one third in 1979/80 to one half in 1982/83. Current expenditures rose by 16 percent primarily due to salary increases for civil servants. Total revenues continued to rise rapidly (to 31 percent of GDP), due to the strong performance of tax revenues. Public enterprises, excluding the Central Provident Fund, registered a combined deficit of about 2.7 percent of GDP, largely a result of deficits incurred by the Housing Development and the Public Utilities Boards. Nevertheless, the surplus of the Central Provident Fund enabled the overall financial position of the public sector to remain in substantial surplus; the Central Provident Fund purchases of government bonds amounted to about 12 percent of GDP. 2/

The budget for 1983/84 indicates a substantial deficit, but the authorities have affirmed that, as in the past, actual expenditures will fall short of, and revenues exceed, budgeted levels; the overall budgetary position is expected to remain in surplus. The authorities envisage a significant increase in expenditures. With the continuation

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1/ The Central Provident Fund, which is Singapore's social security fund, purchases government bonds and thereby transfers deposits to the Government. The rate of contribution to the Central Provident Fund has been raised gradually over the years; the most recent increase of 1 percentage point as of July 1983 brought the rate of contribution to 46 percent of the employees' wages, to be paid equally by the employee and the employer.

2/ With the establishment of the Government of Singapore Investment Corporation (GSIC) in 1981, a substantial and undisclosed portion of the Central Provident Fund's assets were transferred to the GSIC. In view of the limited absorptive capacity of the domestic capital market, these assets were invested in real and financial assets abroad in order to fund future pensions and other benefits.

Table 6. Singapore: Government Budgetary Operations, 1979/80-1983/84 1/

	1979/80	1980/81	1981/82	1982/83 Budget	1982/83 Actual	1983/84 Budget	1983/84 Staff Proj.
	(In billions of Singapore dollars)						
Total revenue	4.9	6.5	8.5	8.3	9.8	9.7	11.0
Tax	3.4	4.4	5.4	5.5	6.4	6.2	7.3
Nontax	1.5	2.1	3.1	2.8	3.4	3.5	3.7
Total expenditure	4.7	6.2	7.6	11.0	9.0	13.0	10.6
Current	3.1	3.7	4.3	5.1	5.0	6.4	5.8
Development	1.6	2.5	3.3	5.9	4.0	6.6	4.8
Overall surplus/deficit	0.2	0.2	0.9	-2.7	0.8	-3.3	0.4
	(In percent of GDP)						
Total revenue	24.2	26.7	30.0	26.5	31.4	28.7	32.5
Total expenditure	23.0	25.7	26.6	35.2	28.6	38.4	31.3
Overall surplus/deficit	1.2	1.0	3.4	-8.7	2.7	-9.7	1.2

Sources: Data provided by the Singapore authorities; and staff projections.

1/ The fiscal year runs from April 1 through March 31.

of the public housing program, development expenditures are likely to increase by 20 percent. Current expenditures are also expected to rise rapidly (16 percent), reflecting further salary increases aimed at bringing salaries of civil servants in line with those of private sector employees. On the revenue side, no major tax changes are proposed. Total revenues are estimated by the staff to increase somewhat faster than income, resulting in a surplus of about 1 percent of GDP. The Central Government surplus is likely to be offset by the combined deficits of public enterprises, but net contributions to the Central Provident Fund are expected to increase further in 1983, partly because of a small increase in the rate of contribution. Consequently, the monetary impact of the public sector's financial operations should remain highly contractionary.

The authorities' medium-term budgetary strategy is one of continued expansion of development expenditures. The public housing and the Mass Rapid Transit projects are expected to result in some further increase in the ratio of government expenditures to GDP. However, the related financing should not pose a problem, given the buoyant tax system and prospective large surpluses of the Central Provident Fund through the early 1990s.

b. Monetary policy

The authorities' ability to pursue independent monetary and interest rate policies is severely constrained by the close link between domestic and international financial markets. The easy access by domestic residents to foreign markets implies that monetary disequilibria are quickly dissipated through movements of either net foreign assets or the exchange rate. In this setting, the authorities' overriding policy objective of maintaining a strong and stable exchange rate precludes direct control of the money supply or of domestic interest rates.

The reciprocal relationship between domestic and foreign sources of monetary expansion is demonstrated clearly by changes in net foreign assets of the MAS which have mirrored those of net domestic assets--illustrated in Chart 1. In the short run, the impact of government financial operations on reserve money has been offset by corresponding flows of foreign assets. The underlying upward trend in net foreign assets has been dictated by the cautious financial policies, which have consistently drained liquidity from the system. The chronic excess demand for liquidity has induced large inflows of foreign assets and exerted upward pressure on the currency. 1/ To avoid excessive appreciation of the Singapore dollar, the MAS has continually purchased substantial amounts of foreign currencies through intervention or swap transactions. The MAS' net lending to banks has been relatively small, particularly since 1981.

1/ Under the Currency Board system, the Singapore currency is fully backed by external assets.

In recent years, the authorities have placed even greater emphasis on smoothing out fluctuations in the exchange rate. At the same time, speculative capital flows have increased in response to the volatility of exchange rates of the major currencies and of foreign interest rates. The rate of monetary expansion has been subject to wide fluctuations, because the authorities have intervened in the market to neutralize the impact of speculative flows on the exchange rate. In view of these fluctuations, the authorities do not place much significance on the short-term movements of monetary aggregates--in 1982, the twelve-month growth rate of M2 ranged between 8 percent in April to 20 percent in October. Nevertheless, the slowdown in economic activity and domestic inflation was reflected in a decline in the average M2 growth from 22 percent in 1981 to 14 percent in 1982.

Because of the complete freedom of capital movements in Singapore, domestic interest rates are closely linked to the corresponding foreign rates. The covered differential between the three-month interbank rate in the domestic market and in the Asian Dollar Market 1/ has remained below 1 percentage point (Chart 2). Because of the forward premium on the Singapore dollar, domestic rates have been consistently below the foreign rates. Domestic interest rates declined sharply in late 1981 as the forward premium on the Singapore dollar peaked at about 8 percent. Subsequently, domestic rates stabilized, because a gradual decline in foreign rates was accompanied by a narrowing of the forward premium. In line with developments abroad, domestic rates have remained high in real terms, but their impact on private investment is believed to be minimal.

The authorities have used a combination of fiscal and other incentives (e.g., reduced telecommunications charges) to encourage the development of Singapore as a major financial center. To raise Singapore's share of offshore loan syndications in the region, all income earned from syndication in Singapore within five years from April 1983 has been exempted from the 10 percent income tax. The easy access of domestic residents to the Asian Dollar Market, however, has posed some problems for domestic monetary management. In particular, a number of banks have engaged in so-called "round-tripping" by switching domestic and foreign currency deposits in order to avoid reserve requirements applicable to domestic liabilities. The MAS has succeeded in discouraging these practices through moral suasion, severe reprimands to banks, and in some cases, fines. In order to lessen the incentives for round-tripping the MAS has considered imposing reserve requirements on interbank liabilities and reducing reserve requirements in general. However, no action on such proposals is expected in the near future in view of the recent success in curbing round-tripping.

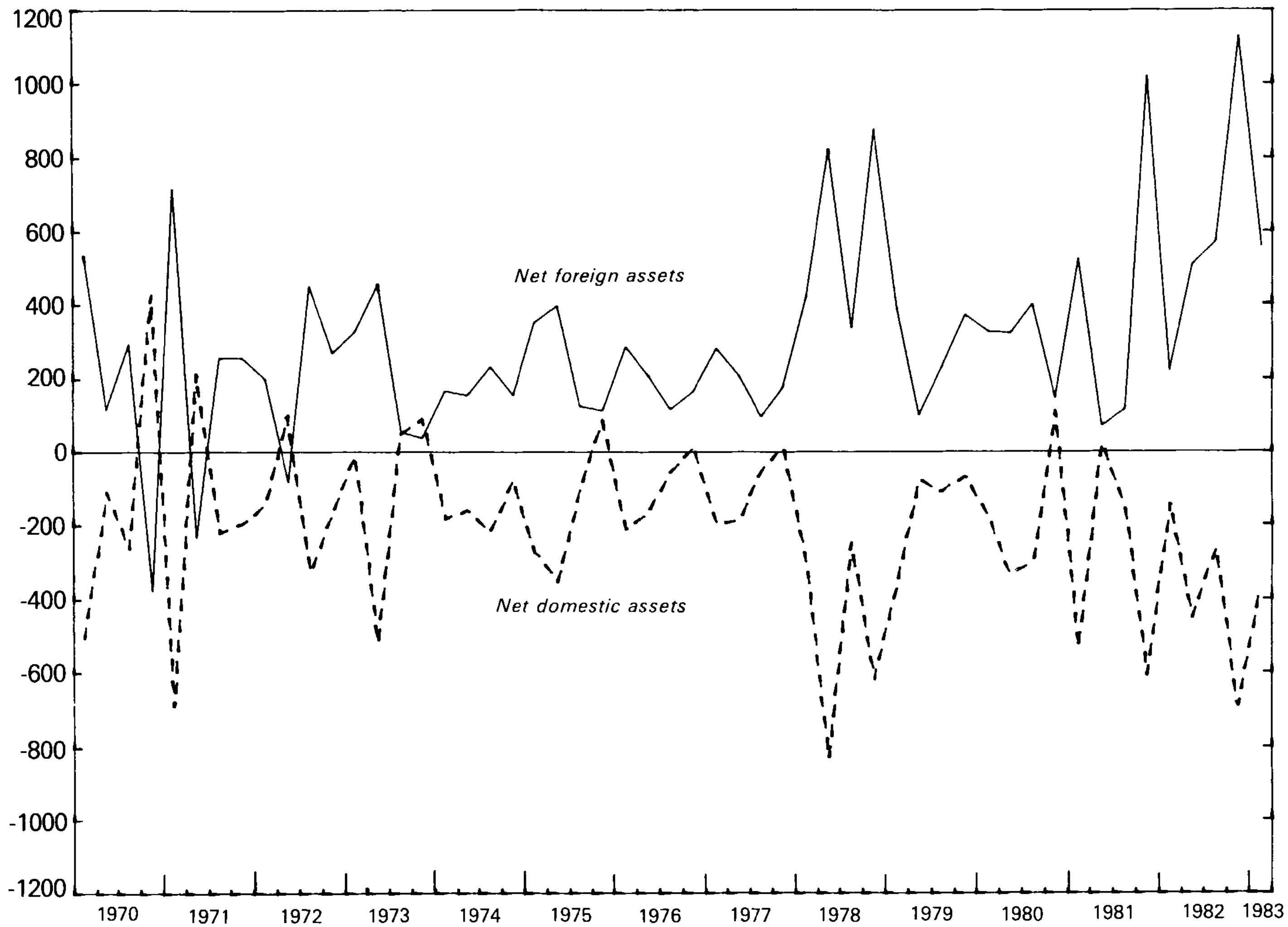
1/ The differential is defined as the difference between Singapore interbank offered rate (SIBOR) on the U.S. dollar and the domestic interbank rate adjusted for the forward premium on the Singapore dollar and for reserve requirements.

CHART 1

SINGAPORE

CHANGES IN ASSETS OF THE MONETARY AUTHORITY, 1970-83

(In millions of Singapore dollars)



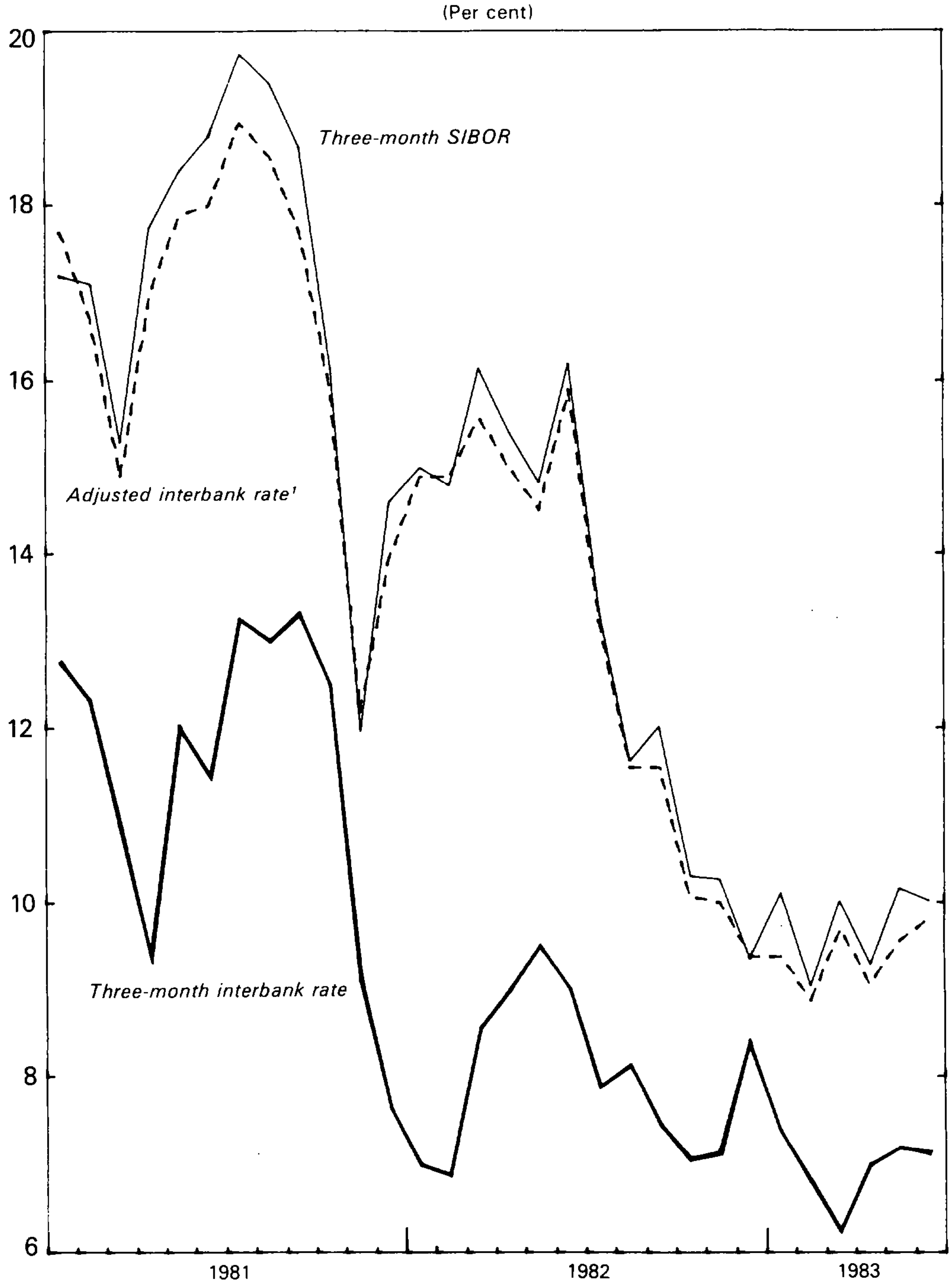
Source: IMF, *International Financial Statistics.*

CHART 2

SINGAPORE

COMPARISON OF DOMESTIC AND FOREIGN INTEREST RATE, 1981-83

(Per cent)



Source: Data provided by Singapore authorities.

[1]The three month interbank rate adjusted for the forward premium on the Singapore dollar and for reserve requirements.

c. External policies

In managing the exchange rate, the authorities have sought a balance between the twin objectives of mitigating imported inflation and protecting export competitiveness. In early 1981, the Singapore dollar was allowed to appreciate more rapidly to offset foreign inflation and to facilitate imports of capital goods. The rapid pace of appreciation was maintained during 1982, augmenting the impact of falling world prices on domestic prices. During the period January 1981-June 1983, the effective exchange rate appreciated by about 16 percent in nominal terms and by 13 percent in real terms--based on relative movements of domestic and foreign consumer prices--(Chart 3). The strong Singapore dollar contributed to a decline of 6 percent in the (nonfuel) wholesale price index, which is composed almost entirely of traded goods. 1/ On the other hand, increases in unit labor costs, associated with the wage correction policy, and a buoyant domestic demand exerted pressures on prices of nontraded goods and contributed to an increase of 11 percent in the consumer price index, which includes some nontraded goods. These developments led to a deterioration in the competitiveness of traded goods relative to that of nontraded goods.

The authorities are of the view that while the strong Singapore dollar and wage increases in manufacturing have had a negative influence on exports to the European countries and Japan, the major source of weakness in exports has been the recession in the industrial countries; this view was reinforced when exports responded quickly to the recent economic expansion in the United States. The authorities intend to keep the exchange rate policy under close review so as to ensure the continued recovery of exports.

The authorities expressed concern about the adverse impact on Singapore's exports of restrictive trade measures adopted by trading partners, particularly the industrial countries. Exports of a number of products are being restrained by "voluntary" export arrangements, import licensing, more restrictive criteria on exports under the Generalized Scheme of Preferences (GSP), and quotas under the Multifiber Agreement. Moreover, anti-dumping duties imposed by some countries have eliminated certain exports altogether. Stressing that Singapore's relatively low costs had been achieved by productive efficiency and that Singapore's shares in most export markets were modest, the authorities hoped that these restrictions would be lifted in the near future.

1/ Regressing the rate of change in wholesale prices (DWP) on rates of change in import prices (DMP) and export prices (DXP) gives the following results (t-values are shown underneath the coefficients):

$$\underset{(10.5)}{DWP = 0.65}\ DMP + \underset{(5.9)}{0.29}\ DXP + \underset{(0.8)}{0.001}\ ;\quad R^2 = 0.95\ ;\quad D.W. = 1.85$$

Singapore's vulnerability to external shocks necessitates a relatively high level of international reserves. The present level of reserves is viewed by the authorities as sufficient and consistent with prudential considerations; in June 1983 gross official reserves stood at US$8.8 billion (about five months of retained imports). Additional support is provided by the foreign assets of the GSIC held in long-term financial and real assets; short-term foreign assets of the GSIC are included in official reserves. Information on the GSIC asset holdings and on the breakdown of international reserves into gold and foreign exchange is considered confidential.

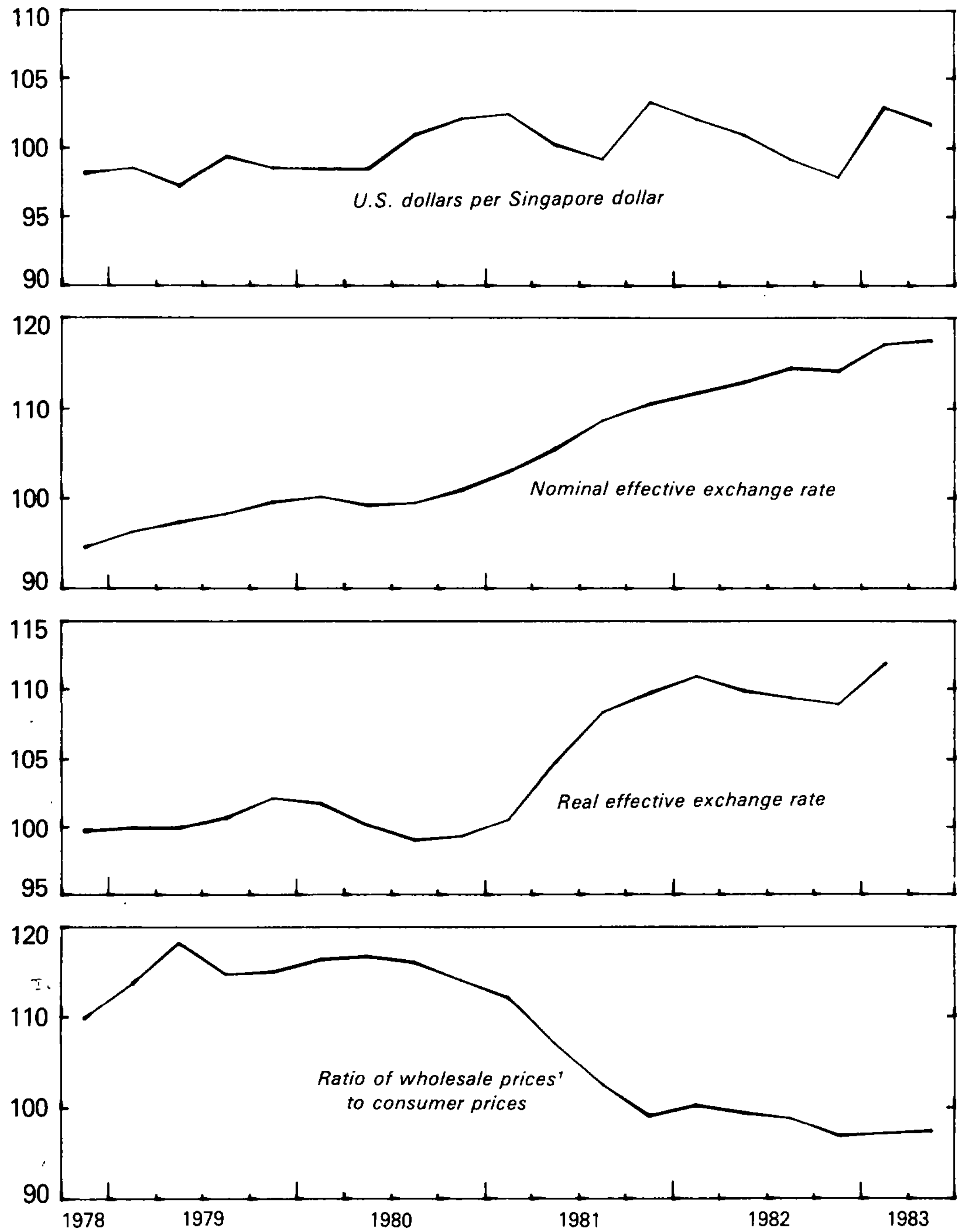
3. Industrial restructuring policies and medium-term objectives

The authorities firmly believe that Singapore's growth potential over the medium-term critically depends on its capacity to shift resources to more capital- and skill-intensive modes of production. In view of tight labor market conditions, a paucity of natural resources, and increasing foreign competition in traditional export markets, there is limited future scope for relying on labor-intensive activities to generate growth. There is evidence that some restructuring of industry in the desired direction has taken place in recent years: the share of high value-added industries in total manufacturing has risen from 41 percent to 49 percent during 1979-82 (Table 7); output of computers and office automation equipment has expanded, while production in more labor-intensive industries such as textiles and timber has declined; and fixed assets and value-added per worker envisaged in investment commitments have more than doubled during 1979-82.

Government policies that have clearly contributed to the restructuring of industry include: fiscal incentives to encourage new investment in labor-saving machinery and in high technology fields (e.g., computer equipment and bio-technology); the development of needed infrastructure (e.g., the creation of industrial estates, expansion of transport facilities, and improvement of telecommunication services); and establishment of training programs to upgrade workers' skills. The impact of the government wage-correction policy, however, is less clear because of its adverse impact on profitability and investment in the manufacturing sector. The authorities believe that the increase in relative labor costs has encouraged some substitution of capital for labor. They view the adverse impact of higher real wages on profits in manufacturing to be short-lived, because productivity gains are expected to materialize when new industries develop.

The industrial restructuring effort will be continued through the maintenance of fiscal incentives, further improvement in infrastructure, and training programs to upgrade labor skills. A number of high technology industries, such as aircraft components, pharmaceuticals, and precision engineering, are expected to develop rapidly over the next

CHART 3
SINGAPORE
INDICES OF EXCHANGE RATES AND RELATIVE PRICES, Q4 1978-Q2 1983



Source: Data provided by Singapore authorities and staff estimates.
[1]Nonfuel wholesale prices.

few years. On the other hand, it is anticipated that the oil refining industry, which is highly capital-intensive, will be adversely affected by the decision of a number of oil producing countries to expand their own oil refining capabilities.

Table 7. Singapore: Selected Indicators of Shifts in Industrial Structure, 1979-82

(In percent)

	1979	1980	1981	1982
Annual real growth				
High value-added industries	15	12	16	-2
Low value-added industries	16	13	3	-10
Total non-oil manufacturing	15	12	10	-6
Share in total non-oil manufacturing 1/				
High value-added industries	41	42	47	49
Low value-added industries	59	58	53	51

Sources: Department of Statistics; and staff estimates.

1/ In value-added terms. Industries were classified as high or low value-added depending on whether value-added per worker in 1978 was greater or less than that for the total manufacturing sector.

Despite the efforts to promote capital-intensive industries, the bulk of exports in the coming years will remain labor-intensive. Therefore, the availability of labor will determine the strength of the response of the export sector to increased external demand. Labor market conditions are expected to tighten because of the Government's long-term housing program, which calls for the provision of owner-occupied housing for 80 percent of the population by 1991, and the construction of the Mass Rapid Transit system. While the supply of foreign construction workers provides a safety valve, pressures in the labor market are likely to intensify with the implementation of government plans to repatriate other foreign workers from nontraditional sources by end-1984 and from traditional sources by 1991. The authorities are cognizant of this potential problem and intend to implement projects flexibly so as not to inhibit rapid export growth.

Notwithstanding the constraint imposed by labor scarcity over the medium term, Singapore's growth potential remains favorable. The authorities believe that real economic growth of 6-8 percent per annum is achievable over the medium term. 1/ The realization of this target will depend on both the sustained recovery of world trade and continued implementation of prudent economic policies.

IV. Staff Appraisal

Following a long period of rapid expansion, the Singapore economy could no longer be fully insulated from a deepening world recession in 1982, and exports declined for the first time since 1975. Nevertheless, buoyant domestic investment by both the private and public sectors led to an output growth of over 6 percent, which, although below Singapore's historical trend, was high by international standards. At the same time, domestic prices were stabilized and the country continued to enjoy a strong external position and a comfortable level of international reserves. By any measure, this represents an outstanding economic performance.

Financial conditions in Singapore are dominated by external developments because the domestic and international capital markets are highly integrated. In this setting, the authorities' policy of focusing on exchange rate management, rather than on the control of monetary aggregates, is entirely appropriate. The anticipated budgetary surplus and the substantial sales of government bonds to the Central Provident Fund will continue to exert a contractionary impact on liquidity and will induce inflows of foreign assets. These cautious financial policies should perpetuate the "virtuous cycle" produced by the interaction of a strong currency, stable prices, and balance of payments surpluses.

In view of the anticipated shortage of labor in the coming years, the authorities' policy of promoting a restructuring of industry toward capital- and skill-intensive modes of production is appropriate. Some progress in this area is already evident; a discernible shift from low to high value-added industries has taken place. The comparative advantage of Singapore in terms of skilled labor and well-developed financial and other service sectors should enhance the development of other high value-added industries. The recent sharp increase in unit labor costs and an appreciating currency, however, have exacerbated the impact of weak external demand on manufacturing. The resumption of growth in the manufacturing sector will be facilitated by placing greater emphasis on protecting export competitiveness in implementing exchange rate policy. With the termination of the wage correction

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1/ Medium-term balance of payments projections are provided in Appendix I.

policy and low inflation rates abroad, the authorities are in a better position to maintain domestic price stability without continued appreciation of the currency.

Over the medium-term, public investment is being stepped up further in line with plans to substantially increase the supply of housing and to build a Mass Rapid Transit system. Financing of these programs should not pose a problem, given the buoyancy of the tax system and the substantial domestic savings provided through the Central Provident Fund. However, flexibility in implementing public investment programs and in utilizing foreign workers is needed to ensure that labor market constraints do not inhibit rapid export growth.

Given the excellent record of economic management and the fundamental strength of the economy, it should not be surprising that the staff has not encountered significant differences of views as regards the appropriateness of the broad policy stance for the present and prospective situation. The Singapore economy serves as an excellent example of the virtues of financial prudence and free trade.

It is recommended that the next Article IV consultation with Singapore be held on the standard 12-month cycle.

Singapore: Medium-Term Scenarios, 1983-87

	1983	1984 A	1984 B	1985 A	1985 B	1986 A	1986 B	1987 A	1987 B
	(Percentage change)								
Real GDP	7.0	7.0	8.5	7.0	8.5	7.0	8.5	7.0	8.5
GDP deflator	1.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Terms of trade	0.9	-0.9	-0.9	--	--	--	--	--	--
Domestic exports									
Unit value	-1.5	1.3	1.2	3.5	3.5	3.0	3.0	3.0	3.0
Volume 1/	6.5	7.8	8.4	7.4	7.9	7.4	7.9	7.4	7.9
Retained imports									
Unit value	-2.9	2.3	2.1	3.5	3.5	3.0	3.0	3.0	3.0
Volume 2/	6.0	7.9	9.3	7.6	8.9	7.6	8.9	7.6	8.9
	(In percent of GDP)								
Trade balance	-42.5	-42.5	-42.9	-42.3	-43.9	-43.2	-45.2	-44.0	-46.4
Current account balance	-3.6	-4.6	-5.5	-4.8	-6.6	-5.0	-8.6	-6.0	-10.8
	(In months of retained imports)								
Gross external reserves	4.7	5.0	4.8	5.1	4.8	5.1	4.6	5.1	4.3

Source: Staff projections.

1/ Nonfuel domestic exports, which are forecast to grow by 9 percent in 1983, are projected to increase annually in 1984-87 by 9 percent under Scenario A and by 10 percent under Scenario B.

2/ Nonfuel retained imports, which are forecast to grow by 7 percent in 1983, are projected to increase annually in 1984-87 by 8.4 percent under Scenario A and by 10.2 percent under Scenario B, implying an income elasticity of 1.2.

Fund Relations with Singapore 1/

Date of membership:	August 3, 1966
Status:	Article VIII.
Quota:	SDR 92.4 million
Proposed quota:	The Singapore authorities did not consent to their proposed quota of SDR 250.2 million under the Eighth Review.
Fund holdings of Singapore dollars:	25.8 percent of quota.
SDR position:	Holdings (SDR 57.7 million) amounted to 350 percent of net cumulative allocation (SDR 16.5 million).
Gold distribution (four distributions):	31,665.603 fine ounces.
Direct distribution of profits from gold sales: (July 1, 1976-July 31, 1980):	US$3.5 million.
Exchange system:	The Singapore dollar is pegged to an undisclosed composite of currencies of Singapore's major trading partners. As of September 30, 1983, US$1 = S$2.14 and SDR 1 = S$2.26.
Fund technical assistance:	Provided through Bureau of Statistics, the Central Banking, and Fiscal Affairs Departments. During 1980/81, Mr. San Lin was serving through CBD as a general advisor to the Managing Director of the Monetary Authority of Singapore for the period July 1980-March 1981.
Last Article IV consultation:	Staff discussions in Singapore, May 31-June 11, 1982 (SM/82/161, SM/82/184). Executive Board discussion on September 17, 1982.

1/ As of September 30, 1983.