The impact of globalisation on the formulation and implementation of monetary policy in Singapore

Ong Chong Tee[1]

1. Introduction

Singapore's export-oriented growth strategy has yielded relatively high productivity and GDP growth since the mid-1970s. However, it has also increased the country's susceptibility to external shocks. In recent years, the globalisation process has exacerbated these shocks. With rising cross-border investment and stronger trade linkages, the business cycles of major industrial countries have become more synchronised. At the same time, the increased integration of world capital markets, with higher capital mobility and larger volumes of capital flows - particularly private flows - has created the potential for large and sudden reversals in such flows. Indeed, the Singapore economy has been hit by a series of shocks in close succession since 1997 - the downturn in the global electronics industry in 1996-97, the Asian financial crisis in 1997-98, the sharp downturn in US IT demand, the events of 11 September 2001 and, most recently, the outbreak of the Severe Acute Respiratory Syndrome (SARS) virus in April 2003.

Against this backdrop, this paper addresses the challenges posed by increased globalisation on the formulation and implementation of Singapore's monetary policy by the Monetary Authority of Singapore (MAS). Section 2 gives a brief overview of the monetary policy framework of Singapore. The issue of monetary policy formulation in the context of the greater volatility in the external environment and ongoing structural changes in the economy is taken up in Section 3, while Section 4 deals with some of the operational challenges posed by the various aspects of globalisation in the implementation of monetary policy. Finally, Section 5 argues that the judicious management of monetary policy needs to be supported by a framework of consistent macroeconomic and microeconomic policies and by strong institutions, in order to effectively meet the challenges of globalisation.[2] Section 6 concludes.

2. Brief overview of monetary policy in Singapore

Since 1981, monetary policy in Singapore has been centred on the management of the exchange rate. The primary objective has been to promote price stability as a sound basis for sustainable economic growth. The framework incorporates the key features of the basket, band and crawl (BBC) framework.[3]

First, the Singapore dollar (SGD) is managed against a basket of currencies of our major trading partners and competitors. The various currencies are given different degrees of importance, or weights, depending on the extent of Singapore's trade dependence on that particular country.

Second, the MAS operates a managed float regime for the SGD. The trade-weighted exchange rate is allowed to fluctuate within an undisclosed policy band, rather than kept to a fixed value.

Third, the exchange rate policy band is periodically reviewed to ensure that it remains consistent with the underlying fundamentals of the economy.

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[1] Assistant Managing Director of the Monetary Authority of Singapore (MAS), with contributions from Tan Siang Meng and Tan Jo-Ann, at the Monetary Policy Division and Monetary Management Division respectively. The views expressed here are solely those of the authors and should not be attributed to the MAS.

[2] H E Khor and E Robinson, "Challenges for exchange rate in the emerging markets in Asia", paper presented at the South-East Asia Conference held at the Bank of England's Centre for Central Banking Studies, London, 12 June 2001.

[3] E Robinson, discussion paper presented at conference on "Future directions for monetary policies in East Asia", Reserve Bank of Australia, 24 July 2001.

The choice of the exchange rate as the intermediate target of monetary policy is predicated on the openness of the Singaporean economy to trade and capital flows. Total exports and imports are each well in excess of 100% of GDP, while exports account for about two thirds of total demand. In addition, the import content of expenditures is relatively high at 51%. Changes in the value of the trade-weighted SGD therefore have a significant influence on inflation and GDP outcomes.

The trade-weighted exchange rate, or the SGD nominal effective exchange rate (NEER), is as close to an ideal intermediate target of monetary policy as we can expect for Singapore. It is relatively controllable and has a powerful and stable relationship with price stability, the final target of policy, over the medium term. More relevant to the present discussion, Singapore's monetary policy framework has also given the MAS the necessary flexibility to cope with the dynamics of a globalised economy, in coping with short-term volatility as well as in avoiding longer-term currency misalignments.

3. Monetary policy formulation in an increasingly globalised economy

Coping with short-term external shocks

The integration of international financial markets implies that shocks in one part of the world are readily transmitted to another. This poses challenges to monetary policy in Singapore. Nevertheless, the framework of the exchange rate-centred monetary policy has allowed us to accommodate to some extent the effects of these shocks while insulating the real economy from its potential destabilising impact. We highlight two aspects of this.

First, the basket characteristic of the managed float system has helped to build in some degree of flexibility in dampening the volatility in international currency markets, as compared to a situation in which the SGD was on a bilateral peg. Table 1 shows that the SGD has been less volatile with respect to the other currencies than if it had been pegged to any of the main currencies. For example, if the SGD were pegged against the US dollar, the monthly standard deviation against the yen and euro would have been 3.33% and 3.23% respectively, instead of 2.90% and 2.88%.

Table 1

Standard deviation of monthly currency movements since 1981

In per cent

Current basket managed float				Hypothetical dollar peg		
NEER	**SGD/USD**	**SGD/JPY**	**SGD/DEM**	**USD/JPY**	**USD/DEM**	**DEM/JPY**
1.46	1.56	2.90	2.88	3.33	3.23	3.04

The volatility of the SGD NEER as measured by its monthly standard deviation has also been significantly lower than that of the US dollar or yen. The standard deviation of the SGD NEER was 1.46% between 1981 Q1 and 2003 Q2, compared to 3.43% for the US dollar and 4.69% for the yen. At the same time, movements of the SGD against major currencies, especially the US dollar, have also been less volatile than movements among the major currencies.

Second, our experience has additionally shown that the presence of the exchange rate bands in the managed exchange rate float system has served as an effective shock absorber during periods of heightened market volatility. In such instances, there may be occasion to widen the band, as was done in October 2001 after the terrorist attacks in the United States and during the 1997 Asian crisis. In both cases, the bands were subsequently narrowed again when market and economic conditions stabilised.

In addition, in its six-monthly review of exchange rate policy, the MAS reassesses its monetary policy stance to ensure continued relevance to domestic economic conditions, against the backdrop of changing developments in the global economy. For example, in July 2001 the MAS shifted its policy stance from one of targeting a modest and gradual appreciation of the SGD NEER to a 0%

appreciation of the exchange rate given the sharp deceleration in growth in Singapore's main export markets, as well as the absence of inflationary pressures into the forecast period. This policy stance and its subsequent maintenance into 2002 and 2003 H2 were judged to provide support for the economic recovery in a low-inflation environment.[4]

Coping with structural developments

Over the medium to longer term, the managed float has provided the flexibility for the MAS to reflect the evolving global and domestic structural developments in exchange rate policy formulation. The MAS continually assesses the path of the exchange rate to ensure that it reflects underlying economic conditions. The "crawl" feature of the managed float system thus allows the equilibrium (real) value of the exchange rate to reflect changes in economic fundamentals, such as the trend increase in saving rates and strong productivity performance in the export sector. In addition, the composition of the basket of currencies and their respective weights are also periodically reviewed to incorporate evolving trade patterns. Since 1981, the trade-weighted SGD has been on a secularly appreciating trend in both nominal and real terms. This partly reflects the structural transformation of the Singapore economy over the years, from a predominantly low-skill, labour-intensive base towards greater capital and knowledge-intensive activity.

The MAS firmly believes that in the long run, export competitiveness can only be maintained if firms increase productivity, create new products and actively seek out new markets. Thus, it has deliberately not used the exchange rate as an instrument to manage Singapore's export competitiveness. Moreover, given that monetary policy affects the economy with long and variable lags, the exchange rate policy has a medium-term focus and is not intended for short-term adjustments. The result has been a stable SGD, low inflation, confidence in the currency and low interest rates. Where fundamental shifts are required to preserve the competitiveness of the economy, the government has taken steps to directly reduce wages and other domestic costs, as well as fine-tune various industrial policies, rather than place the burden of adjustment on the nominal exchange rate.

Research work at the MAS as well as the IMF has shown that the real effective exchange rate in Singapore has been aligned with the key underlying economic fundamentals. For example, the IMF, using an econometric model based on a set of fundamentals, showed that the actual and (estimated) equilibrium exchange rates have tracked each other fairly closely.[5]

4. Globalisation's challenges for the implementation of monetary policy

The increasingly globalised landscape has also presented challenges for the MAS in the implementation of its monetary policy. In recent years, the size of global capital flows, especially short-term flows, has increased. For example, the size of portfolio flows as a proportion of foreign direct investment has risen from an average of approximately 8% between 1996 and 1997 to about 21% in 2002. This has had implications for (i) the management of our monetary policy target - the SGD trade-weighted exchange rate, and (ii) the management of liquidity in the banking system, as explained below.

Challenges to exchange rate management

To ensure the effective management of the SGD trade-weighted exchange rate, the MAS has traditionally relied on three factors. First, the MAS has built up a large pool of official foreign reserves, which totalled SGD 143 billion or the equivalent of eight months of imports as at end-2002, to buffer any attacks on its currency. Second, it does not disclose the precise width of the bands within which

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4 In addition, the MAS recentred the exchange rate band at the prevailing level of the exchange rate in January 2002 and July 2003.

5 International Monetary Fund, "Singapore: selected issues", *IMF Staff Country Report*, no 99/35, 1999.

the SGD NEER is allowed to fluctuate, to avoid drawing a "line in the sand" for speculators to target their attacks. Finally, the MAS currently maintains a policy on non-internationalisation of the SGD, which essentially restricts the lending of SGD to non-residents for speculation against the SGD.

Arguably, as the speed and volume of international capital flows rise, all three factors will be increasingly tested. Lending restrictions, like the SGD non-internationalisation policy, will also be increasingly undermined by the growth of offshore markets, which provide an alternative means of funding for currency speculators.

In response, some countries have imposed additional restrictions to insulate their economies from international capital flows. The MAS has chosen the opposite route, liberalising its SGD non-internationalisation policy further. Central to this strategy is the belief that allowing international investors and intermediaries to participate more freely in our domestic capital market will deepen the SGD currency market and make it more resilient to speculative attacks. Since 1998, the SGD non-internationalisation policy has been gradually liberalised. After March 2002, only two restrictions remain. First, SGD equity and bond issuers are required to swap or convert their SGD proceeds into foreign currency prior to use abroad.[6] Second, Singapore-based financial institutions are not allowed to extend SGD credit of more than SGD 5 million to an external financial institution if there are reasons to believe that these funds are to be used for speculation against the SGD.

Challenges to SGD liquidity management

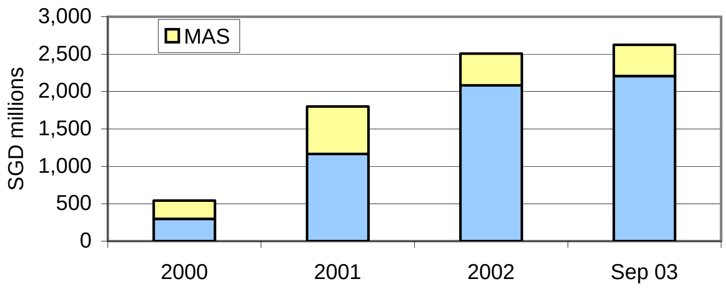
Being able to mitigate the impact of large capital flows on the exchange rate is only half of the equation. The fallout on liquidity in the banking system must also be managed.

In Singapore, liquidity in the banking system is managed through daily money market operations (MMOs). Prior to 1998, the MAS relied solely on foreign exchange swaps and uncollateralised (clean) lending/borrowing as tools for its MMOs.[7] Both instruments trade in relatively well developed and deep markets, but they may not be adequate to handle large-scale liquidity operations. Foreign exchange swaps are generally traded on a next day value basis. Liquidity in same day value swaps is limited, especially in the afternoon session. The Singapore dollar's entry into the Continuous Linked Settlement (CLS) system has further sapped liquidity because same day swaps cannot be settled in the system. Lending large amounts of funds clean is not desirable as it incurs large credit risks for the MAS. For the system as a whole, interbank credit exposures also rise as banks onlend funds from the MAS to other banks.

To enhance the MAS's capacity for liquidity management, the sale and repurchase (repo) of Singapore Government Securities (SGSs) was introduced as an MMO tool in 1998. From non-existence, SGS repurchase volumes have experienced a fivefold increase since 2000; more encouragingly, the MAS volume as a proportion of the total market volume has fallen.

Graph 1

Average daily SGS repurchase volumes



[6] After May 2004, this requirement only applied to non-resident, financial issuers of SGD equity and bonds.

[7] The MAS uses indirect tools for its money market operations, as this accords us greater flexibility and is less disruptive on the banking system than direct tools such as reserve requirements.

Since SGS repurchases are traded on a delivery-versus-payment (DVP) basis, they incur much less credit risk, both for the MAS and for the system as a whole. But because the market is relatively immature, tenures beyond three months are still not well traded. Thus, for longer-term withdrawals or injections, the MAS still relies on foreign exchange swaps. In September and October 2003, not unlike many Asian economies, Singapore experienced a surge in portfolio inflows. To "mop up" excess liquidity, the MAS engaged in about SGD 15 billion of MMO, the equivalent of about 8% of the liability base. Of these 39% were in SGS repurchases, 37% in clean borrowing and 24% in foreign exchange swaps.

5. A multidimensional approach to exchange rate management

As noted in both Sections 3 and 4, Singapore's ability to cope with the vagaries and dynamics of an increasingly globalised financial market cannot be simply attributed to the judicious choice of exchange rate regime and its implementation. Instead, the exchange rate system may be viewed simply as a "monetary overlay" on the real economy foundations, and therefore needs to be complemented with a framework of consistent macroeconomic and microeconomic policies and strong institutions. This view is perhaps succinctly captured by the following quote:

> "… the choice of exchange rate regime is likely to be of second order importance to the development of good fiscal, financial, and monetary institutions in producing macroeconomic success in emerging market countries. This suggests that less attention should be focused on the general question whether a floating or a fixed exchange rate is preferable, and more on these deeper institutional arrangements. A focus on institutional reforms rather than on the exchange rate regime may encourage emerging market countries to be healthier and less prone to the crises that we have seen in recent years."[8]

Some of the key support factors of relevance to Singapore's experience are highlighted below.

First, strong emphasis is placed on running sound and credible macroeconomic policies to avoid the build-up of major macro-imbalances in the Singapore economy, which could lead to misalignments in the currency and invite speculative attacks. For example, prudent fiscal policy has absolved the MAS of the need to finance the government and allowed it to focus on its primary mission of maintaining price stability.

Second, and of equal importance due to Singapore's small open economy and dependence on exports, is the flexibility of product and factor markets to cope with and adjust to shocks arising from the currency markets and swings in the terms of trade in world product economies. In particular, the labour and wage policies in Singapore have demonstrated significant flexibility in responding to the changing market conditions, through the unique harmonious tripartite industrial relationship, involving the government, the labour union and the employers.

Third, it is crucial to develop and strengthen financial systems in order to enhance their robustness to shocks. To do so, financial regulators must also consistently upgrade their supervisory capabilities to keep pace with financial innovations and the increasing complexity of financial institutions' activities and products. In recognition of this, the MAS undertook a strategic review of its financial sector policies in 1997. Measures taken included efforts to develop bond markets, the asset management industry and the insurance industry, as well as to open up the domestic banking industry.

Finally, the MAS has recognised the importance of promoting greater disclosure and transparency to foster market discipline and reduce the likelihood of markets overreacting due to a lack of information or information asymmetries. For example, for financial markets in general, the MAS has raised bank disclosure standards and sought to improve corporate governance. On the monetary policy front, more information has been released on websites and in printed publications. One of the recent initiatives includes the decision to publish a *Monetary Policy Statement* soon after each semiannual review of exchange policy. The MAS has also published a monograph of its *Monetary Policy Operations* to

8 F S Mishkin and G A Calvo, "The mirage of exchange rate regimes for emerging market countries", *NBER Working Paper*, no 9808, 2003 p 1.

provide the public with greater clarity on how monetary policy is implemented. These efforts have ensured that the financial markets and the public have a clear understanding and appreciation of the MAS monetary policy formulation process and the rationale for the policy stance.

6. Conclusion

The technical features of the managed float system have provided the necessary instruments to work towards the objective of sustainable non-inflationary growth in the context of the small and open nature of the Singapore economy. Furthermore, the MAS maintains robust foreign reserves and has broadened the range of money market tools used for its exchange rate management and money market operations. However, these conditions are not sufficient, and need to be complemented with sound economic judgment, enlightened discretion and constant vigilance in the light of increased volatility in both the real economy and the financial markets. In addition, the continued emphasis on maintaining strong macroeconomic fundamentals and robust financial institutions, coupled with the development of liquid and efficient capital markets, are also crucial underpinnings that would aid the successful operation of Singapore's monetary policy in an increasingly globalised world.