
Contents

Preface	i
Highlights	ii-iii
Monetary Policy Statement	iv-vi
1 Macroeconomic Developments	
1.1 External Developments	2
1.2 Domestic Economy	6
1.3 Macroeconomic Policy	14
<i>Box A: Review of MAS Money Market Operations in FY2010/11</i>	23
2 Wage-Price Dynamics	
2.1 Labour Market Conditions	28
2.2 Consumer Price Developments	31
3 Outlook	
3.1 External Outlook	38
3.2 Outlook for the Singapore Economy	43
<i>Box B: Global Trade in Services and its Implications for Singapore</i>	53
3.3 Labour Market	57
3.4 Inflation	61
Special Features	
Special Feature A: An Overview of the Satellite Model of Singapore	68
Special Feature B: Capital Flow Waves	77
Statistical Appendix	82
List of Selected Publications	92

LIST OF ABBREVIATIONS

ACU	Asian Currency Unit
ASEAN	Association of Southeast Asian Nations
capex	capital expenditures
COE	Certificate of Entitlement
CPF	Central Provident Fund
CPI	consumer price index
CSP	community, social & personal
DLI	Domestic Liquidity Indicator
EIA	Energy Information Administration
EPG	Economic Policy Group
FAO	Food and Agriculture Organisation of the United Nations
FI	Fiscal Impulse
GFCF	Gross fixed capital formation
GST	goods and services tax
HDB	Housing Development Board
IMF	International Monetary Fund
IPI	import price index
IPO	Initial Public Offering
m-o-m	month-on-month
MENA	Middle East/North Africa
MEQ	machinery and equipment
MMS	Monetary Model of Singapore
NIEs	newly-industrialised economies
NEER	nominal effective exchange rate
OECD	Organisation of Economic Cooperation and Development
OPEC	Organisation of the Petroleum Exporting Countries
PMI	Purchasing Managers' Index
q-o-q	quarter-on-quarter
REER	real effective exchange rate
SAAR	seasonally-adjusted annualised rate
SIBOR	Singapore interbank offered rate
SITC	Standard International Trade Classification
SOR	swap offered rate
SMS	Satellite Model of Singapore
WTO	World Trade Organisation
WTI	West Texas Intermediate
y-o-y	year-on-year

Preface

The *Macroeconomic Review* is published twice a year in conjunction with the release of the MAS Monetary Policy Statement. The *Review* documents the **Economic Policy Group's (EPG)** analysis and assessment of macroeconomic developments in the Singapore economy, and shares with market participants, analysts and the wider public, the basis for the policy decisions conveyed in the Monetary Policy Statement. It also features in-depth studies undertaken by EPG on important economic issues facing Singapore.

The *Review* was edited by Associate Professor Peter Wilson, and continues to feature our collaborations with various academics. We are pleased to have Professor Kristin J. Forbes of MIT and Associate Professor Frank E. Warnock of the University of Virginia write about capital flow waves in Special Feature B of this issue. We are also grateful to Sanjay Kalra, the IMF Resident Representative for Vietnam and Laos, for his collaboration with EPG on Box A which examines the underlying drivers of global trade in services.

The data used in the *Review* were drawn from the following government agencies, unless otherwise stated: BCA, CPF Board, DOS, EDB, HDB, IE Singapore, LTA, MOF, MOM, MTI, STB and URA.

The *Review* may be accessed in PDF format on the MAS website: http://www.mas.gov.sg/publications/macro_review/index.html.

The *Review* may also be purchased at major bookstores, online (<http://asp.marketasia.com.sg/Spore/sporeindex.asp>), or on an annual subscription basis (details can be found on the last page).

Highlights

Since the last *Review*, global economic growth has faltered, with stresses in private and public balance sheets in the crisis-affected countries proving to be more severe, and the deleveraging process more protracted, than previously anticipated. Just as the supply shocks from the political unrest in the Middle East/North Africa (MENA) region and the Tohoku earthquake subsided, the global economy was confronted with fresh uncertainties over US fiscal sustainability and sovereign indebtedness in Europe. Against this backdrop, the Singapore economy recorded a marginal expansion of 1.3% q-o-q SAAR in Q3, with the bulk of this growth coming from pharmaceuticals. Looking ahead, the step-up in uncertainties in recent months has clearly skewed the risks towards the downside, with the outlook for Singapore very much dependent on how economic events in the US and Eurozone unfold.

Chapter 1 begins with an overview of recent developments in the external environment and the domestic economy. The supply-chain disruptions from the Tohoku earthquake have largely dissipated, but the retraction in global demand alongside a rapid deterioration of global business and consumer confidence has led to further slowing of the Singapore economy. IT-related activities bore the brunt of the slowdown, partly due to Singapore's larger exposure to component manufacturing, which generally tends to be more sensitive to changes in final demand. However, the tourism and retail sectors stayed buoyant, owing to continued income growth in the region and domestically.

Chapter 2 examines recent trends in the labour market and prices. Notwithstanding the slower pace of employment growth, the labour market has remained tight, causing firms in some sectors to increase hours of work. Some firms responded to the tight labour supply by raising wages, which, coupled with weaker economy-wide labour productivity, has resulted in a further pickup in overall unit labour costs. Correspondingly, domestic price and cost pressures were relatively strong in the first half of the year amidst the high level of resource utilisation in the economy. Headline CPI inflation also rose sharply on a sequential basis, largely due to a rapid increase in accommodation costs and car COE prices.

Chapter 3 turns to the prospects for both the external and domestic economies. Broadly, the outlook for the Singapore economy can be characterised by two phases, namely "stalled growth" over the next few quarters, followed by a "modest recovery" probably occurring sometime in the latter half of 2012. The first phase depicts the drag on domestic economic activity due to continued uncertainty and financial volatility in the external environment. Thereafter, if external uncertainties subside, the Singapore economy should experience a more discernible pick-up in activity. However, growth will still be modest, due to structural fragilities in the G3 economies. Accordingly, GDP growth in the Singapore economy could slow to below its potential rate of 3–5% in 2012. At the same time, the gradual narrowing of the positive output gap will have a restraining effect on domestic costs and prices next year, while weak global demand will dampen commodity prices.

Also included in Chapter 3 is a box item that examines the underlying drivers of global trade in services. Singapore's experience in services exports is benchmarked against the global surge in services trade over the last decade. The study shows that Singapore's export share of modern services (which include financial and ICT services) is low compared to the global average. Coupled with potentially strong regional demand for services imports, there is considerable scope for expansion in these sectors.

To complete this *Review*, we present two special feature items. In Special Feature A, we introduce the Satellite Model of Singapore (SMS), the latest addition to EPG's suite of models. The SMS is a small quarterly macroeconomic model that provides a satellite view of the Singapore economy, making it more tractable for economic analysis. The SMS is principally used for policy simulations, and is based on core New Keynesian equations for aggregate demand, inflation and the monetary policy reaction function.

The SMS will complement EPG's flagship model, the Monetary Model of Singapore (MMS), as essential tools for macroeconomic policy analysis at the MAS.

This *Review* concludes with a Special Feature by Professors Kristin J. Forbes of MIT and Francis E. Warnock of the University of Virginia titled, "Capital Flow Waves". This feature attempts to better understand the major ebbs and flows of international capital by using a novel approach to define four types of (gross) capital flow episodes—surges, stops, flight, and retrenchment—and differentiate between capital movements initiated by foreigners and residents. Using a probit-like model, they estimate the conditional probability of one of these episodes occurring within the quarter. Their results indicate a significant role for global factors and contagion in driving capital flow episodes, thus pointing to the importance of global institutions and cross-country cooperation in reducing capital flow volatility. In contrast, they find that many domestic factors only have a limited effect on capital flow volatility. This suggests that governments concerned about the effects of capital flow volatility should prioritise strengthening their country's ability to withstand this volatility rather than trying to reduce it.

The next issue of the *Review* will be released in April 2012.

Economic Policy Group
Monetary Authority of Singapore
27 October 2011