

4 Macroeconomic Policy

Confronting Cyclical And Structural Headwinds

In October 2016, MAS kept the slope of the S\$NEER policy band at 0% in view of the subdued macroeconomic outlook. Growth had weakened and was not expected to pick up significantly, while MAS Core Inflation was likely to rise only gradually in 2017 and average slightly below 2% in the medium term. MAS assessed that it would be necessary to adopt a neutral policy stance for an extended period to facilitate the closing of the negative output gap and ensure medium-term price stability.

On the fiscal front, Budget 2016 provided targeted near-term relief measures for households and firms affected by the cyclical downturn and economic restructuring. At the same time, it built on the priorities established in previous Budgets to advance restructuring and strengthen social safety nets. Overall, a positive fiscal impulse is projected for CY 2016.

This macroeconomic policy mix—an accommodative monetary policy and a supportive fiscal policy—is assessed to be appropriate given the emergence of some slack in the economy and a relatively muted inflation outlook.

4.1 Monetary Policy

Neutral Policy Stance Is Reaffirmed

Since the last policy review in April 2016, prospects for the global economy have remained stable, notwithstanding the negative shock arising from Brexit. Nevertheless, the outlook for the Singapore economy has weakened, as cyclical and structural factors continue to weigh on the trade-related sectors. GDP growth is expected to slow in H2 this year compared to H1, and come in only slightly higher in 2017 compared to 2016 as a whole. Amid some emerging slack in the labour market and subdued consumer sentiment, MAS Core Inflation is set to rise modestly in 2017 and average slightly below 2% over the medium term. Accordingly, in October, MAS maintained the slope of the S\$NEER policy band at 0%, with no change to the width of the band or the level at which it was centred. MAS assessed that maintaining a neutral policy stance for an extended period was appropriate for keeping MAS Core Inflation closer to 2% in the medium term.

The rate of appreciation of the S\$NEER policy band was set to 0% in April 2016.

At the time of the April 2016 policy review, global growth had moderated by more than previously anticipated amid weak private investment in the G3 and China. Trade-related activity in the rest of Asia ex-Japan had also pulled back in tandem. Taking these factors into account, the outlook for the Singapore economy had dimmed compared to the October 2015 review and GDP was forecast to expand by 1–3% in 2016, the second consecutive year of modest growth.

While MAS Core Inflation was projected to rise in 2016 as the disinflationary effects of falling oil prices, Budgetary and other measures faded, the modest outlook for growth and softer labour market meant that MAS Core Inflation would pick up more slowly over 2016 than earlier anticipated. MAS Core Inflation was expected to average slightly below 2% over the medium term as a resurgence in inflationary pressures stemming from a rapid pickup in aggregate demand was deemed unlikely.

MAS therefore set the pace of appreciation of the S\$NEER policy band to 0% in April this year and there was no change to the width of the policy band or the level at which it was centred. This more accommodative monetary policy stance followed the progressive easing moves introduced since January 2015 in line with accumulating evidence of weakening inflationary pressures.

MAS will maintain the 0% slope in the S\$NEER policy band for an extended period.

Since the April 2016 review, the outlook for the global economy has remained broadly unchanged despite the heightened policy uncertainty precipitated by the UK's decision to leave the EU. The G3 economies are on track for modest growth in 2016 and 2017. In the US, the improving labour market will underpin private consumption while the Eurozone will continue on a steady growth trajectory. Meanwhile, in Japan, economic activity will be supported somewhat by the new round of fiscal stimulus. In comparison, China's growth is expected to ease further next year, as private sector investment remains tepid. In ASEAN, expansionary fiscal policy should support economic activity alongside resilient domestic demand. All in, global growth is expected to remain broadly unchanged in 2017 from 2016.

Notwithstanding this steady outlook, the external environment will continue to exert a drag on Singapore's manufacturing and trade-related services sectors. The prevailing composition of global growth has weighed on Singapore's electronics manufacturing, while the pullback in regional trade flows has reduced demand for transportation and storage services as well as wholesale trade activities. In particular, the volume of sea cargo handled declined compared to the previous quarter, while activity in the oil-related industries continued to remain weak.

Although boosts from tourism and public infrastructure construction have provided partial offsets, domestic output contracted by 4.1% q-o-q SAAR in Q3 2016.

On a y-o-y basis, GDP growth slowed to 0.6% in Q3 2016, which implies a significant step-down in the pace of expansion in H2 2016 compared with the first half of the year. For 2016 as a whole, growth should come in at the lower end of the 1–2% forecast range.

With external demand still fairly tepid, Singapore's trade-related sectors are unlikely to rebound strongly in the quarters ahead. In part, this is because of their greater exposure to underperforming industries in the global manufacturing sector. The recent decline in the trade intensity of global production and low projected oil prices will also continue to weigh on the trade-related services and oil-related industries, respectively. The underlying shift in the composition of global demand from investment to consumption is likely to be long-lasting, given the spending trends in the G3 and ongoing economic rebalancing in China.

GDP growth is expected to be shored up by modern services, such as financial and ICT, which in turn should be bolstered by relatively resilient growth in the region, and increased government spending, respectively. Demand for income-inelastic services, such as healthcare and education, should also remain robust, notwithstanding the more subdued labour market. In sum, GDP growth in the domestic economy is projected to be only slightly higher in 2017, as compared to 2016.

Imported inflation will likely rise moderately as the demand-supply imbalance in key commodity markets narrows. Global oil prices, for example, are projected to rise from their trough in 2016 to average close to their 2015 level next year. In contrast, domestic sources of inflation will remain subdued. Indeed, EPG's Labour Market Pressure Indicator turned negative in H1 2016 for the first time since the GFC in 2009, indicating that there is now greater slack in the labour market relative to its ten-year historical average. Alongside the weaker growth outlook, firms have pulled back on their hiring and redundancies have increased.

Underlying wage growth in the economy should, therefore, moderate somewhat while utility and rentals costs have already fallen. The modest growth outlook will also continue to dampen economic sentiment, constraining the extent to which firms can pass on cost increases to consumer prices. Thus, while MAS Core Inflation is expected to rise into 2017 from around 1% in 2016, its pace of increase will be gradual, and it will average 1–2% for the full year.

The cost of private road transport is projected to rise next year, reflecting the combined impact of administrative price increases, higher petrol prices, and an expected tapering in the supply of COEs. In comparison, subdued demand and an elevated residential property vacancy rate should cause housing rentals to decline further, albeit at a slower pace than in 2016. Overall, CPI-All Items inflation is expected to rise gradually over the rest of 2016 to average around –0.5% for the full year, before picking up to 0.5–1.5% in 2017.

Amid a subdued outlook for GDP growth, emerging slack in the labour market, and contained imported inflation, the medium-term outlook for MAS Core Inflation is for it to trend gradually towards the historical average of 2%. Indeed, EPG's model simulations suggest that the negative output gap will persist into 2017 and inflationary pressures will remain muted.

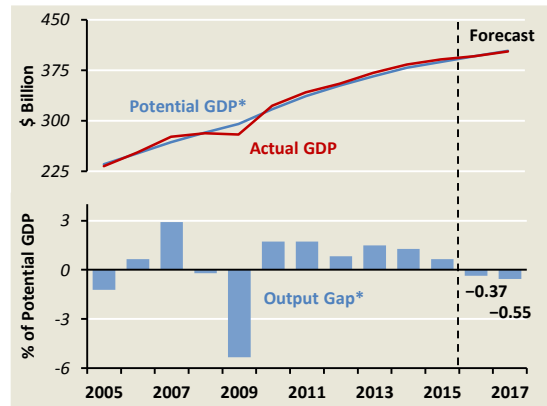
Accordingly, at the October 2016 policy review, MAS maintained the rate of appreciation of the S\$NEER policy band at 0%, with no change to the width of the band or the level at which it was centred. MAS also assessed that a neutral policy stance will be needed for an extended period of time to close the output gap and keep MAS Core Inflation closer to 2% in the medium term. (Chart 4.1)

EPG's econometric analysis suggests that nearly three-fifths of the effects from MAS' past policy easing moves since January 2015 have yet to be transmitted through to the economy. Thus, the cumulative effects of these policy adjustments will continue to provide some support to GDP growth and ensure price stability over the medium term.

At the same time, the prevailing width of the policy band provides some flexibility for the S\$NEER to accommodate the near-term weakness in inflation and growth.

Chart 4.2 traces the longer-term evolution of monetary policy in relation to growth and inflation developments in the Singapore economy.

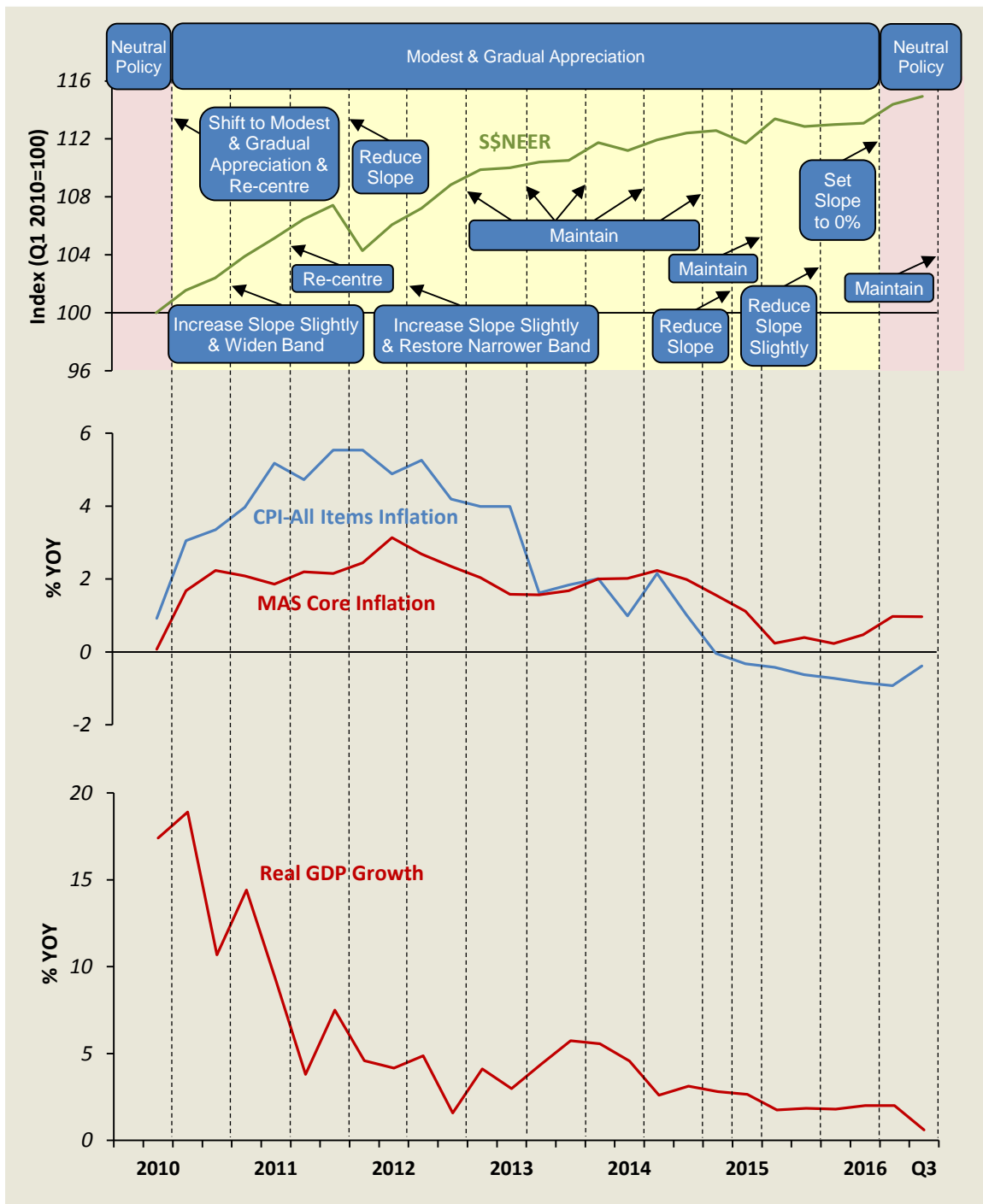
Chart 4.1
Real GDP and the Output Gap



* EPG, MAS estimates.

Note: EPG’s estimate of Singapore’s output gap is derived from a weighted average of three methods: a structural vector autoregression (SVAR) approach using the Blanchard-Quah decomposition, the Friedman variable span smoother and a simple univariate Hodrick-Prescott filter. The forecasts for 2016 and 2017 take into account the policy stance adopted in October 2016.

Chart 4.2
Key Macroeconomic Variables and Changes in the Monetary Policy Stance



The S\$NEER has mostly fluctuated in the upper half of the policy band over the past six months, but has since eased to around the mid-point.

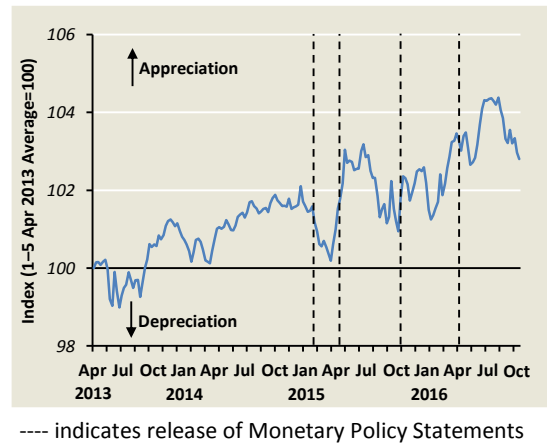
In the three months following the April policy review, the S\$NEER generally fluctuated in the upper half of the policy band, reflecting weakness in some regional currencies, as well as the Pound Sterling. (Chart 4.3) From its peak in early August, the trade-weighted index then depreciated towards the mid-point of the policy band as broad-based US\$ strength weighed on the regional currencies. Following the release of the Monetary Policy Statement on 14 October, the S\$NEER eased to a level comparable to that in May 2016. Nevertheless, the average level of the S\$NEER over the last six months has been higher than that in the six months prior to April.

From April to October 2016, while the domestic currency remained broadly unchanged against the US\$ and the Indonesian Rupiah, it strengthened sharply against the Pound Sterling in the aftermath of Britain’s decision to leave the EU. (Chart 4.4) The S\$ also appreciated against the Ringgit and Renminbi over this period, as soft global oil prices and lower RMB fixings against the US\$, respectively, led to a weakening of these currencies. These movements were, however, partially offset by the appreciation of the Yen as safe haven flows to Japan increased amid a rise in global risk aversion.

The CPI-deflated S\$REER has levelled off in recent quarters, after declining from its peak in 2013.

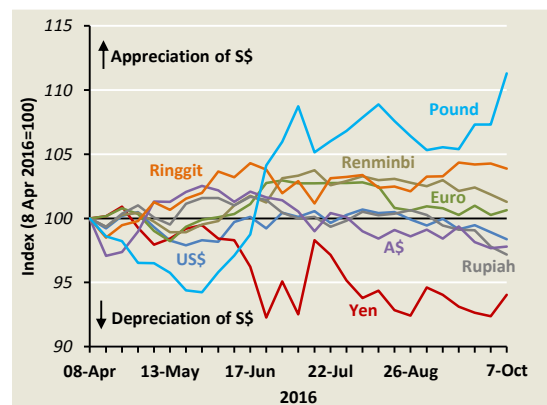
Using the CPI as the deflator, the S\$ real effective exchange rate (S\$REER)¹ remained broadly flat in H1 2016 as compared to H2 2015. (Chart 4.5) The slight uptick in Q2 2016 was due entirely to the 1.1% increase in the S\$NEER. In comparison, domestic disinflation continued to reduce Singapore’s prices relative to those abroad. Over the longer run, the CPI-deflated S\$REER has moderated from its peak in 2013, but is still some 14% higher than in 2010.

**Chart 4.3
S\$NEER**

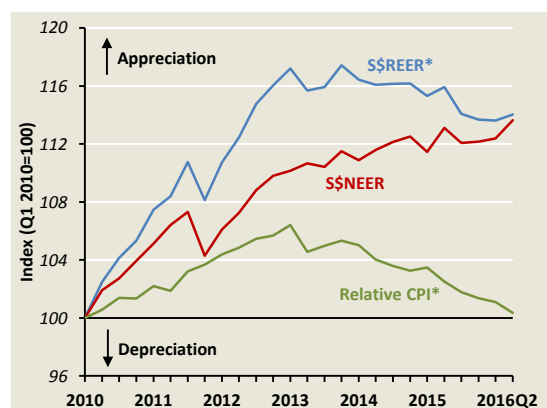


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**Chart 4.4
Singapore’s Bilateral Exchange Rates**



**Chart 4.5
CPI-deflated S\$REER and its Components**



* EPG, MAS estimates.

¹ The S\$REER is a summary measure of the price or cost of goods and services in Singapore relative to that of its trading partners, expressed in terms of a common currency index.

A decomposition of the CPI-deflated S\$REER into its external² and internal³ components shows that the gradual depreciation of the real exchange rate since 2013 was due to the fall in the external S\$REER exceeding the rise in the internal S\$REER. (Chart 4.6) In Q1 2016, the depreciation of the external S\$REER has continued to offset the appreciation of the internal exchange rate, but not by enough to cause a further decline in the CPI-deflated S\$REER.

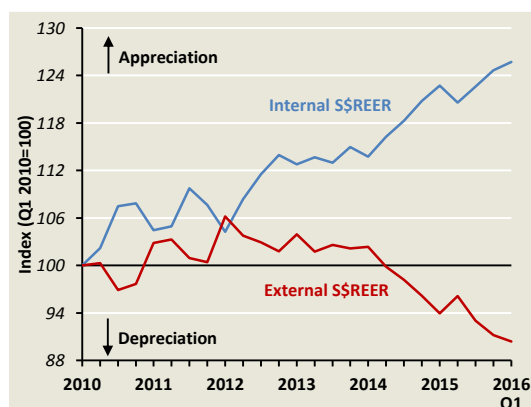
The recent depreciation in Singapore's external S\$REER was the result of the Singapore Manufactured Products Price Index (SMPPPI) falling faster than wholesale prices abroad. (Chart 4.7) As highlighted in Chapter 2, the sharp decline in the SMPPPI largely reflects the plunge in the product prices of Singapore's oil-related goods: mineral fuels, chemicals and machinery & transport equipment. Global prices of Singapore's electronics output have also been weak amid lacklustre global demand, while the prices of some trade-related services (not captured in the SMPPPI) have come under pressure following reduced global trade flows and excess capacity in the international shipping industry. From a broader perspective, it appears that Singapore's terms of trade have declined.

Since 2014, the rise in the internal S\$REER—defined here as the ratio of non-tradable to tradable prices domestically—has been driven by the sharp fall in Singapore's tradable product prices. (Chart 4.7) This contrasts with the earlier period from 2010–13, when most of the increase in the internal S\$REER was due to rising non-tradable prices in the economy, as measured by the CPI.

Singapore's manufacturing unit labour costs have broadly tracked those abroad.

From another perspective, Singapore's S\$REER deflated by relative manufacturing unit labour costs (ULC) has been stable point-to-point compared to 2010. (Chart 4.8) While Singapore's effective labour cost in the manufacturing sector picked up slightly between 2010 and 2015, the increase was broadly in line with

Chart 4.6
External and Internal S\$REER



Source: EPG, MAS estimates

Chart 4.7
Components of the
External and Internal S\$REER

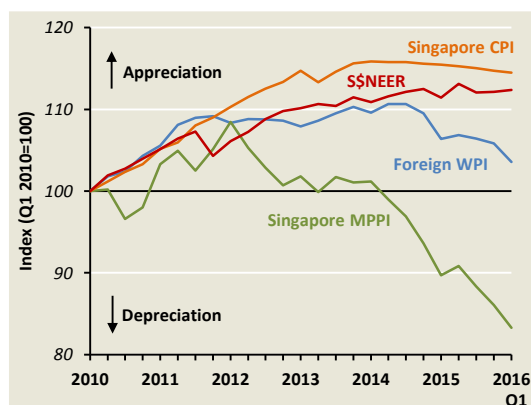
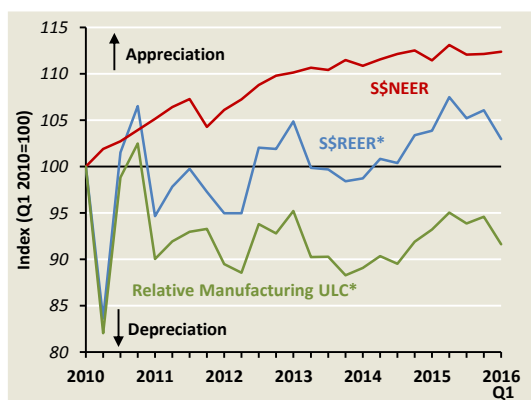


Chart 4.8
ULC-deflated S\$REER and its Components



* EPG, MAS estimates.

² The external S\$REER is a measure of the relative price of Singapore's tradable goods in common currency terms. It is estimated by adjusting the S\$NEER by the ratio of Singapore's manufactured product price index to the composite foreign wholesale price index.

³ The internal S\$REER is defined as the ratio of non-tradable to tradable prices in Singapore relative to those abroad. Since the foreign composite of non-tradable to tradable prices is largely stable, it was assumed to be constant. The internal S\$REER can then be directly estimated as the ratio of Singapore's CPI to the SMPPPI.

those of our trading partners, such that relative unit labour costs have also not changed significantly since 2010. (Chart 4.8)

Overall liquidity conditions have eased recently.

Overall liquidity conditions—as proxied by the Domestic Liquidity Indicator (DLI)⁴—have generally tightened over the last six months, largely due to the appreciation of the S\$NEER from April to August. (Chart 4.9) However, the fall in the trade-weighted exchange rate in September led to an easing of the DLI. In comparison, domestic interest rates largely fell over the last six months and offset, to some extent, the tightening of liquidity caused by the stronger S\$NEER prior to September.

Domestic interest rates have declined after a mild increase in 2015.

Despite fluctuations in the S\$NEER over the last six months, the three-month S\$ SIBOR premium over the three-month US\$ LIBOR has largely dissipated. (Chart 4.10) The US\$ LIBOR rose to 0.85% in September 2016 from 0.62% in Q1, while the S\$ SIBOR eased from an average of 1.2% in Q1 2016 to 1.0% in Q2, and 0.87% in September. This was mirrored by the three-month S\$ Swap Offer Rate which fell by 35 bps from April 2016 to 0.67% in September.

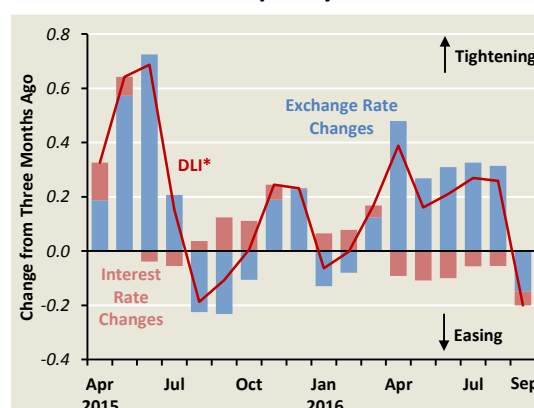
The decline in domestic interest rates generally reflected the stability of the bilateral S\$/US\$ rate in recent months, as reduced expectations of rate hikes by the Federal Reserve dampened market expectations of a S\$ depreciation against the US\$.

Notwithstanding the broad decline in domestic inter-bank rates over the last six months, the savings deposit rate and the 12-month fixed deposit rate averaged 0.14% and 0.35%, respectively, in Aug–Sep, unchanged from Q1 2016. (Chart 4.11) Anecdotally, banks have lowered the promotional rates offered on some deposit accounts.

Growth in monetary aggregates has risen in recent months.

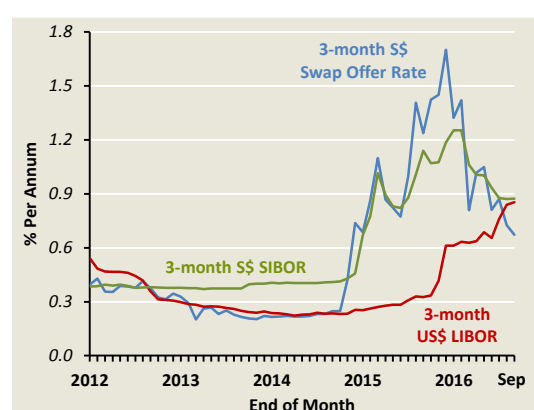
Growth in money aggregates eased in early 2016, with M1 contracting by an average of 1.5% y-o-y in Jan–Mar.

Chart 4.9
Domestic Liquidity Indicator



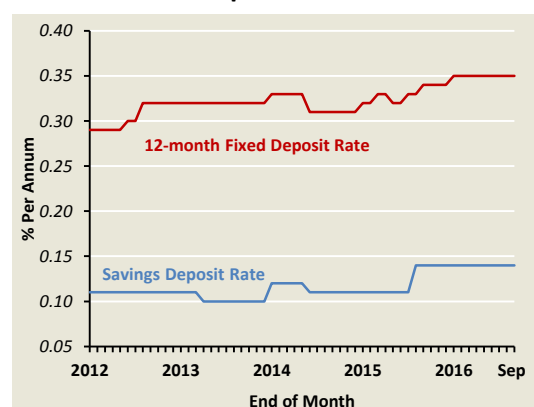
* EPG, MAS estimates.

Chart 4.10
Interest Rates



Source: ABS Benchmarks Administration Co Pte Ltd and ICE Benchmark Administration Ltd

Chart 4.11
Deposit Rates



Note: Each line represents the simple average of the top 10 banks' deposit rates.

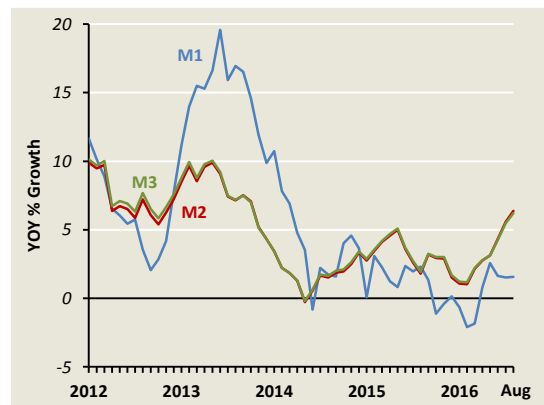
⁴ The DLI captures movements in the S\$NEER and the three-month S\$ SIBOR.

(Chart 4.12) Nevertheless, both narrow and broader measures of money supply growth appear to have troughed in H1 2016. The modest recovery in M1 in recent months was driven by an uptick in demand deposits as well as currency in active circulation, while the acceleration in the broader money aggregates, M2 and M3, mainly reflected stronger growth in fixed deposits from late 2015. (Chart 4.13) The pickup in broad money was consistent with the slight rise in the savings deposit rate and fixed deposit rate in 2016, compared to 2015, as well as the higher promotional rates offered from late 2015 to early 2016.

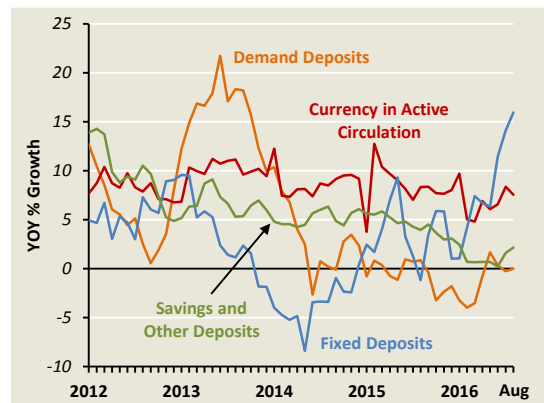
**There are signs of a stabilisation in
DBU non-bank loans.**

While global interest rates remain on a mild upward trend, the recent decline in domestic interest rates appears to have stabilised the fall in the stock of loans in the economy. (Chart 4.14) Business loans shrank at a slower pace in Jul–Aug 2016 on a year-ago basis, as compared to Q2, while consumer loan growth also appeared to have bottomed out. The slower decline in DBU non-bank business loans was driven by a pickup in borrowing in the transportation & storage and business services sectors. Within consumer loans, car loans picked up modestly in Jun–Aug 2016 compared to preceding months, reflecting in part the easing of MAS rules on motor vehicle financing in May.

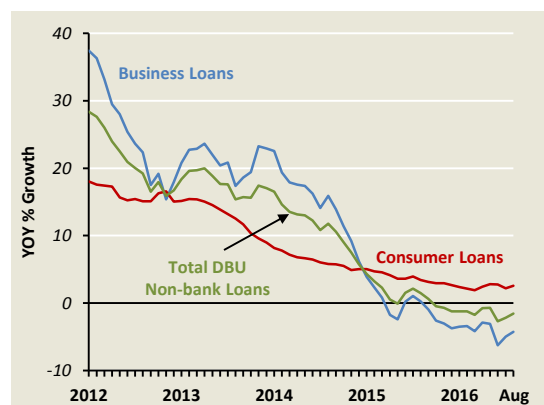
**Chart 4.12
Money Supply**



**Chart 4.13
Components of the Money Supply**



**Chart 4.14
DBU Non-bank Loans**



4.2 Fiscal Policy

Providing Near-term Relief And Sustaining Restructuring

In light of the challenges arising from the ongoing economic slowdown and domestic restructuring, Budget 2016 provided measures that balanced near- and medium-term social and economic concerns. Appropriate to the circumstances, the fiscal policy stance for CY2016 is assessed to be expansionary compared to CY2015.

Budget 2016 provided targeted near-term relief measures while building on previous initiatives.

Budget 2016 recognised the stresses that the confluence of a cyclical downturn and prolonged restructuring could impose on firms and individuals, and provided some near-term relief measures. At the same time, it refined existing schemes to help firms and industries to reconfigure, and unemployed individuals to re-skill and find re-employment, while strengthening existing social safety nets for the more vulnerable. In this way, the Budget judiciously balanced near- and medium-term social and economic concerns confronting the Singapore economy. (Please refer to the April issue of the *Review* for further details on the measures introduced in Budget 2016.)

The fiscal stance is appropriately expansionary in 2016.

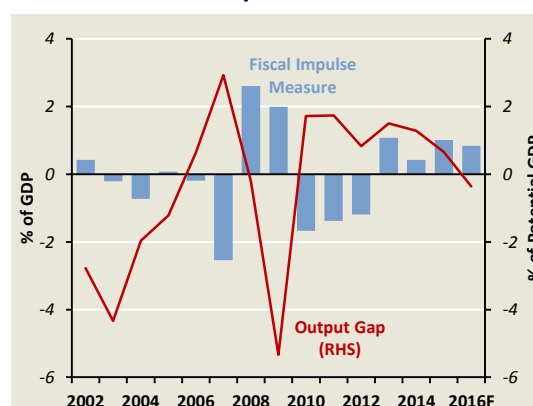
The Fiscal Impulse measure, which indicates the short-term stimulus to aggregate demand arising from fiscal policy changes, is projected to be 0.8% of GDP in CY2016, implying a moderately expansionary fiscal policy stance relative to the previous year. (Chart 4.15) This positive stance—together with the lagged stimulus from recent past Budgets—will provide support to the economy amid the emergence of a small negative output gap.

Government operating revenue increased in H1 2016 compared to a year ago.

The following provides an overview of the government's budgetary position in the first half of CY2016 compared to the same period last year.

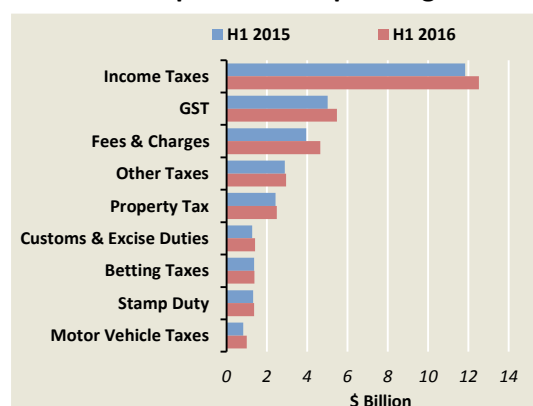
Operating revenue rose from \$31.2 billion in H1 2015 to \$33.8 billion (16.9% of GDP) in H1 2016. This was partly due to a pickup in "fees and charges", which was,

Chart 4.15
Fiscal Impulse Measure



Source: EPG, MAS estimates

Chart 4.16
Selected Components of Operating Revenue



in turn, driven by COE receipts, as well as income taxes and GST receipts. (Chart 4.16)

Compared to H1 2015, average monthly weighted COE premiums in the first half of 2016 fell, but this was offset by an increase in the number of new car registrations, such that operating revenues from COE collections rose by \$0.7 billion. (Chart 4.17) The increase in new car sales also bolstered GST receipts by \$0.5 billion at a time when retail spending on other items was fairly tepid. Meanwhile, income taxes increased by \$0.7 billion, largely owing to higher personal income tax (PIT) collections as the 50% PIT rebate for YA2015 expired. In contrast, corporate income tax (CIT) receipts were broadly unchanged compared to the same period a year ago.

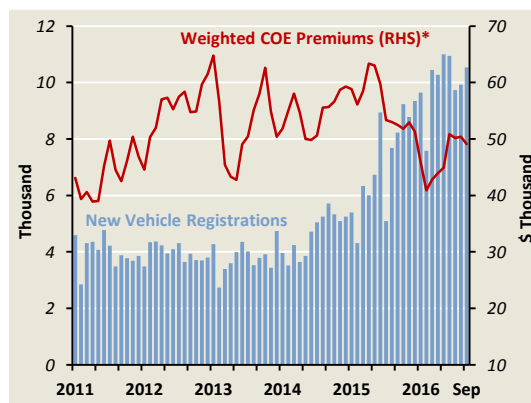
Operating and development expenditure rose in line with recent priorities.

Compared to H1 2015, total government expenditure rose from \$30.7 billion to \$39.8 billion (20% of GDP) in H1 2016, with operating and development expenditure increasing by \$4.6 billion and \$4.5 billion, respectively.

The increase in operating expenditure was largely due to higher spending on social development.⁵ (Chart 4.18) Operating expenditures by the Ministry of Health rose by \$1.6 billion, as subsidies for patient services and MediShield Life premiums, as well as subventions for public hospitals and organisations providing subsidised health and aged care services, increased. Operating expenditures by the Ministry of Education (MOE) also rose by \$0.6 billion, with more funds disbursed to educational institutions for SkillsFuture and Lifelong Learning programmes. The MOE also spent more on Autonomous Universities⁶ as enrolment at these institutions increased.

The rise in development spending was mainly attributable to the Ministry of Transport's development of new airport facilities at Changi East, procurement of buses, as well as ongoing rail projects, such as the Tuas West Extension and Thomson-East Coast Line. (Chart 4.19) Other ministries recorded similar, or lower,

Chart 4.17
COE Premiums and
New Vehicle Registrations



* Weighted by the COE quota of each category.

Chart 4.18
Selected Components of
Operating Expenditure

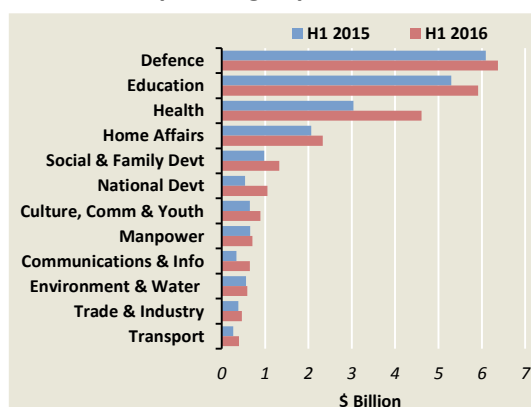
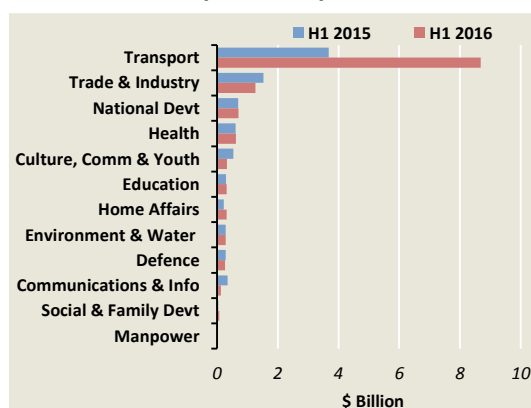


Chart 4.19
Selected Components of
Development Expenditure



⁵ Social development encompasses the Ministry of Education, Ministry of Health, Ministry of Social and Family Development, Ministry of Culture, Community and Youth, Ministry of Communications and Information, Ministry of Environment and Water Resources, Ministry of National Development, and the Ministry of Manpower (Financial Security for Singaporeans Programme).

⁶ The Autonomous Universities refer to National University of Singapore, Nanyang Technological University, Singapore Management University, Singapore University of Technology and Design, and Singapore Institute of Technology.

development expenditures for H1 2016 compared to the same period last year.

The government's primary balance went into deficit while the shortfall in the basic balance widened.

As the large increases in total expenditure outstripped the moderate step-up in operating revenue, the government incurred a primary balance deficit of \$6 billion in H1 2016, compared to a surplus of \$0.5 billion in H1 2015. Over the same period, special transfers rose by \$0.3 billion to \$2.8 billion, mainly due to larger disbursements from the Wage Credit Scheme, and payouts of the Temporary Employment Credit. Overall, the basic balance, which is the primary balance less special transfers, excluding top-ups to endowment and trust funds, recorded a deficit of \$8.8 billion in the first half of this year, significantly larger than the \$2.0 billion deficit a year ago. More comprehensively, Budget 2016 had projected an overall budget surplus for FY2016 of \$3.4 billion, after factoring in Top-ups to Endowment and Trust Funds of \$3.6 billion and Net Investment Returns Contribution of \$14.7 billion.

Box B**Review of MAS Money Market Operations in FY2015/16^{1/}**

This Box reviews MAS' money market operations in FY2015/16. Money market operations are undertaken to manage liquidity within the banking system, and are distinct from the implementation of exchange rate policy. More information is available in the monograph on "Monetary Policy Operations in Singapore" published in March 2013.

A description of money market operations is provided, followed by a review of banks' demand for cash balances with MAS and the behaviour of autonomous money market factors in FY2015/16. Finally, the composition of money market operations carried out during this period is examined.

Money Market Operations in Singapore

The open-economy trilemma posits that a country that maintains an open capital account cannot simultaneously manage its exchange rate and domestic interest rates. Thus, Singapore's open capital account and exchange rate-centred monetary policy imply that its domestic interest rates and money supply are necessarily endogenous. MAS' money market operations are therefore not targeted at any level of interest rate or money supply; instead, they are aimed at ensuring that there is sufficient liquidity in the banking system to meet banks' demand for reserve and settlement balances.

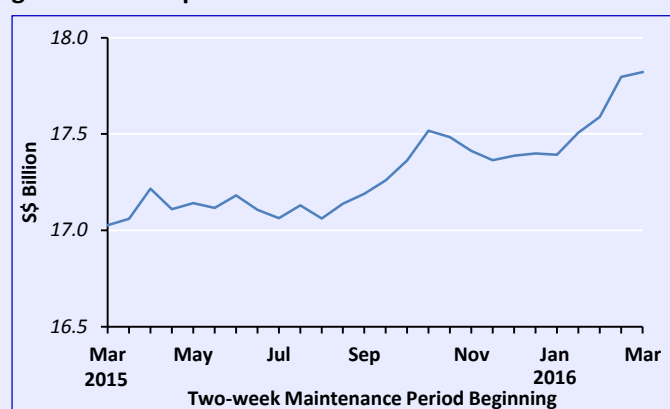
Money market operations are conducted daily by the Monetary & Domestic Markets Management Department at MAS. The amount of liquidity required in the banking system is estimated by taking into consideration the banking sector's demand for funds and the net liquidity impact of autonomous money market factors. After carrying out money market transactions, MAS monitors market and liquidity conditions throughout the day.

Banks' Demand for Cash Balances

Banks in Singapore hold cash balances with MAS to meet reserve requirements and for settlement purposes. They are required to maintain with MAS a Minimum Cash Balance (MCB) equivalent to 3% of their liabilities base on a two-week average basis. This forms a base demand for cash balances. The total demand for reserve balances could vary across periods as banks also hold excess cash balances to make large payments (settlement purposes), or as high-quality liquid assets (regulatory purposes). Since the GFC, there has been a tendency for banks to hold slightly more liquidity in the form of central bank reserves.

In FY2015/16, banks' demand for balances to meet reserve requirements rose in tandem with the growing liabilities base. (Chart B1)

Chart B1
Average Reserve Requirements over Two-week Maintenance Periods

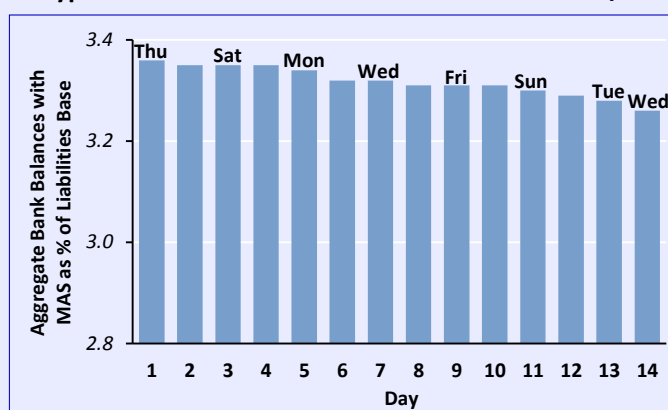


^{1/} This Box is contributed by the Monetary & Domestic Markets Management Department of MAS.

Although banks are required to keep an average MCB ratio of 3% over the two-week maintenance period, their daily effective MCB ratios may fluctuate between 2% and 4% of their liabilities base, providing them with more flexibility in their liquidity management. Hence, there may be day-to-day variations in banks' demand for cash balances within each maintenance period.

Chart B2 shows the daily effective cash balances within an average maintenance period in FY2015/16. Banks tend to maintain higher cash balances during the start of a maintenance period so as to avoid being caught short of cash towards the end of the period. Hence, the daily cash balances required by the banking system during the last few days of a maintenance period are usually lower.

Chart B2
Daily Effective Cash Balances as % of Liabilities Base over a Typical Two-week Maintenance Period in FY2015/16

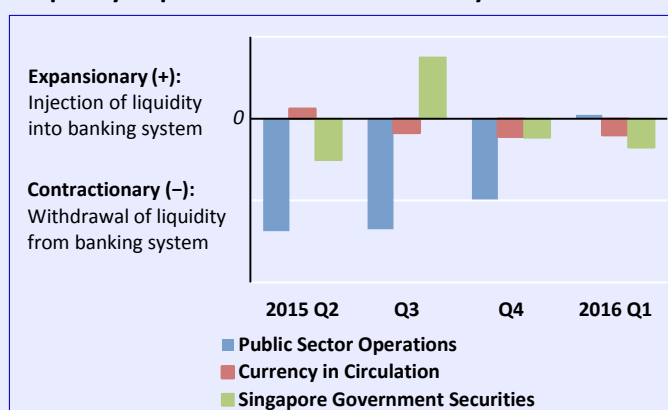


Money Market Factors

Chart B3 shows the liquidity impact of autonomous money market factors, which include: (i) public sector operations; (ii) currency in circulation; (iii) Singapore Government Securities (SGS) and Treasury Bills (T-bills) issuance, redemption and coupon payments, over FY2015/16. Public sector operations include the Government's and CPF Board's net transfers of funds between their accounts with MAS and their deposits with commercial banks.

In FY2015/16, the liquidity impact of the autonomous money market factors was net contractionary, largely due to the withdrawal of funds through public sector operations. Currency in circulation and net SGS issuance also contributed to withdrawals of liquidity, albeit to a more modest extent.

Chart B3
Liquidity Impact of Autonomous Money Market Factors



Composition of Money Market Operations

MAS relied on four instruments to inject liquidity into, and withdraw liquidity from, the banking system in FY2015/16, namely: (i) FX swaps; (ii) SGS repos; (iii) clean borrowings; and (iv) MAS Bills. The composition of money market operations was largely stable between FY2014/15 and FY2015/16, with MAS Bills and clean borrowings comprising the largest proportion of money market instruments. (Chart B4)

Chart B4
Composition of Money Market Operations by Instrument

