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<th>Singapore's exchange rate management system</th>
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Traditionally, in an era of limited capital mobility, when the domestic financial markets were still relatively undeveloped, the Monetary Authority of Singapore (MAS) relied on direct control measures as main instruments of the monetary policy. From 1965 to the early-1970s, monetary control policies were mainly targeted at reducing growth in bank deposits and limiting the availability of foreign assets in domestic banks. In the late-1970s, the traditional instruments of monetary policies – interest rate regulations and direct capital controls – were found to be incompatible with the overall economic thrust of developing a global and sophisticated financial centre in Singapore. Since 1981, MAS had formulated a unique exchange rate policy to achieve the ultimate target of low inflation. This case documents the evolution of Singapore’s monetary policy from 1965 to 2002 and allows students to explore the reasons and possible consequences of this monetary policy.
INTRODUCTION

There is no turning back from our quest to liberalise and to go global. We will continue developing a more open and competitive environment, in order to create a dynamic and vibrant world-class financial centre.¹

Lee Hsien Loong, Chairman
The Monetary Authority of Singapore

In December 2002, Dr Khor Hoe Ee, Assistant Managing Director (Economics), Monetary Authority of Singapore (MAS), recalled the new monetary challenges he mentioned two years ago in the face of new economic realities:

As financial markets continue to grow rapidly and become more interconnected and complex, it is likely that external shocks will become more severe and unpredictable. The challenge to monetary policy is to provide a firm bearing for the Singapore economy and to work closely with financial supervision and other economic agencies to ensure that the financial system and other key sectors of the economy are robust and resilient to such shock.²

Economic turbulence and political uncertainties had become pertinent features of the new world economy in the aftermath of the September 11, 2001 terrorist attacks in the United States. Hence, a fundamental evaluation of Singapore’s existing monetary policy was necessary.

SINGAPORE’S ECONOMIC POLICY AND STRUCTURE

Singapore achieved independence in 1965 after breaking out of the merger with Malaysia to become a small and open economy. A strong central government intervened regularly in the markets to guide economic and social development towards the specific goals of all monetary, fiscal, and wage policies of the country. This distinct feature of Singapore’s economy stood in sharp contrast to other open and small economies in Asia, in particular Hong Kong, where there was the least amount of government intervention in economic policies and the lack of a strong currency policy allowed market forces to freely determine the money supply.

After independence, Singapore journeyed through four distinct phases of economic growth. In the first phase, the government pursued an export-led industrialisation strategy by attracting foreign investors to set up labour-intensive manufacturing bases in Singapore to curb massive unemployment. The next economic shift was characterised by an industrial restructuring from labour-intensive to capital-intensive activities. The third restructuring, introduced after the first major recession in the mid-1980s, was aimed at developing the services sector in Singapore. The fourth phase that began in the late-1990s was directed towards creating a knowledge-based service, a high technology sector and an entrepreneurial domestic economy. (See Exhibit 1 for an account of the four economic developmental phases in Singapore.)

A key fiscal feature unique to Singapore was the Central Provident Fund (CPF), a compulsory savings scheme mandated by the government. Residents in Singapore had a portion of their salary deducted and deposited in the fund. This resulted in a large amount of private sector savings placed with the government rather than in domestic financial markets. The CPF scheme enabled the government to maintain a current account surplus and export capital abroad. Unlike some of its neighbouring countries that borrowed external capital when faced with a current account deficit, the Singapore government seldom had to import capital to finance its current account.

Since 1965, Singapore had been governed by the same political party, People’s Action Party (PAP), that fought for its sovereignty and the country had been led by only two Prime Ministers during the last 37 years. The PAP had served the people well with foresight in economic development. For example, a series of incremental liberalisation reform measures and planned strategies were implemented ahead of any other Southeast Asian country to develop Singapore into a global financial centre. By 1994, Singapore became the fourth largest foreign exchange trading centre in the world, after New York, London and Tokyo.

² Ibid.
EVOLUTION OF SINGAPORE’S MONETARY POLICY

The blueprint to develop Singapore into a global financial hub was envisioned in the late-1960s. This led to the implementation of special incentives to increase international trade flows and investments in the country. As a global financial centre, Singapore met several important criteria, including a strategic location, strong domestic economy, stabilised currency, active domestic banks, financial expertise, new financial instruments and regulations as well as an effective network of financial institutions providing sophisticated financial services.

Established in 1971, MAS eventually assumed the responsibility to supervise the development of Singapore’s financial sector and administer appropriate monetary policies.

Traditional Market Instruments

In the early years, the Singapore government had relied on tight regulations for monetary control. Instruments of monetary control before 1975 were targeted at reducing growth in bank deposits and limiting the availability of foreign assets in domestic banks. The government had direct influence over domestic interest rates which were fixed by the Association of Banks in Singapore in consultation with MAS. Credit ceiling and reserve requirements were two main measures used to regulate money supply. While these measures were successful in reversing rapid money growth and curbing inflation throughout the early-1970s, the government found them inconsistent with its long-term economic goals of liberalising its financial sector for developing a sophisticated, modern financial market with new financial intermediaries, services and instruments. It thus decided to replace the traditional mechanisms with open-market based instruments for more effective monetary control.

Until 1972, Singapore, formerly a British colony, had anchored its currency to the Pound Sterling (commonly known as the pound) in order to maintain a strong and convertible currency. Great Britain was then its most important trading partner and a significant source of capital flowing into Singapore. However, in 1972, a massive speculative attack on the pound led to its eventual floating in June that year. Consequently, Singapore switched its peg from the pound to the US dollar (USD). In 1973, a major devaluation of the USD triggered a chain of events that caused the disintegration of the Bretton Woods regime. The Bretton Woods fixed exchange rate system that had worked well from 1945 to 1971 crumbled under the new pressures arising from the liberalisation of world capital markets, the expansion of multinational corporations and the emergence of a single Eurocurrency market.

Following the collapse of the Bretton Woods system, MAS decided to abolish the fixed exchange rate policy in June 1973. The Singapore dollar (SGD) was floated upwards as a final resort to fight against inflation. Although the Singapore government had earlier tried to combat inflation resulting from the pound crisis by raising the reserve ratio and interest rates, these interim measures proved to be insufficient as the subsequent USD devaluation set off another massive influx of speculative foreign funds into Singapore. In the transitional phase that began after 1973, before the adoption of an exchange rate focused monetary regime in the early-1980s, the Board of Commissioners of Currency in Singapore stepped in to maintain a strong and convertible domestic currency by backing the issue of domestic currency with foreign reserves.

Meanwhile, the government continued to pursue financial liberalisation. In July 1975, the bank interest-setting cartel system was eradicated. As a result, MAS no longer had direct control over interest rates although it could still intervene indirectly through money market operations. The liberalisation of interest rates supported by substantial progress in combating inflation had positive results, one of which was the further deepening of Singapore’s financial market.

The Shift to an Open-Market Flexible Exchange Rate Management Regime

Underlying this shift in emphasis away from targets for interest rates and money supply growth…is the view that exchange rate is a relatively more important anti-inflationary instrument in the context of a small and open Singapore economy…The emphasis given to a strong exchange rate policy also facilitates the policy of upgrading and restructuring the domestic economy.

MAS Annual Report, 1983

The dramatic events in the world financial landscape which began with the collapse of the Bretton Woods system followed by the oil crises and global economic downturn made the Singapore government develop its own exchange rate management system. The meltdown of the Bretton Woods system demonstrated that a fixed exchange rate monetary policy would give rise to structural constraints in achieving domestic economic goals.

With its financial markets developing rapidly, the government recognised the need to shift from direct controls to market intervention in regulating money supply to meet the needs of an increasingly complex and integrated financial system.

In the early-1980s, the institutional mechanism that marked a major shift in Singapore’s monetary policy was finally put in place. In the small economy of Singapore where the traded goods sector was extremely important, the exchange rate, which had a direct influence over prices and profitability of traded goods and resource allocation, was chosen as the main target. The ultimate policy objective was to promote price stability while ensuring sufficient liquidity to sustain real economic growth. The administration of the new exchange rate policy came under the jurisdiction of the MAS. (See Exhibit 2 for Transmission of Singapore’s Exchange Rate Policy.)

SINGAPORE’S EXCHANGE RATE MANAGEMENT POLICY

Singapore’s exchange rate policy followed a managed float system. The SGD was managed against a basket of currencies of the country’s major trading partners and competitors. Various currencies within the basket were given different weights based on the level of trade dependence on each of the major trading partners. The trade-weighted exchange rate was allowed to fluctuate within an undisclosed bandwidth rather than kept to a fixed value. The band gave flexibility to the system to accommodate short-term fluctuations in the foreign exchange markets, thus allowing for periodic and instantaneous adjustments in response to the relative movements of currencies in the trade-weighted basket and during economic uncertainties.

On a daily basis, MAS monitored the Singapore dollar trade-weighted index closely. Whenever the exchange rate moved above or below the undisclosed band, MAS would intervene by buying or selling foreign exchange to steer the exchange rate back within the policy band. On rare occasions, in tactical play, intervention might occur before the band was violated. Depending on the target, the intervention could either be a purchase of SGD against the USD to effect a depreciation of the Singapore currency or a sale of SGD against the USD to curtail the rate of appreciation. MAS maintained that undue interventions were kept to a minimum when allowing Singapore’s exchange rate to be determined by market forces. (See Exhibit 3 for an illustration of the impact of Intervention Operation on the MAS' Balance Sheet.)

Every six months, a periodic policy review was carried out to accommodate changes in the Singapore trade markets and to smooth short-run volatility resulting from the relative movements of currencies in the trade-weighted basket. The half-yearly policy review was to ensure that the exchange rate policy band remained consistent with the underlying fundamentals of the economy and to avoid a misalignment in the currency value.

Under the new exchange rate management regime, the purchasing power of the SGD and confidence in the currency were maintained and the value of workers’ savings was preserved. This was consistent with the aims of the policy makers in maintaining a strong and stable currency to attract capital inflows and promoting integration with international financial markets. The direct consequence of targeting the exchange rate was that MAS could not pursue other coexisting policies which targeted the control of interest rates or money supply. The rise or fall of interest rates was left to invisible hands, including foreign interest rates and investor expectations.

As a result of the CPF scheme, Singapore’s fiscal current account had maintained constant surpluses in the early years. Net surpluses of the provident fund as well as public sector surpluses were deposited with MAS. With these large surpluses, MAS had an effective means to contract liquidity, whenever necessary, to strengthen the exchange rate. However, policy analysts suggested that the conduct...
of monetary policy during the 1990s was constrained by domestic fiscal policies; the liquidity drain which had limited monetary policy to an expansion role.\(^5\)

To ensure that there was sufficient liquidity in the banking system, MAS engaged in either money market or foreign exchange intervention operations to offset the liquidity drain.

**SINGAPORE’S GENERAL CURRENCY MOVEMENT SINCE 1981**

**The General Trend**

From 1981 to 2000, after the new monetary policy was implemented, the SGD generally appreciated against the USD, Deutsche Mark (DM) and main regional currencies, reflecting rapid economic growth, increasing productivity and high domestic savings. Between March 1981 and September 2000, the SGD appreciated by about 20 percent and 25 percent against the USD and the DM respectively; this translated to a depreciation of 40 percent against the Japanese Yen (JPY).\(^6\) (See Exhibit 4 for SGD Exchange Rate Movements against selected major global currencies).

**Crisis and Policy Adjustment**

In 1985, rising domestic costs, high wage policies and deteriorating international competitiveness resulted in the first economic recession in Singapore’s history. In facilitating economic recovery, the exchange rate was allowed to depreciate sharply in conjunction with other temporary cost-cutting measures, including wage freeze and labour cost reduction, which were effected through reducing the employers’ contribution rate to the CPF scheme.

In July 1997, following the devaluation of the Thai Baht, the Asian financial crisis broke out. Policy analysts blamed the quasi-USD peg system adopted by several East Asian countries as the main culprit for causing the overvaluation of several regional currencies, which in turn resulted in the Asian financial crisis.\(^7\) Some observers pointed out that the dollar peg exchange rate regime encouraged excessive unhedged foreign borrowing, through the provision of guarantee on exchange rate stability.\(^8\)

In response to the Asian crisis, MAS widened its exchange rate policy band so that it could manage the exchange rate more flexibly in the more volatile foreign exchange market. The subdued inflationary environment also allowed an easing of exchange rate policy to cushion the economy from the adverse effects of the crisis and facilitate its recovery. This was consistent with the overall thrust of the government’s principle for intervention which was to step in during times of extreme turbulence to prevent the currency from short-term misalignment.

In 2001, a severe electronics slump swept across the globe. MAS announced an exchange rate policy shift from a gradual and modest appreciation of the SGD to a neutral policy in July 2001. On September 11, terrorism took centre stage in world politics, triggering off new economic uncertainties with severe global impacts. The economic downturn worsened in the aftermath of the terrorist attack. In response, MAS widened the trade-weighted exchange rate bandwidth to inject greater flexibility into Singapore’s exchange rate management system. After the international financial markets stabilised, the policy band was narrowed to reflect the regained stability although the neutral policy stance remained unchanged.

**MONETARY POLICY REVIEW**

In 2000, Lee Hsien Loong, MAS Chairman, had mentioned that the Singapore government intended to stay on the course of financial liberalisation:

> *Our objective has been to open up the financial sector progressively but decisively. We have aimed to allow market forces greater free play, get investors to take full responsibility for their decisions along with the outcomes, and shift MAS’ emphasis to setting the framework and upholding standards of*

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8 Ibid.
integrity and supervision. Ultimately, we aim to become a vibrant and dynamic global financial hub.³

With the increasing frequency of external economic shocks and volatility in the business cycle, the government’s fiscal surplus had significantly reduced in recent years as it implemented more off-budget measures to help alleviate such shocks. Furthermore, corporate and personal income tax rates had been reduced to enhance Singapore’s long-term competitiveness. As a result of the reduction in CPF contribution and fiscal surplus, there was less liquidity drain and hence pressure for the exchange rate to appreciate.

With the domestic economy becoming more integrated into the world economy during such turbulent times, was the existing monetary policy best suited to meet the new world challenges? Should the government continue, change, or adjust the existing exchange rate management policy to meet the needs of an increasingly integrated and continuously evolving international financial market? Under what circumstances should the existing monetary policy be reformed?

EXHIBIT 1
THE SINGAPORE ECONOMY – A BRIEF OVERVIEW

Economic Growth in Singapore

Since achieving independence in 1965, Singapore’s economy experienced rapid growth. Real Gross Domestic Product (GDP) grew at an average of 8.6 percent per annum between 1965 to 1999. Real per capita GDP rose about eight-fold, from about S$4,000 in 1965 to over S$32,000 in 1999. The brisk economic growth was accompanied by low inflation averaging 3.2 percent per annum. Singapore’s economic performance compared well with that of other OECD1 countries over the same period, with GDP growth more than twice the OECD growth of 3.3 percent, and inflation at about half of the OECD average inflation rate of 7.1 percent. In addition, Singapore’s unemployment rate consistently remained lower than that of OECD countries since 1975, while its external position strengthened over the years.

Singapore’s economic strategy had adapted to the different challenges and priorities faced by the economy over time. The initial period of self-government in 1965-1970 was characterised by chronic unemployment among its poorly-educated population, a lack of proper housing and a low savings rate. Given its dearth of natural resources and small population, Singapore recognised the need to adopt liberal trade and foreign investment policies. Since independence, the government pursued an export-led industrialisation strategy by attracting foreign investments in labour-intensive industries to create jobs for the large number of unemployed. By the early 1970s, unemployment declined and attention was turned to restructuring the economy towards more capital and skill-intensive activities.

After the downturn in the mid-1980s, policies were also introduced to diversify the economic base, by promoting the services sector such as business and financial services. As a result, the importance of the service sectors in the Singapore economy rose steadily, especially over the past one-and-a-half decades. The services sector accounted for about two-thirds of value-added as at end-1999. Nonetheless, the manufacturing sector retained its position as the single largest sector in the economy, accounting for about a quarter of GDP as at end-1999 compared with 19 percent in 1995.

1 OECD stands for Organisation for Economic Co-operation and Development.
EXHIBIT 1
(CONTINUED)

THE SINGAPORE ECONOMY – A BRIEF OVERVIEW

Structure of the Economy in 1965 and 1999

The manufacturing sector underpinned the strong contribution of trade to Singapore’s economic growth over the years. International trade as a proportion of local output was without parallel in modern history. Merchandise exports had averaged over 130 percent of GDP since the mid-1980s, with total merchandise imports averaging close to 150 percent in the same period. Excluding entrepot trade, the figures were 85 percent and 98 percent respectively. At the same time, services exports made up about 28 percent of GDP in 1999. One striking feature of Singapore’s trade performance had been the changing composition of exports to progressively higher capital and skill-intensive products. The composition of non-oil domestic exports – the largest component of Singapore’s exports – shifted from traditional, lower value-added products like food and beverages, furniture and garments to more capital-intensive and higher value-added products like electronics and chemicals. Even within the electronics sector, exports moved away from the lower-end consumer electronics in the early-1980s, into areas like disk drives in the late-1980s and 1990s, and semiconductors from the mid-1990s.
Macroeconomic Fundamentals and Policies

Singapore’s strong economic performance had been predicated on its openness to capital and technology from abroad, an honest and efficient government as well as a cooperative relationship between labour and management. Equally important was a set of sound macroeconomic policies aimed at maintaining a conducive environment for long-term investment in the economy. Fiscal policy in Singapore was directed primarily at promoting long-term economic growth, rather than cyclical adjustment or the distribution of income. As such, the government had refrained from large unemployment benefits and price support schemes, preferring to pursue the route of job creation and free market competition.

High economic growth and the ethos of fiscal rectitude, which extended throughout the public sector, had led to budget surpluses averaging 5 percent of GDP over the past 10 years. Singapore's prudent fiscal policy had contributed to its high savings rate. Gross national savings rose from a modest 11 percent of GNP in 1965 to over 50 percent since 1995. Singapore's high domestic savings allowed it to achieve one of the highest investment rates in the world without having to incur foreign debt. High domestic savings also facilitated the maintenance of an ample stock of foreign reserves. This served to boost investor confidence and provide a buffer against adverse economic shocks. Fiscal conservatism, however, had not compromised the government’s commitment to build and maintain a world-class infrastructure. Over the last three decades, development and expenditure on average accounted for about one-third of government expenditure. This did not include the large investments made by the statutory boards. The equivalent figure in industrial countries was 5-10 percent.

Challenges Ahead

Technological advances had resulted in a globally integrated marketplace. To remain competitive in this new global economy, Singapore recognised the need to deregulate closed sectors and shift into a knowledge-based economy. The government took steps to deregulate key sectors of the economy such as the financial services, telecommunications and power. In the financial services sector, MAS opened the domestic banking and insurance industries to greater foreign participation. At the same time, MAS also adopted a more open and consultative approach both in terms of supervision as well as development of the sector, and shifted the emphasis from regulation to risk-focused supervision. To help promote a more vibrant and competitive environment, it was actively attracting new activities and players to Singapore. Various initiatives were launched to give fund managers greater access to domestic funds, develop the debt market and overhaul corporate governance. To shift successfully into a knowledge-based economy, Singapore had to strengthen its IT capabilities. The government was actively promoting entrepreneurship, especially in the area of technology, and set up a fund to co-invest with the private sector in high-tech start-ups. Given that human and intellectual capital were key competitive factors in a knowledge-based economy, the educational system was changed so as to encourage creativity and innovation from young. As such, various manpower initiatives were launched to encourage the continual retraining and re-skilling of the workforce. Another important component of the government’s labour market policy was the effort made in attracting foreign talent to Singapore. Taken as a whole, these measures helped position Singapore to contribute to, and partake of, the benefits of the global economy.

EXHIBIT 2

THE TRANSMISSION OF SINGAPORE’S EXCHANGE RATE POLICY


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EXHIBIT 3

INTERVENTION OPERATION AND MAS’ BALANCE SHEET

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<th>a. Purchase of S$ against US$ With a Bank</th>
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<td><strong>Assets</strong></td>
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<td>Foreign Assets</td>
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<td><strong>Liabilities</strong></td>
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<td>Bank’s Cash Balance with MAS</td>
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<th>b. Sale of S$ against US$ With a Bank</th>
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<tr>
<td><strong>Assets</strong></td>
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**EXHIBIT 4**

**SGD EXCHANGE RATE MOVEMENTS**

Note: Real Effective Exchange Rate (REER) was computed using export competitiveness weights and deflated by relative labour costs.


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