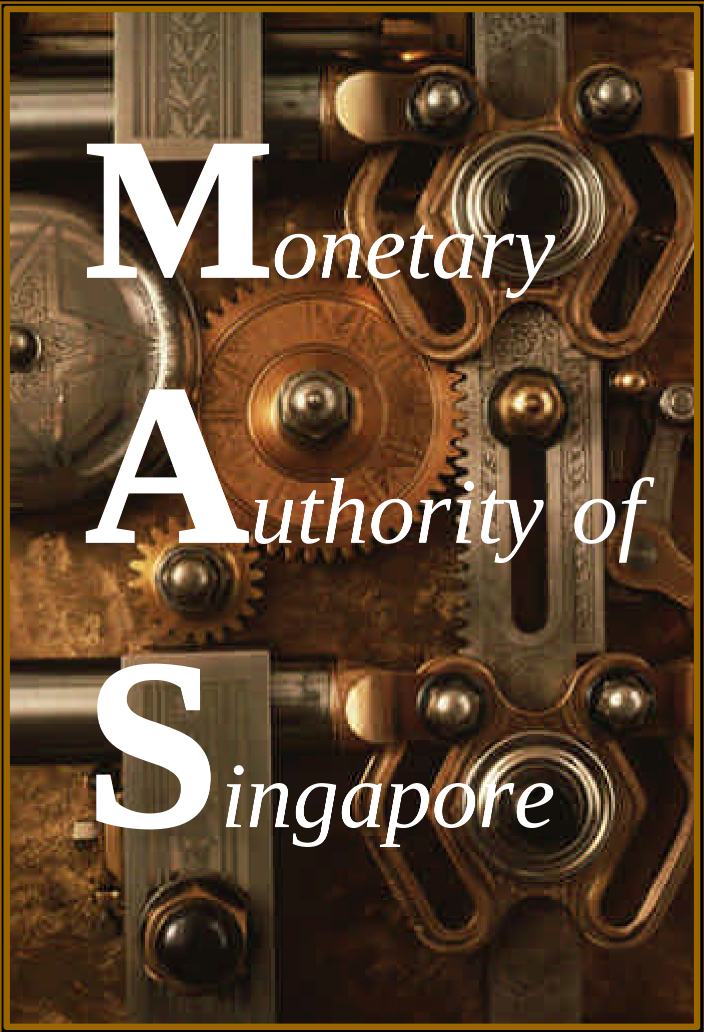
economics explorer #1

A closer look at...



Monetary Authority of Singapore

Preface

The *Economics Explorer* aims to provide an accessible introduction to a broad selection of economic issues, ranging from monetary policy to trade to inflation. It is targeted at anyone interested in taking a closer look at the economic issues affecting Singapore.

This issue examines the role and functions of Singapore's central bank, the Monetary Authority of Singapore. It can be downloaded from the MAS website at www.mas.gov.sg.

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Sep 1999

Monetary Authority of Singapore

Welcome...

.. to the Monetary Authority of Singapore (otherwise known as the MAS for short) – Singapore's central bank. Here at MAS, our mission is to promote the sustained and non-inflationary growth of the economy as well as foster a sound and progressive financial services sector.

As the central bank of Singapore, our job is to conduct monetary and exchange rate policies. We also manage part of Singapore's official foreign reserves and issue government securities. In addition, we regulate and supervise the financial sector and play a key role in the development and promotion of Singapore as an international financial centre.

Who We Are...
A short history of MAS

MAS was established under the Monetary Authority of Singapore Act of 1970, and started operations on 1 January 1971. This marked an important milestone in the history of Singapore's financial and monetary development.

Before this, the various monetary functions normally associated with a central bank had been performed by several government departments and agencies. However, in late 1969, the government decided that the various bodies responsible for monetary management should be brought under one organisation. Not only would this make it more convenient for administrative purposes, it would give the organisation a greater sense of direction and purpose, and foster the concentration and growth of professional expertise needed in the conduct of monetary affairs.

What We Do…
The main functions of MAS

Today, the main functions of MAS fall into these five broad areas:

- Conduct of monetary and exchange rate policy
- Regulation and supervision of the financial sector
- Banker to financial institutions
- Banker and financial agent of the Government
- Promotion and development of the financial sector

Monetary & Exchange Rate Policy

As the central bank of Singapore, the conduct of monetary and exchange policy is one of our main responsibilities. The primary objective is to promote low inflation as the sound basis for sustained economic growth.

Why is low inflation important?

Many economists believe that the central bank should focus on low inflation, or price stability, in its conduct of monetary policy. This is based on theoretical considerations as well as cross-country experience over the last thirty years, which shows that low inflation is essential for sustainable economic growth. In an environment of price stability, the prices of goods and services are not distorted by inflation, and can serve as clearer signals and guides so as to allocate resources more efficiently. In addition, such an environment is believed to encourage saving and investment as it prevents the value of assets from being eroded by unexpected inflation.

How do we conduct monetary policy in Singapore?

Since 1981, Singapore's monetary policy has been focused on the exchange rate. This is because the exchange rate is a more effective tool in controlling inflation, given the small size and the openness of the Singapore economy.

However, we don't just look at the Singapore dollar (S$) exchange rate against the US dollar or against any single foreign currency. Instead, we manage the S$ exchange rate against a basket of currencies which comprises the currencies of Singapore's major trading partners and competitors. We regularly review and revise the composition of the basket, to take into account any changes in Singapore's trade patterns. This trade-weighted exchange rate is broadly maintained within an undisclosed target band. How much the trade-weighted S$ is allowed to appreciate or depreciate depends on, among other things, the level of world inflation and domestic price pressures.

We intervene in the foreign exchange market from time to time to prevent excessive fluctuations in the S$ exchange rate, consistent with our exchange rate policy and underlying economic fundamentals.

Why the Exchange Rate Policy?

The choice of exchange rate, rather than money supply or interest rate, as the principal tool of monetary policy has been influenced by Singapore's small size and the high degree of openness to trade and capital flows.

First of all, Singapore's lack of natural resources means that we have to import even the most basic of our daily essentials. In fact, out of every $1 spent in Singapore, 54 cents go to imports*. This in turn implies that domestic prices are very much influenced by foreign prices. Also, because of its small size, Singapore is a price taker in world markets. As such, foreign price increases will lead to higher domestic prices, which can be offset by changes in the exchange rate.

Besides its direct impact on the price of imports, the exchange rate can also affect domestic costs and price pressures. Because of our small domestic market, Singapore's economic development strategy has always focussed on producing exports for the rest of the world. Indeed, exports or external demand makes up about two-thirds of total demand in Singapore. The importance of exports means that the exchange rate can have an important influence on the demand for domestic resources, especially the demand for labour. This is because a weak exchange rate can lead to the overheating of the economy, a tighter labour market and consequently, higher growth of domestic wages and other costs.

In addition, because of Singapore's role as an international financial centre, the Singapore economy is very open to capital flows. As a result, small changes in the difference between domestic and foreign interest rates would lead to large and quick movements of capital. This makes it difficult to target money supply in Singapore, since net flows of funds from abroad make up the bulk of changes in domestic money supply. Likewise, domestic interest rates are largely determined by foreign rates and market expectations of the movement of the Singapore Dollar. Thus, any attempt by MAS to raise or lower domestic interest rates over a long period of time, would be thwarted by a shift of funds into or out of Singapore.

In other words, given the context of free capital mobility, the choice of the exchange rate as the focus of monetary policy implies that we cannot control domestic interest rates or money supply at the same time.

* According to the 1990 Input-Output Tables published by the Department of Statistics

Regulation & Supervision of the Financial Sector

Besides maintaining low inflation for sustained economic growth, central banks are also responsible for ensuring stability in the financial system. In fact, in many countries, concern for financial stability was the original reason behind the formation of the central bank. For example, the Federal Reserve System in the US was established in 1913, in response to the banking crisis of 1907.

Why is financial stability so important?

A stable financial sector is crucial to the health of the overall economy because it is closely connected to other sectors of the economy through its role of providing credit.

When large-scale failures occur among financial institutions, the supply of credit dries up, which in turn forces other industries to cut back on their activities due to the lack of funding. Also, because of the susceptibility of the financial sector to crises of public confidence, a problem that hits one part of the financial sector can quickly spread to the rest of the sector and then to the economy more widely.

Central banks like the MAS thus play a critical role in safeguarding financial sector stability. One key way in which MAS accomplishes this is by maintaining a sound prudential framework for the regulation and supervision of financial institutions in Singapore. In addition, when a financial disturbance does take place, the MAS can ameliorate its effects on financial markets and the economy by providing sufficient funds or liquidity to the system via its monetary policy tools.

What is our approach to supervision and regulation?

The financial industry world-wide is changing rapidly. Falling regulatory barriers, advances in information technology and a wave of mergers among financial institutions are integrating financial markets. Financial activities are consolidating in a few centres and competition is intense. To thrive as a financial hub in this environment, we need to foster an environment to quicken the pace of market development and innovation while maintaining financial stability.

Our approach to regulation and supervision focuses on systemic risk rather than individual transactions. Regulation refers to the setting of prudential rules and guidelines for financial institutions, while supervision consists of ensuring that these rules and guidelines are complied with.

Since 1997, we have been shifting our emphasis from "one-size-fits-all" regulation to a risk focused supervisory approach, whereby we can give stronger institutions the flexibility to develop and innovate while maintaining stricter controls on weaker ones.

As a regulator, we will continue to set minimum requirements on capital and liquidity that institutions should meet as prudential safeguards, and at the same time aligning our policies with international best practices. To ensure that our regulatory framework strikes the right balance between prudential regulation and market development, we also consult widely with industry associations, market participants and professionals.

As a supervisor, we make sure that institutions operate within the rules and guidelines that we have established. We do this mainly through field inspections, examination of statistical returns, accounts, reports by external and internal auditors, and exchanges of information with other regulators. In addition, we are strengthening our oversight of financial institutions by promoting higher disclosure and transparency standards. This will facilitate a greater degree of market scrutiny and discipline on the conduct of their activities.

Banker of Financial Institutions

A safe and efficient payments system is another important ingredient in ensuring the stability of the financial sector. As the banker to financial institutions, MAS provides the infrastructure for the inter-bank payments system and is responsible for safeguarding its integrity.

What is the payments system?

The payments or settlement system refers to the process by which funds are transferred between banks for their own account or on behalf of their customers. In other words, it is the critical pipeline through which all financial transactions in the economy flow, and an efficient payments system is crucial to the smooth functioning of the economy.

How does this work?

Like most other countries around the world, commercial banks in Singapore have to maintain cash accounts with the central bank. There are two main reasons for this. The first is to satisfy the statutory reserve requirement, which means that a percentage of the banks' deposit liabilities has to be placed in cash with the MAS as a prudential safeguard. The second reason is so that the banks can settle their transactions with one another. In other words, banks use their accounts at MAS to settle the daily differences arising between themselves in the clearing system – such as in the exchange of cheques written by each other's customers, or of credits moving from one bank to another. This is done via a real time gross settlement system called the MAS Electronic Payment System.

Why a Real Time Gross Settlement system?

Previously, MAS had operated a end-day net settlement system. This meant that payment instructions were accumulated throughout the day, and the net obligation for each bank was computed and settled only at the end of the day. This could potentially give rise to systemic risk. For example, if just one bank becomes insolvent during the course of the day and cannot meet its obligations, the entire network of criss-crossing payments accumulated during the day may have to be unwound, and the financial system may be forced to shut down.

In July 1998, MAS introduced a real-time gross settlement (RTGS) system called the MAS Electronic Payment System (MEPS). Under a RTGS system, systemic risk is reduced significantly. Each payment instruction is processed and settled individually and continually throughout the day. Once settled, the payment is final and irrevocable. If a bank fails to make good on its payment obligations, the other participants in MEPS do not have to wait until the end of the day to find out. Settlement failure can be isolated, which allows the authorities to act in a timely manner without having to shut down the entire system. This minimises the risk of systemic failure resulting from a payment default by a single bank.

MEPS also allows banks to manage transactions and liquidity problems more efficiently. Finally, it opens up the possibility for Singapore to participate in a seamless cross-border electronic payments and settlements network linked to other financial centres around the world.

Banker & Financial Agent of the Government

MAS also acts as the banker and financial agent of the Government.

As banker to the Singapore Government, we perform roughly the same functions as a commercial bank ordinarily performs for its customers. In other words, we provide the Government with current account and deposit facilities, and act as its agent in official transactions with international financial institutions, such as the International Monetary Fund, the World Bank, and the Asian Development Bank.

As financial agent of the Government, we manage part of Singapore's official financial reserves, as well as its public debt, and are responsible for issuing government securities.

Why does the Government need to issue bonds?

In general, governments borrow money to finance their budget deficits through the issue of treasury bills and bonds. In Singapore, however, high economic growth and fiscal rectitude have resulted in budget surpluses almost every year since the late 1960s. Because of Singapore's healthy fiscal position, monetary policy has been freed of the responsibility of financing government deficits. In fact, since 1995, Singapore's external debt has been zero. Nevertheless, MAS has recently stepped up the issue of government securities. The reason for this is to establish a benchmark yield curve, off which corporate bond issues can be priced, with the aim of encouraging the development of an active domestic bond market.

Promotion & Development of the Financial Sector

In addition to supervising and regulating financial institutions, MAS is also responsible for the development and promotion of Singapore as an international financial centre. Since 1971, we have implemented various policies to stimulate the growth of Singapore as a financial centre. These policy measures included the development of the Asian Dollar Market, a liberal yet selective policy for the entry of international institutions to engage in offshore banking activities and abolition of all exchange controls.

In line with the recent financial sector reforms, we have adopted a more proactive role in promoting Singapore as a world-class financial centre. To focus our efforts in doing so, a new department has been set up and dedicated to the promotion of the financial sector. We have also been consulting the industry actively so as to keep abreast of new developments and fine-tune our policies, and are taking a more strategic approach in helping to develop the various financial industries and markets.

What about the issue of currency?

Unlike most other central banks around the world, one thing that MAS does *not* do is issue currency. Instead, the task of issuing currency notes and coins is performed by the Board of Commissioners of Currency, Singapore (BCCS). The BCCS was established shortly after independence in 1967, under the Currency Act.

Under the original currency board system, the BCCS stood ready to issue Singapore currency notes and coins on demand, in exchange for US dollars, gold or any other convertible currency at a fixed exchange rate. However, with Singapore's decision to float its currency in June 1973, the currency board system in Singapore was fundamentally modified.

In particular, the BCCS was merely required to maintain a fund of foreign assets providing at least 100% backing for the domestic issue of Singapore Dollars. Subsequently, in 1982, sections of the Currency Act which specified the par value of the Singapore Dollar in terms of gold and obligated the

BCCS to convert domestic currency into gold and other foreign currencies on demand, were repealed. This meant that Singapore no longer met the conditions to be classified as a currency board system.

From a historical perspective, the issue of currency was the main factor behind the formation of many of the early central banks, such as Sweden's Riksbank in 1668 and the Bank of England in 1694. Nevertheless, the fact that MAS does not issue currency doesn't make us any less of a central bank, because we can still influence monetary conditions via our exchange rate policy and money market actions.

Operationally, MAS acts as a middleman between BCCS and banks when it comes to settling the currency needs of these institutions. We maintain an inventory of currency notes with the BCCS. Banks who need currency notes obtain them from our holding of these notes with the BCCS, and pay for these currency notes through their current accounts with us.

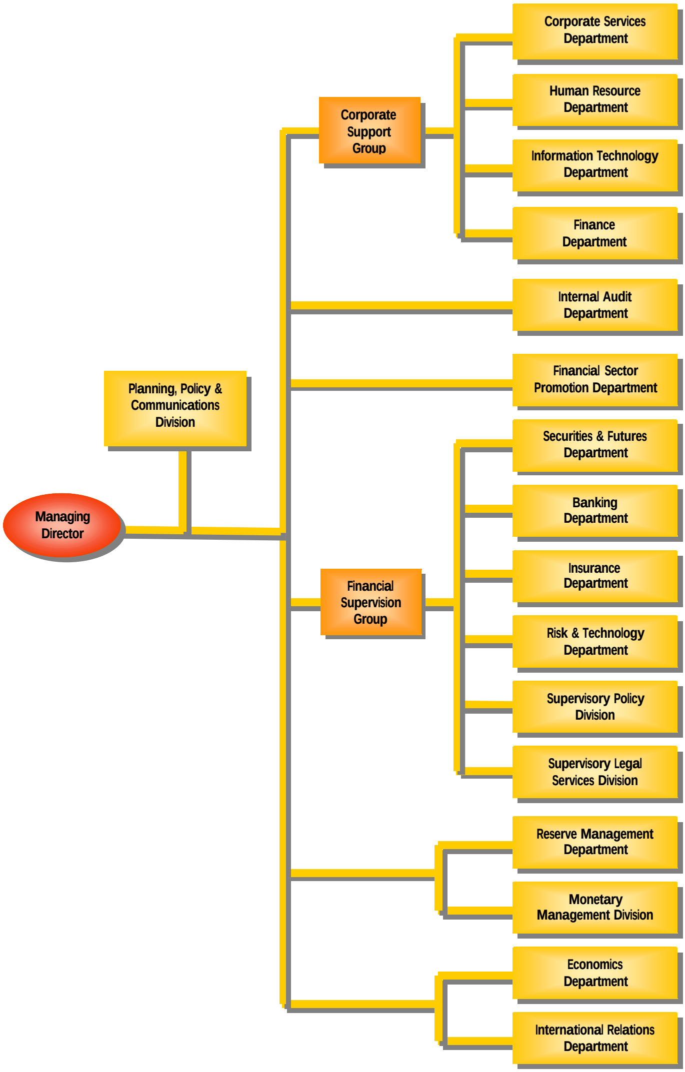
How We Work...
The structure of MAS

To carry out the functions of a central bank as described above, MAS is organised into a Corporate Support Group, a Financial Supervision Group, and seven other departments/divisions reporting to the Managing Director.

People in Charge

MAS is governed by a Board of Directors, which is made up of the Chairman, Deputy Chairman, Managing Director, and six other members. The Chief Executive is the Managing Director, who is entrusted with the Authority's day-to-day operations and administration. He is assisted by a Management Team comprising a Deputy Managing Director, an Assistant Managing Director, and 16 heads of departments/divisions.

MAS Organisational Chart



Organisational Structure

Monetary Policy, Reserve Management & International Relations

Within MAS, the **Economics Department** (ED) is responsible for formulating monetary and exchange rate policies. It provides analyses and forecasts on the Singapore economy, and advises on policies relating to macroeconomic issues. ED also conducts regular assessment of economic and monetary developments in the regional economies as well as in-depth studies of important policy issues.

The implementation of exchange rate and monetary policy is carried out by the **Monetary Management Division** (MMD), which also manages liquidity in the banking system, through its activities in the foreign exchange and money market. MMD also manages the issue of Singapore Government Securities (SGS) and oversees developments in the SGS market.

The **Reserve Management Department** (RMD) manages MAS' foreign assets, currencies and gold. It also performs cash management functions.

The **International Relations Department** (IRD) is responsible for relations with major international organisations, regional fora and foreign central banks. In addition, IRD reviews and recommends MAS' and Singapore's positions on key international financial and economic issues.

Financial Supervision & Promotion

The **Financial Supervision Group** (FSG) provides a comprehensive supervisory framework for the financial sector. FSG is responsible for the regulation, supervision and licensing of all banks and financial institutions in Singapore. It is organised into the following 4 departments (Banking, Insurance, Securities & Futures and Risk & Technology) and 2 divisions (Supervisory Policy and Supervisory Legal Services).

The **Banking Department** (BD) has prudential oversight of all commercial banks, merchant banks, and finance companies, both local and foreign. It conducts both off-site supervision and on-site examination of banks, and is also responsible for the licensing of these institutions.

The **Insurance Department** (ID) is in charge of the supervision of the insurance industry. ID administers the Insurance Act, which governs the licensing of insurance companies, and monitors insurers' financial soundness and their compliance with minimum prudential standards.

The **Securities and Futures Department** (SFD) is responsible for the regulation of securities, asset management and financial futures companies, and capital markets. SFD oversees the Stock Exchange of Singapore (SES) and the Singapore International Monetary Exchange (SIMEX). It is also responsible for regulating take-overs and mergers, unit trusts and other investment products.

The **Risk and Technology Department** (RTD) is responsible for risk management in the financial sector from the financial, technological, and IT infrastructure perspectives. It facilitates the strategic use of technologies to support Singapore's evolution into a world-class financial centre.

The **Supervisory Policy Division** (SPD) formulates policies in the areas of financial sector regulation and supervision. SPD's functions include bank and market analysis and development of risk-based supervisory procedures.

The **Supervisory Legal Services Division** (SLS) provides legal advice on supervisory matters to the rest of the Financial Supervision Group.

The **Financial Sector Promotion Department** (FPD) is responsible for developing and promoting Singapore as a financial centre. It identifies new financial activities and products, and markets Singapore's financial centre to existing and new players.

Corporate Support

Within the **Corporate Support Group** (CSG), the **Corporate Services Department** (CSD) provides general office, building and hospitality services to all departments in MAS. The department also manages the marketing and lease administration of office space, and security of the MAS building.

The **Human Resource Department** (HRD) formulates and implements MAS' human resource management policies. This includes recruiting for the organisation, managing an objective appraisal system, ensuring a competitive remuneration package, as well as organising and co-ordinating training programmes.

The **Information Technology Department** (ITD) promotes and provides IT services to the other departments of MAS. ITD also manages two nation-wide financial networks, namely the MASNET and the MAS Electronic Payment System (MEPS). The networks provide the infrastructure and standard for efficient electronic communications and collaborations in the financial sector, and minimise payment risks for Singapore's banking system respectively.

The **Finance Department** (FD) exercises financial and risk control over MAS' assets. It is responsible for the accounting, settlement, safe custody, risk control and performance evaluation of MAS' international investments and the planning and control of the Authority's budget. FD also administers the issue of government securities, the MAS Electronic Payment System and the government securities systems as well as the current accounts of banks and international monetary organisations

The **Internal Audit Department** (IAD) conducts financial, operational and information systems audits of MAS' operations. IAD ensures compliance with policies, guidelines, laws and regulations, and evaluates the reliability of financial records, and the security and integrity of information systems in the Authority. IAD also works with departments to review control in new systems and business procedures.

Finally, the **Planning, Policy and Communications Division** (PPC) is responsible for cross-department policy integration and strategic planning, organisational development, and corporate communications. PPC collates, analyses, and integrates inputs on issues that cut across MAS departments. It formulates and implements the corporate planning process, and co-ordinates external communications, including media relations.

The *Economics Explorer* series

#1 The Monetary Authority of Singapore
Sep 1999

#2 Monetary Policy and the Economy
Sep 1999

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