INTERNATIONAL MONETARY FUND

IMF Country Report No. 15/199

SINGAPORE

2015 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR SINGAPORE

July 2015

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2015 Article IV consultation with Singapore, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its July 15, 2015 consideration of the staff report that concluded the Article IV consultation with Singapore.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on July 15, 2015, following discussions that ended on May 12, 2015, with the officials of Singapore on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on June 25, 2015.
- An **Informational Annex** prepared by the IMF staff.
- A **Statement by the Executive Director** for Singapore.

The documents listed below have been or will be separately released.

Selected Issues

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

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INTERNATIONAL MONETARY FUND
COMMUNICATIONS DEPARTMENT

Press Release No. 15/349
FOR IMMEDIATE RELEASE
July 22, 2015

International Monetary Fund
700 19th Street, NW
Washington, D. C. 20431 USA

IMF Executive Board Concludes 2015 Article IV Consultation with Singapore

On July 15, 2015, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation with Singapore.[1]

As Singapore celebrates its 50th Anniversary this August, its economy continues to deliver strong noninflationary growth will full employment. Growth moderated to 2.9 percent in 2014 from 4.4 percent in 2013, on the back of the slow global recovery, domestic restructuring, and the turning of credit and housing cycles. Inflation declined to 1 percent in 2014 from 2.4 percent in 2013. In response to lower expected inflation and a more uncertain growth outlook, the Monetary Authority of Singapore (MAS) reduced the pace of appreciation of the nominal effective exchange rate in January 2015. Private sector credit growth and house prices continued to ease, supported by the total debt service ratio (TDSR) framework. Singapore's financial markets have been resilient to the volatility associated with diverging global monetary conditions. The current account surplus rose by 1.2 percentage points to 19.1 percent of GDP in 2014.

Growth is projected to remain steady at about 2.9 percent in 2015. Activity will be supported by accommodative macroeconomic policies, lower energy costs and a gradual recovery in external demand. The relative easing of monetary policies in January should help export-oriented sectors. Fiscal policy is being recalibrated to deal with a rapidly aging population and to maintain Singapore's competitive edge while also fostering equality of opportunity and inclusiveness. It will also deliver a sizable impulse in 2015, providing added insurance to real activity. Headline and core inflation are expected to average 0 and 1 percent in 2015, respectively, before both rising to 1.8 percent in 2016. The current account surplus is projected to increase by about 1.3 percent of GDP, on the back of lower oil import prices. As a city state with a very open economy, Singapore's economy is exposed to external shocks, including slower growth in advanced and emerging economies and side effects from volatility in global financial markets.

[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

These risks could be exacerbated by elevated levels of private indebtedness, but the authorities have ample policy and response space.

The economic restructuring underway aims at reducing reliance on foreign workers and is expected to ultimately raise capital-labor ratios and productivity growth but is subject to transition costs. The current account is expected to moderate over the medium term with the drawdown of accumulated pension savings in response to aging. Additional government spending to strengthen health care and other infrastructure and make the distribution of consumption more even within and across generations is also expected to contribute to the easing of the current account surplus going forward.

Executive Board Assessment[2]

Executive Directors commended the authorities' consistent pursuit of sound macroeconomic and pro-growth policies, which have resulted in impressive increases in living standards over the past half century. They noted that following a moderation last year, economic growth is expected to remain stable in 2015. However, as a highly open economy, Singapore is exposed to external risks, including a protracted slower growth in advanced and emerging economies and volatility in global financial markets. Directors encouraged the authorities to be vigilant and maintain prudent policies, while noting that Singapore's strong fundamentals and ample buffers can help absorb external shocks. More broadly, Directors supported the authorities' efforts to restructure Singapore's growth model and address income inequality, raise labor productivity, and deal with population aging.

Directors welcomed the authorities' expansionary fiscal stance and relative easing of monetary policy in January in view of subdued inflation prospects and downside risks to growth. They considered that monetary policy should continue to respond flexibly to evolving inflation and real sector developments.

Directors commended the authorities' continued maintenance of high regulatory and supervisory standards in the financial sector, including progress in implementing the FSAP recommendations. They welcomed the moderation in credit growth, progress in reducing foreign currency liquidity risk, and the modest and gradual price adjustments in the property market. At the same time, they called for continued vigilance in view of the high levels of household leverage and corporate debt. In this regard, they welcomed the authorities' plan to monitor developments in credit and asset markets and to adjust macroprudential tools as necessary.

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[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.htm.

Directors also recommended continuous efforts to bring the AML/CFT framework in line with enhanced international standards.

Directors supported the authorities' aim to transition the Singapore economy to a new growth model to boost productivity while reducing reliance on foreign workers. They agreed that investment in infrastructure and education and healthcare facilities will help underpin productivity and growth, while incentives to upgrade skills and enhance business practices should facilitate the transition. Directors highlighted the merit of a flexible and pragmatic approach to restructuring, including potential adjustments to foreign worker policies and investment incentives, as needed, in light of experience.

Directors supported the authorities' efforts to reduce income inequality, raise labor force participation, and strengthen pensions and health care amid a rapid aging of the population. They welcomed recent reforms to the defined-contribution pension system, including budget support for pensioners with lower incomes and measures to raise the adequacy of retirement incomes. They recommended further enhancements to the Central Provident Fund, and looked forward to the conclusions of the authorities' review of additional measures to enhance retirement savings.

Directors took note of the staff assessment that Singapore's external position is substantially stronger than is consistent with medium-term fundamentals. They acknowledged that Singapore's status as a trading hub and financial center, as well as its very high per capita income, rapid population aging, and pension system, are non-standard factors relevant to its external assessment. They noted that the drawdown of pension savings, additional age-related spending, and lower immigration are expected to help reduce the current account surplus over the medium term.

Singapore: Selected Economic and Financial Indicators, 2011–16

Nominal GDP (2014): US$308 billion

Main exports (percent of total domestic exports): Electronic products (19%); chemical products (17%)

GDP per capita (2014): US$56,287

Population (June 2014): 5.47 million

Unemployment rate (2014): 2.0 percent

					Proj.	
	2011	2012	2013	2014	2015	2016
Growth (percentage change)						
Real GDP	6.2	3.4	4.4	2.9	2.9	3.1
Total domestic demand	3.6	6.9	2.8	0.3	3.8	4.0
Consumption	2.7	2.5	5.2	2.0	3.8	4.0
Private consumption	4.0	3.4	3.6	2.5	3.5	3.5
Gross capital formation	5.0	14.0	-0.7	-2.4	3.8	4.1
Saving and investment (percent of GDP)						
Gross national saving	49.2	47.2	46.9	46.7	47.5	46.5
Gross domestic investment	27.3	30.0	29.0	27.6	27.1	27.8
Inflation and unemployment (period average, percent)						
CPI inflation	5.2	4.6	2.4	1.0	0.0	1.8
Core CPI inflation	2.2	2.5	1.7	1.9	1.0	1.8
Unemployment rate	2.0	2.0	1.9	2.0	2.0	2.0
Central government budget (percent of GDP) 1/						
Revenue	22.7	22.5	21.7	21.5	21.4	21.6
Expenditure	14.7	14.5	15.6	17.6	19.7	19.7
Overall balance	8.0	8.0	6.1	3.9	1.7	1.9
Primary balance 2/	0.4	1.4	0.3	-1.1	-2.8	-2.7
Money and credit (end of period, percentage change)						
Broad money (M2)	11.8	6.8	7.9	7.6	8.1	...
Credit to private sector	18.9	11.3	15.5	7.5	4.6	...
Three-month S$ SIBOR rate (percent)	0.4	0.4	0.4	0.5	...	...
Balance of payments (in billions of U.S. dollars)						
Current account balance	60.6	49.8	54.1	58.8	62.9	62.0
(In percent of GDP)	(22.0)	(17.2)	(17.9)	(19.1)	(20.4)	(18.7)
Trade balance	71.5	67.5	74.5	76.4	80.8	80.7
Exports, f.o.b.	435.6	439.4	441.7	437.3	395.0	427.0
Imports, f.o.b.	-364.1	-371.9	-367.2	-360.9	-314.2	-346.3
Financial account balance	-44.4	-22.8	-36.1	-49.6	-59.9	-54.2
Overall balance	17.1	26.1	18.2	6.8	3.1	7.8
Gross official reserves (In billions of U.S. dollars)	237.7	259.3	273.1	256.9	259.9	267.7
(Months of imports) 3/	(5.7)	(6.1)	(6.5)	(6.8)	(6.3)	(6.0)
Singapore dollar/U.S. dollar exchange rate (period average)	1.26	1.25	1.25	1.27	...	...

Nominal effective exchange rate (percentage change) 4/	3.7	2.4	2.6	0.9	...	...
Real effective exchange rate (percentage change) 4/	5.5	4.7	2.7	-0.3	...	...

Sources: Data provided by the Singapore authorities; and IMF staff estimates and projections.

1/ On a calendar year basis.

2/ Overall balance excluding investment income, capital revenue, and interest payments.

3/ In months of following year's imports of goods and services.

4/ Increase is an appreciation.

INTERNATIONAL MONETARY FUND

SINGAPORE

STAFF REPORT FOR 2015 ARTICLE IV CONSULTATION

June 25, 2015

KEY ISSUES

Outlook and risks. As Singapore prepares to celebrate its 50th anniversary in August, its economy continues to perform well. Despite the slow pace of the global recovery and a gradual decline in domestic credit growth and housing prices, projected economic growth of about 2.9 percent in 2015 is consistent with full employment and price stability. Growth is projected to slow down in the medium term, consistent with reduced reliance on foreign workers and rapid population aging. The authorities' new growth model takes into account Singapore's physical resource limits and aims to boost labor and land productivity. Risks to the baseline are tilted to the downside: Singapore's highly open economy is exposed to external shocks, most notably slower global growth and the side effects from volatility in global financial markets. Domestic vulnerabilities, including elevated private indebtedness, can amplify the impact of external shocks.

Policies. In January, in response to a decline in expected inflation and a more uncertain outlook for growth, the Monetary Authority of Singapore (MAS) reduced the pace of appreciation of the nominal effective exchange rate (NEER) band. The more benign near—to medium-term inflation outlook warrants the relative easing of monetary policy. The monetary policy framework is robust and flexible but rising domestic leverage and heightened global interest rate and exchange rate volatility warrant heightened vigilance in assessing the balance of forces between the various channels of monetary policy. Singapore continues to maintain high regulatory and supervisory standards. Recent macroprudential measures have contributed to smoothing the cycle for credit and house prices. The budget's focus on boosting productivity, equality of opportunity, and inclusiveness is laudable, while the fiscal impulse is opportune given cyclical conditions.

Restructuring and population aging. Building on Singapore's success and faced with high income inequality and the physical limits of a city state, the authorities have re-engineered the country's growth model to boost productivity while reducing reliance on foreign workers. The restructuring entails lower steady state growth and a shift in the functional distribution of income toward labor. Incentives provided for firms to increase productivity-enhancing investments and for Singaporeans to upgrade their skills should help ensure a successful transition. But slower potential growth and a lower share of profits in income could affect those investments, and gains in productivity could be realized only slowly. Flexibility in the application of foreign worker policies and continued review of incentives are warranted. The authorities are recalibrating fiscal policies with associated inter—and intra-generational impacts in order to proactively deal with Singapore's rapid population aging, enhance inclusiveness and reduce inequality, while remaining true to the principles of individual responsibility and sound public finances.

Approved By
Kalpana Kochhar and Sanjaya Panth

Discussions were held in Singapore during April 29–May 12, 2015. The staff team comprised Mr. Mourmouras (Head), Mr. Almekinders, Ms. Arbatli, Mr. Jauregui, Mr. Yoon (all APD), Ms. Baba (MCM), and Mr. Heenan (Resident Representative). Messrs. Omar and Chung (both OED) joined the mission. The team was assisted by Ms. Lim, and Ms. Munmun in the local office. Ms. Lee and Ms. Meng (both APD) assisted in the preparation of this report.

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APPENDICES

RECENT ECONOMIC DEVELOPMENTS AND OUTLOOK

A. Introduction

1. Singapore's macroeconomic performance during the past half century has been impressive. Apart from achieving rapid economic growth and low unemployment, Singapore's remarkable development journey has been characterized by a progressive broadening and deepening of its economic structure. In addition to being a financial center and trading hub, Singapore retains a competitive manufacturing sector which has played an instrumental role in allowing the city state to achieve one of the highest living standards in the world. Concomitantly, the role of service sectors has evolved from catering mostly to domestic demand to serving the growing Asian market. The next phase of economic development will be based on an even greater shift to a knowledge- and skills-based economy, driven by productivity gains to overcome inevitable supply-side constraints.

2. Amid changing economic and social settings, the country has been reinventing itself. This year's Article IV consultation takes place against the backdrop of the recent passing of Lee Kwan Yew who has led the country for the first three decades of its establishment, remained a cabinet member for another two decades, and stayed influential until his death. Singapore is also celebrating the 50th anniversary of its independence and is gearing up for parliamentary elections, which are to be held no later than January 2017. The incumbent People's Action Party is still firmly in charge. However, its popular support had been slipping before it fell another 6 percentage points, to 60 percent, in the 2011 election. In response to the physical limits of a city state and high inequality, the government has re-engineered Singapore's growth model toward more productivity-driven growth by reducing reliance on foreign workers, providing incentives for firms to upgrade business practices and capital, and raising productivity of the resident labor force. Efforts to enhance inclusiveness and secure retirement income adequacy have also been stepped up.

3. Macroeconomic and financial policies have been broadly in line with past Fund advice. The authorities maintained a moderately tight monetary policy stance through 2014, before reducing the tightening bias slightly early this year in response to a significant downward adjustment in the inflation outlook, reflecting the large oil price shock, and uncertainties about the global outlook. Singapore's budget this year includes well articulated plans to increase social spending and infrastructure investment over the next five years, consistent with past staff recommendations. These plans will promote inter- and intra-generational equity, strengthen social safety nets, foster investment and help Singapore maintain its competitive edge. Additionally they will contribute toward narrowing the current account surplus. The authorities have also continued to make good progress in implementing the 2013 FSAP recommendations. Consistent with staff advice, the authorities maintained existing macroprudential policies aimed at reducing risks from the property market. A new prudential measure limiting the amount of unsecured borrowing was introduced this year, which will reign in excessive borrowing by a small minority of households. Finally, the authorities took several measures to bring the Anti Money Laundering / Combating the

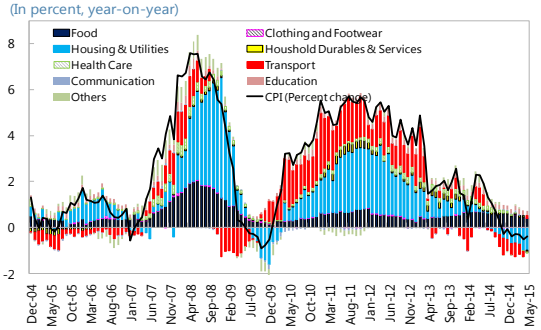
Financing of Terrorism (AML/CFT) framework more in line with the enhanced international standards of the Financial Action Task Force.

B. Recent Developments

4. Singapore's economy continues to perform well in 2014–15 but activity has been impacted by reduced reliance on foreign workers, the slow global recovery, and the turning of credit and housing cycles. The moderation in growth from 4.4 percent in 2013 to 2.9 percent in 2014 partially reflects the transition to the lower trend growth rate dictated by reduced contribution from labor supply. Cyclical factors reflecting a slow and uncertain global recovery and the turning of credit and housing cycles have also played a role. In 2014, consumption growth slowed down considerably and gross fixed investment contributed negatively to growth, held back by the uncertain economic outlook and its impact on investor confidence (Figure 1). Growth in the first quarter of 2015 was robust at 3.2 percent (q/q) in annualized seasonally-adjusted terms, following a strong fourth quarter in 2014, with both consumption and investment showing signs of modest pick-up. Private sector credit growth slowed to 4.6 percent in April 2015 (y/y), the slowest pace in five years. House prices have continued to decline modestly and are below their peaks by 9 percent and 6 percent in the public resale and private market segments as of the first quarter of 2015, respectively. The pace of house price decline has been slower over the past 7 quarters, suggesting that policy actions such as the introduction of the total debt service ratio (TDSR) framework in mid-2013 have helped engineer the soft landing targeted by policy makers.

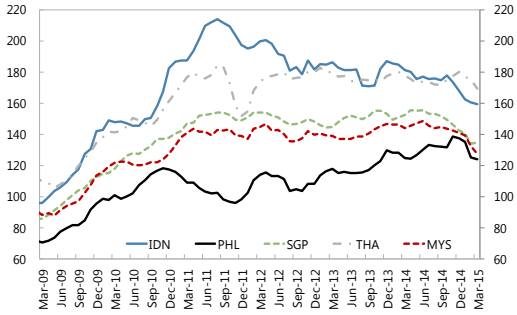
5. Inflation has declined significantly on the back of a steep decline in oil prices and softer housing and car permit prices, while a tight labor market has not so far translated into inflation pressures. Headline inflation fell to -0.3 percent (y/y) in the first quarter of 2015, down from an average of 1 percent in 2014, and 2.4 percent in 2013. Core inflation also eased, to 1.1 percent (y/y) in the first quarter of 2015 (Figure 1). The labor market has remained strong and unemployment has declined below 2 percent. A remarkable increase in the hiring of resident workers has pushed the labor force participation ratio to a new record high. Pass-through of rising unit labor costs partly driven by wage increases has been smaller than expected amid weak demand and uncertain business outlook, contributing to subdued inflation.

Contribution to CPI Growth
(In percent, year-on-year)



Sources: CEIC Data Company Ltd.; and IMF staff calculations.

Export Performance
(Index, 2006=100, 3mma, s.a.)



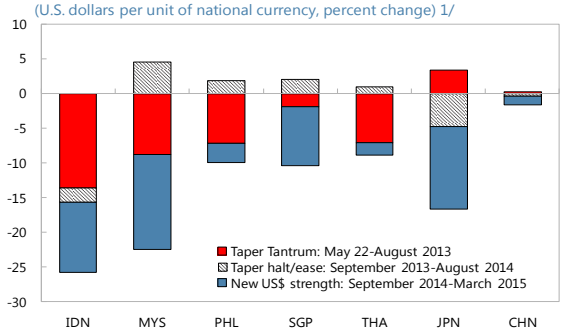
Sources: Haver Analytics; and IMF staff calculations.

6. The current account surplus increased in 2014, reflecting low import demand and lower energy prices, while exports have been restrained.

The current account surplus rose to 19.1 percent in 2014, up by 1.2 percentage points relative to 2013, driven by both the goods and the services balance. The trade balance improved significantly in the first quarter of 2015, reflecting mainly the impact of the oil price shock. Singapore's exports have been relatively weak, due to the slow pace of global economic recovery, as well as supply-side constraints. The overall balance of payments surplus narrowed in 2014 and recorded a deficit in the first quarter of 2015, amid higher net outflows in the financial account.

7. Singapore's financial markets have so far been resilient to the volatility associated with diverging global monetary conditions. The Singapore dollar depreciated by about 10 percent vis-à-vis the U.S. dollar between end-August 2014 and mid-March 2015. Singapore dollar's decline was related to the broad-based strength of the U.S. dollar which affected currencies across the board and also to expectations of further easing after the change in the monetary policy stance in January. During mid-March and end-May the Singapore dollar has appreciated by about 3 percent vis-à-vis the U.S. dollar. The stock market has performed well over the past year and in early-2015, reaching a peak in April.

Nominal Bilateral Exchange Rates Since May 2013
(U.S. dollars per unit of national currency, percent change) 1/



Sources: Bloomberg LP; and IMF staff calculations.
1/ A positive value denotes an appreciation against the US$.

C. Outlook and Risks

8. Despite uncertainties in domestic and external environment, growth is expected to average 2.9 percent in 2015. The uncertain external environment and the ongoing transition to the new growth model could continue to weigh somewhat on private consumption and investment. However, several factors should support a broad-based recovery in domestic demand. These include the loosening of the monetary policy stance in January, a supportive fiscal policy stance, lower energy prices, the temporary pause in the hike of foreign worker levies announced in the 2015 budget, and the projected gradual recovery in external demand.[1] These factors are expected to offset the drag from the continued softness in the housing market and an expected increase in interest rates. Headline and core inflation are expected to average 0 and 1 percent in 2015, respectively, before both rising to 1.8 percent in 2016 on recovering energy and commodity prices.

9. The medium-term outlook will be characterized by lower growth rates. Restrictive policies on foreign workers and rapid population aging will lower the rate of labor force growth, slowing economic growth to about 3 percent over the medium-term (Appendix V). The economic restructuring is expected to ultimately raise capital-labor ratios and productivity growth but is

[1] Businesses in Singapore pay a monthly levy for hiring foreign workers that varies by sectors and skill levels of workers. The authorities had announced a gradual increase in foreign worker levies, starting in 2010. In the 2015 budget, the authorities announced that the scheduled levy increase in 2015 will be deferred by one to two years depending on the sector.

subject to transitional costs in the near-term. The magnitude of these transitional costs, and the speed with which long-term gains in investment and productivity are realized, will have an important bearing on potential growth and inflation. The authorities are implementing several programs to actively support investment, the adoption of more advanced production technologies and processes by firms, and the upgrading of skills by Singaporeans. There are some positive signs, including improvements in some productivity indicators and increases in the number of new firms being created, but many companies are also facing margin compressions and difficulties filling vacancies in the meantime. These signs probably understate the extent of quality upgrading in the economy (for example, capturing the effects of the information technology revolution in national accounts is notoriously difficult.[2] Fiscal policy will play an important role in Singapore's medium term growth performance. The authorities' plans to invest in productivity-enhancing infrastructure, including in support of education and healthcare, and to maintain Singapore's leading role as a transportation and logistics hub, should help underpin medium-term productivity and growth. Finally, as a highly open economy with strong trade and financial linkages with the ASEAN region and beyond, regional and global conditions will also play an important role in shaping Singapore's growth trajectory.

10. Risks to the baseline projections are tilted to the downside. As a city state with a very open economy, Singapore is exposed to external shocks. Accordingly, a protracted period of slower growth in advanced and emerging economies is an important short-term risk. Side effects from surges in financial volatility and persistent U.S. dollar strength and asynchronous monetary policies in the advanced economies (Box 2), as well as the growth slowdown and financial risks in China, could also have an important impact.[3] Were these risks to be realized, their effects could be amplified by the elevated indebtedness of the domestic household and corporate sectors. Delays in generating significant investment and productivity gains as part of the economic restructuring is another risk. Principal risks, their transmission mechanisms, and recommended policy actions are summarized in the Risk Assessment Matrix (Appendix I). Singapore's strong macroeconomic fundamentals—skillful and responsive macroeconomic management, a substantially strong external position, adequate level of foreign reserves, large fiscal buffers and strong bank balance sheets—could help absorb shocks and facilitate an effective countercyclical policy response.

Authorities' Views

11. The authorities are confident in the strength of the Singaporean economy and see short-term risks as manageable. For the rest of the year, a firmer recovery in the U.S., Europe and Japan will provide support for the externally-oriented sectors. However, the extent of this uplift may be partially offset by other global developments, including the slowdown in China, tighter financial conditions and potential capital reversals associated with the normalization of U.S interest rates, corporate realignments in the IT industry, and lingering weakness in the oil-related transport

[2] See, for example, Dale W. Jorgenson, "Innovation and Productivity Growth," T.W Schultz Lecture, American Journal of Agricultural Economics 93(2): 276–296.

[3] The impact of a growth slowdown in China can be significant. For instance, estimates in IMF WP/14/52 based on a panel regression model suggest that a 1 percentage point decline in growth in China can reduce growth in Singapore by 0.36 percentage points.

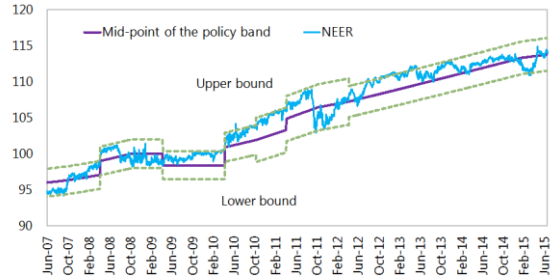
engineering sector. Meanwhile, the domestically-oriented industries will be bolstered by firm demand and temporary respite from the deferment in the hikes of foreign worker levies. The authorities agreed with staff that key risks in the near-term are related to the growth prospects in advanced economies and key emerging markets. The authorities noted the sensitivity of Singapore's growth to developments in China, through both direct and indirect links. They are confident that Singapore can handle the increased volatility associated with monetary policy normalization in the U.S. given their ample policy buffers and track record of strong macroeconomic management.

POLICY DISCUSSIONS

A. Monetary and Exchange Rate Policy

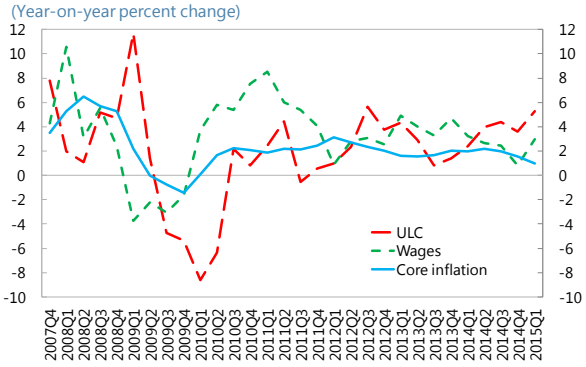
12. In January, in response to a decline in expected inflation and a more uncertain outlook for growth, MAS loosened its policy stance by reducing the pace of appreciation of the nominal effective exchange rate (NEER) band. The MAS announcement, outside the biannual April-October cycle, lowered appreciation expectations of the Singapore dollar and led to an uptick in short-term interbank interest rates. The monetary policy stance before the January move had been in place since April 2012, during which a positive output gap had gradually closed and inflation had come down from relatively high levels. The January move constitutes the first off-cycle monetary policy decision since 2001. MAS stayed pat in its April meeting judging current monetary policy settings appropriate for achieving medium-term price stability. The specific parameters of the basket-band-crawl framework are not made public.[4] However, following the recently announced policy change, staff estimates that the NEER band is now appreciating at an annual rate of 1 percent, down from about 2 percent before January, and has a width of about ±2 percent.

Nominal Effective Exchange Rate and Policy Band 1/
(Jan 1, 2010=100)



Source: IMF, *Information Notice System*; and IMF staff estimates.
1/ Mid-point, lower and upper bounds of the policy band are staff estimates.

Core Inflation, ULC, and Wages
(Year-on-year percent change)



Source: CEIC Data Company Ltd.; and IMF staff calculations.

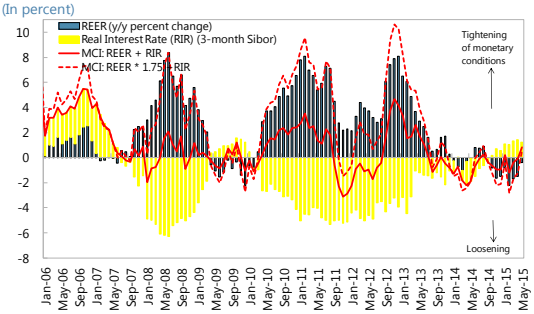
13. The current monetary policy setting is appropriate. The benign near to medium-term inflation outlook and a closed output gap justify the relative easing of monetary policy

[4] The MAS publishes weekly data on the NEER but it does not reveal the weights of individual currencies in the basket.

(Appendix IV).[5] Near term inflation risks are circumscribed by the large and sustained oil price decline and the ongoing gradual decline in house prices and their second-round effects.[6] Interestingly, labor cost increases in 2014 were lower than previously anticipated on the back of heightened uncertainty about external demand and domestic growth prospects. With pass-through of cost pressures relatively benign, inflation risks contained, and the balance of risks for external demand tilted to the downside, monetary policy can afford to be less restrictive. In the medium term, with the projected increase in U.S. policy rates, Singapore's interest rates are also expected to increase, contributing to a market-driven tightening of monetary conditions.[7] Risks to inflation are related to developments in external demand interacting with the ongoing economic restructuring. If external demand does not pick up as expected, it could put further pressure on profit margins, as firms are not able to pass-through costs. This could lead to a hollowing out in certain sectors, a rise in unemployment and deflationary pressures. On the other hand, a stronger than expected pick-up in external demand could lead to an uptick in inflation and labor costs if firms try to defend their profit margins. The authorities are encouraged to use the flexibility intrinsic in Singapore's basket-band-crawl monetary framework to allow the exchange rate to respond within the band to minor, temporary shocks. They could recalibrate band parameters on more rare occasions when significant and sustained increase in real and financial volatility warrant reparameterization (recentering, widening) of the band.

14. The uncertainty associated with asynchronous monetary policies in advanced economies has increased the risk of higher interest rate and exchange rate volatility. This will pose challenges for monetary policy in Singapore and elsewhere. The authorities could widen the policy band in case of a significant and sustained increase in volatility; however, the flexibility offered by a wider band should be weighed against the reduced controllability of the monetary policy stance. The authorities can also use FX intervention at both ends of the band, given their comfortable reserve position.

Monetary Conditions Index (MCI)
(In percent)



Sources: CEIC Data Company Ltd; and IMF staff calculations.
Note: One MCI has equal weights, the other has a commonly used higher weight for the REER reflecting Singapore's openness.

15. The current monetary policy framework serves Singapore well but rising domestic leverage and heightened global interest rate and exchange rate volatility warrant heightened

[5] A standard Taylor rule with policy inertia and the short-term interest rate replaced by NEER appreciation as the policy instrument explains the change in the NEER well. The estimated policy rule predicts a slowdown in NEER appreciation in 2015 mainly reflecting the expected decline in inflation.

[6] The oil price shock will have large but temporary effects on inflation but could also restrain pass-through of labor costs in some energy-intensive sectors.

[7] Under Singapore's exchange-rate-based monetary policy framework, the policy loosening through a smaller targeted appreciation of the NEER band can lead to higher short-term domestic interest rates. For example, the January 2015 monetary policy easing has led to lower expected appreciation of the Singapore dollar, feeding into higher short-term interest rates.

vigilance in assessing the balance of forces between the interest rate and exchange rate channels of monetary policy and in the calibration of the monetary policy framework:

- The authorities' track record operating the exchange rate-based monetary policy, both in good and in bad times, demonstrates that the policy framework is robust and flexible enough to deal effectively with bouts of volatility. The large share of imported goods in the consumption basket and the importance of externally-oriented sectors in the economy make the exchange rate the dominant channel of monetary policy in Singapore. Nevertheless, leverage in the economy is high and the expected increase in interest rates going forward can have larger effects on demand than historically observed, mainly by restraining consumption growth for leveraged households and investment growth in interest-sensitive sectors.[8] Accordingly, the interest rate channel could provide a larger offset to exchange rate action, requiring stronger adjustment in the NEER band to achieve the objectives of monetary policy. The authorities are encouraged to monitor the balance sheets of households and firms and incorporate the implications of the expected rise in interest rates, potential asset price adjustments, and the financial cycle in their calibration of monetary policy, taking into account a higher sensitivity of economic activity to interest rates.

- The current biannual frequency of policy meetings provides a good balance between the need to orient monetary policy to medium term price stability while allowing flexibility for rare off-cycle policy moves. Given the divergence of advanced economies' monetary policies, the biannual policy meeting framework could be subject to more tests going forward. More frequent policy meetings are one option, but this could run counter to the longer-term orientation of monetary policy. On balance, the flexibility afforded by the exchange rate band and the track record (only two off-cycle moves in 15 years) suggest that biannual policy meetings constitute an appropriate frequency.

16. Singapore's external position is assessed to be substantially stronger than consistent with medium-term fundamentals and desirable policies, although the current account surplus is projected to moderate over the medium term. The assessment for 2014 and the size of the imbalance are subject to a wide range of uncertainty reflecting Singapore's highly open economy and unique position as a global trading and financial hub. Since 2010, the current account has narrowed by about 4.6 percentage points of GDP and the REER has appreciated by about 13 percent. Nevertheless, at 19.1 percent of GDP in 2014, the current account is 2–8 percent of GDP larger than the norm (Appendix II). Importantly, Singapore's openness and financial center status,

[8] Staff's empirical analysis suggests that the real exchange rate indeed has a stronger effect on growth than the real interest rate in Singapore. Leverage is also found to have a significant negative effect on growth. Staff also included interaction terms in the analysis with a view to examining the effects of leverage on the relative strengths of the two channels of monetary policy. The negative impact of interest rates on growth does indeed increase with leverage, but this effect seems to be driven by events surrounding the Asian financial crisis. Leverage is at an all time high at present, and the heightened sensitivity of output to interest rates may be subject to threshold effects not adequately captured in the sample. Staff is working on incorporating the interaction between leverage and interest rates in the presence of threshold effects. Its judgment of rising risks due to the interaction of prospectively higher interest rates and domestic leverage are at this point driven by theoretical considerations.

together with its very high per-capita income, rapid aging and defined-contribution pension system are non-standard factors that make Singapore an outlier in international comparisons of external positions, making a quantitative assessment of its current account unusually difficult. Consistent with the authorities' policies, several factors are expected to contribute to a moderation of the current account surplus over the medium term. These include the drawdown of accumulated pension savings in response to aging and additional government spending to strengthen health care infrastructure and make the distribution of consumption within and across generations more even. The changing growth model, with a much smaller absorption of foreign workers than in the past, is also expected to reduce the current account surplus in the near-to medium-term, by leading to real exchange rate appreciation and to productivity gains in non-traded sectors.

17. Developments in late-2014 and early-2015, including the decline in the energy import bill, are expected to have a modest impact on the external position. Singapore is a net oil importer, with a net oil trade balance of -5.6 percent of GDP in 2013. The recent oil price decline triggered a significant first-round increase in the oil trade balance at end-2014 and so far in 2015. However, the overall current account gain from the oil shock is expected to be smaller once one takes into account the high imported petroleum product content in Singapore's exports of petrochemicals and other oil intensive products and services (Box 1). In addition, sectors with strong links to investment in the global oil market, such as the marine and offshore industries, are expected to see their exports fall, especially as a large component of the oil price decline seems to be long-term in nature. Taking into account these factors, lower oil prices are expected to raise the current account by about 1.5 percent of GDP in 2015. A weaker outlook for external demand and more accommodative fiscal policies are expected to reduce the current account, partially offsetting the oil-related gain. The recent easing of monetary policy is not expected to materially affect the external balance. Overall, the current account is expected to increase by 1–1.5 percent of GDP in 2015.

18. International reserves are adequate for precautionary purposes. While Singapore's position as a financial center warrants high reserve buffers, current levels appear adequate and there is no clear case for further reserve accumulation for precautionary purposes.[9] The decline in Singapore's official reserves (by about 10.6 percent or US$29.6 billion during June 2014-March 2015) reflects valuation changes. Official reserves cover about 25 percent of short-term external debt as of end-2014. Although this appears to be relatively low, it reflects the sizable short-term liabilities of Singapore's international banking system. These liabilities are concentrated in foreign banks operating in Singapore and are largely covered by banks' short-term external financial assets.

[9] Singapore's reserves-to-GDP ratio is also larger than in most other financial centers, but this may reflect in part that most other financial centers are located in reserve-currency issuing countries or in countries that are members of currency unions.

Authorities' Views

19. The authorities thought the assessment of monetary policy was useful and balanced. They noted that the monetary policy stance is related to the position and slope of the NEER band, as opposed to the NEER movements within the band. The authorities also emphasized that interest rates are factored in their calibration of monetary policy as part of their general equilibrium approach to monetary policy. They agreed that there is considerable uncertainty about the effects of rising interest rates, as the economy exits a prolonged period of very low interest rates with significantly higher leverage. They take into account this uncertainty by assuming a conservative, higher sensitivity in their calibration of policies. The authorities also agreed that divergent monetary policies in advanced economies can create volatility and risks in currency markets. They also argued, however, that a scenario where all advanced economies tightened policies at the same time could be more challenging for emerging markets and for Singapore; in their view, while actions in the U.S. have a larger effect, policy accommodation in Japan and the euro zone are providing a welcome offset.

20. The authorities did not agree with the characterization of Singapore's external position as substantially stronger than warranted by medium-term fundamentals and desirable policies. In their view, the assessment does not fully capture Singapore's unique features. In particular, the large current account surplus reflects the country's position as a global financial center, trading and production hub, and its city state geography. It is not the result of "inappropriate policies" and the real exchange rate in an economy as open as Singapore reflects developments in relative prices and costs. They emphasized the unique setup whereby the exchange rate is in fact used as an instrument to achieve internal balance objectives, which would be compromised if it were used to directly target the external balance. The authorities also highlighted the need for the external sector assessment to focus on longer term considerations related to consumption smoothing over a life-cycle, preserving intergenerational equity and sustainability, rather than near- or medium-term notions of "equilibrium". The authorities expect the current account surplus to decline over time as population aging takes hold, lowering saving rates, and the size of government rises to deal with rising old-age dependency ratios and upgrading of infrastructure.

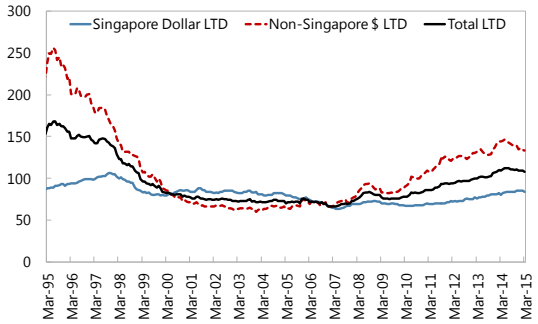
B. Financial Sector and Macroprudential Policies

21. The moderation of credit growth to both residents and nonresidents during the past year is welcome. It has been supported by the active use of macroprudential policies. More recently, moderation of credit growth to nonresidents also reflects a narrowing of interest rate differentials vis-a-vis China, which has led to a weakening of demand for investment and trade credits. The increase in domestic interest rates observed of late and the expected further upward adjustment in interest rates reflecting the gradual normalization of monetary policy in the U.S. should help contain household and corporate indebtedness and remove the onus from macroprudential policy to reduce systemic financial risks in slowing credit growth.

22. Some progress has been made in reducing foreign currency liquidity risk. The risk posed by the high non-Singapore dollar loan-to-deposit ratio has been reduced thanks to declining

credit growth and to banks' efforts to raise more stable funding through issuance of medium- and long-term bonds and attracting foreign currency deposits. In particular, local banks brought down their loan-to-deposit ratio below 100 percent both in domestic currency and in U.S. dollar terms, thereby reducing the reliance on short-term wholesale funding and foreign currency swaps to hedge currency risk. In light of foreign banks' structural reliance on intra-group funding, more tailored measures of foreign currency liquidity risk are desirable. In this regard, staff welcomes the continued monitoring of banks' foreign currency liquidity management through stress tests and the recent phasing in of Basel III Liquidity Coverage Ratio (LCR) to the local banks, including reporting of LCRs for significant foreign currencies. In addition, the application of LCRs, from 2016, to the domestic systemically important foreign banks' operations in Singapore and subsidiarization of their operations in Singapore will be a significant step forward. Staff recommends that MAS encourage banks to publicly disclose LCRs to encourage careful liquidity risk management and ensure that banks voluntarily hold adequate volumes of liquid assets. The planned implementation of Basel III Net Stable Funding Ratio requirements from January 2018 should complement the framework.

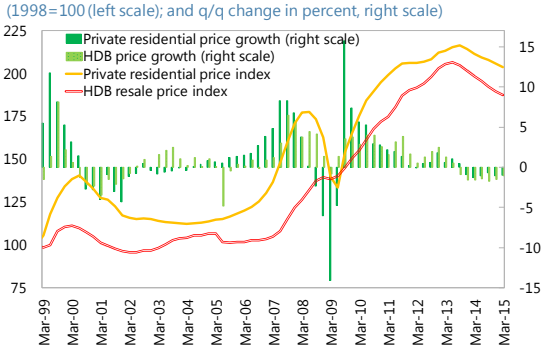
Loan to Deposit (LTD) Ratios: Total Banking System
(In percent)



Source: Monetary Authority of Singapore.

23. A further measured decline in residential real estate prices seems likely. The large supply of new homes coming on the market in the next two years should alleviate supply pressures and the expected increase in interest rates will reduce demand, helping moderate prices and increasing affordability. Price adjustments to date have been modest and gradual, and robust demand for new housing projects suggests that the risk of disorderly adjustment in house prices is low. Therefore, core macroprudential measures such as the TDSR, ceilings on loan-to-value ratios and loan tenure limits should be maintained to prevent a buildup of excessive leverage that could lead to systemic risks. Other measures, for example stamp duties, could be relaxed to arrest potential adverse feedback loops between economic activity and financial conditions, without loosening banks' lending standards. But this should only be done in case of signs of excessive house price declines, associated with clear evidence of a tightening of financial conditions.

Singapore: House Price Index
(1998=100 (left scale); and q/q change in percent, right scale)

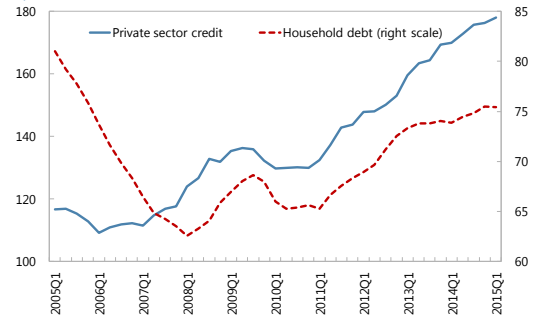


Sources: CEIC Data Co., Ltd.; and IMF staff calculations.

24. Household leverage remains elevated, and risks from interest rate increases remain pertinent. Nevertheless, household balance sheets remain strong in aggregate. While there are

pockets of risks, MAS estimates that the additional debt service burden would generally be manageable, even in a scenario in which interest rates increase rapidly above historical norms.[10] In addition, risks from banks' exposures to housing-related debt appear limited given that unemployment remains low, most properties are owner-occupied, and the high down payments mandated by tight loan-to-value limits. Preemptive prudential measures to discourage additional lending to over-indebted individuals would help address pockets of risks. In this regard, staff welcomes the phasing in of a limit on unsecured credits to individuals from June 2015. Efforts aimed at assisting overextended individuals should continue, including through assistance with debt restructuring and financial education.

Private Sector Credit and Household Debt
(In percent of GDP)



Sources: Monetary Authority of Singapore; and Haver Analytics.

25. Corporate sector indebtedness and leverage have risen since the global financial crisis, but companies' debt servicing capacity remains high. Most publicly listed companies maintain high interest coverage ratios and appear able to withstand interest rate and earnings shocks. Nevertheless, the high level of overall corporate debt (about 75 percent of GDP) warrants caution. Loans to SMEs, representing about 20 percent of domestic corporate loans, are highly collateralized and subject to strong underwriting standards, with NPL ratios falling below 1 percent. Staff welcomes MAS' close monitoring of financial sector risks related to the corporate sector, including through stress tests of listed companies' balance sheets and surveys of banks' exposure to SMEs. In anticipation of the expected interest rate normalization and the effects of the restructuring on corporate profitability, it is important for bank supervisors to remain vigilant in monitoring risks.

26. Singapore continues to maintain high regulatory and supervisory standards. Stringent capital requirements, above Basel minimum norms, and Basel III LCR requirements have been phased in smoothly since January 2015. Staff observed important progress in implementing the 2013 FSAP recommendations (Appendix III). Among others, the collection of granular debt data for individuals has been enhanced, supporting the enhancements made to the unsecured credit rules. MAS is working with D-SIBs and the Singapore Exchange (SGX) to enhance recovery and resolution arrangements. Staff welcomes the planned strengthening of the recovery and resolution framework and encourages even closer coordination with other jurisdictions to facilitate cross-border resolutions of global banks and further strengthening the resolution framework to enhance MAS' operational independence.

27. Efforts to bring the AML/CFT framework in line with international standards and demonstrate effective cooperation with foreign counterparts, particularly on tax matters, should continue. The authorities have implemented several actions in recent years to mitigate risks.

[10] For example, MAS estimates that households' monthly debt repayment could increase by 8–9 percent of their income, should mortgage rates rise by 300 bps.

More recently, measures to prevent misuse of ownership structures were strengthened, by imposing customer due diligence requirements on agents who help third parties (including foreigners) set up Singapore companies, and by elaborating on such requirements for other regulated entities. The framework's tax coverage has been broadened and is aimed at making it harder to launder evaded foreign taxes in Singapore. Singapore should continue efforts to demonstrate effective cooperation with its foreign counterparts. Other recent changes include requiring regulated entities to undertake comprehensive ML/TF risk assessments and increase scrutiny of cross-border transfers. Further steps are planned for emerging risks posed by virtual currencies. The Financial Action Task Force and the Asia/Pacific Group on Money Laundering will jointly assess Singapore's AML/CFT regime in 2015, including how effective it is.

Authorities' Views

28. The authorities were confident that the financial system remains resilient to the turn in the financial cycle. They emphasized their commitment to proactive financial sector surveillance and continued improvements in their supervision and regulation framework to address tail risks and pockets of vulnerabilities. A significant rise in interest rates could cause vulnerabilities among pockets of overextended households but with little systemic implications. The authorities also noted that there are limits to matching loans and deposits in each foreign currency, especially in a financial center that intermediates funding to the region. In their view, LCR requirements in all currency and in domestic currency are hence appropriate tools to avoid a build-up of domestic liquidity risks while ensuring efficiency in banks' funding structure.

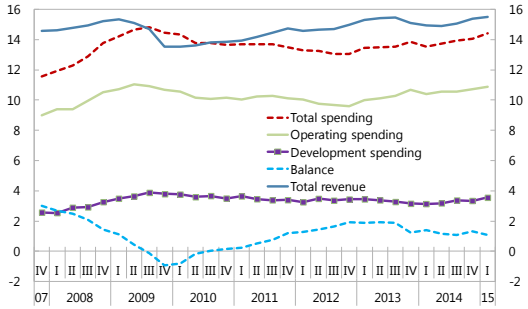
29. Comprehensive and graduated macroprudential policies have been effective in supporting a soft-landing of the property market boom. Macroprudential policy measures in Singapore are targeted to specific risks, and multi-pronged to ensure effectiveness and efficiency (see Box 1 of last year's Article IV Staff Report). The authorities are committed to closely monitoring the impact and effectiveness of various prudential measures, and stand ready to recalibrate when deemed appropriate.

30. AML/CFT policies and issues are taken very seriously and are being further strengthened. The authorities emphasized their track record in strengthening the compliance of their AML/CFT regulatory regime in line with international standards. They also noted that financial institutions in Singapore are subject to a comprehensive AML/CFT regulatory regime, which includes customer due diligence, ongoing account monitoring and suspicious transaction reporting requirements. Legislative changes made in 2013, and the findings of the Global Forum on Transparency and Exchange of Information for Tax Purposes mean that Singapore's exchange of information regime is in line with the internationally-agreed standard, that ownership and identity information is available for all types of companies, partnerships and trusts, and that overall compliance with filing and reporting obligations is very high.

C. Fiscal Policy

31. The overarching objectives of fiscal policy have been to support economic growth and efficiency while ensuring long-term sustainability of the public finances. The small size of government and low rates of taxation in Singapore have supported the strong business climate and contributed to high rates of economic growth. Sustained over-performance on the conservative fiscal rule, which requires a balanced budget over the political term of the government, has over time resulted in the buildup of large fiscal reserves. These savings now allow the government to meet expanding spending needs to maintain Singapore's logistics edge through additional infrastructure investments and to meet the needs of its aging society.

Singapore: Fiscal Developments
(4-quarter rolling sums, in percent of GDP)



Source: Economic Survey of Singapore, Ministry of Trade and Industry.
Note: Revenue excludes interest and investment income.

32. Going forward, the continued medium-term orientation of fiscal policy and the modest strengthening of collective responsibility will serve current and future generations of Singaporeans well. The FY2015/16 budget underscores the government's focus on boosting productivity, raising inclusiveness and reducing inequality, and managing the impact of the sharp increase in the old-age dependency ratio. Staff takes note of the government's well-articulated plans to raise social and infrastructure spending over the next five years, which will result in a modest increase in the size of government spending of about one-two percentage points of GDP. Planned higher outlays on healthcare, education and training, public transport and airport expansion, and domestic security serve clear public policy purposes. Building on Singapore's strong track record of high-quality government spending, they can be expected to strengthen the social and economic foundation of Singapore, improve the prospects for potential output, and support external adjustment.

33. Staff welcomes steps taken in the FY2015/16 budget to reduce income inequality, which continue in the direction of government policies in recent years. The increase by two percentage points in the marginal personal income tax rate for the highest income bracket and the quarterly cash transfers to elderly with income in the lowest 30 percent ("Silver Support") will contribute to reducing intra- and inter-generational inequality. The inclusion of Temasek in the "Net Investment Returns" framework could also help promote a more equitable inter-generational distribution of income.[11]

[11] Singapore's fiscal reserves are held and managed by the Government of Singapore Investment Corporation (GIC), MAS and Temasek. Under the "Net Investment Returns framework", spending is capped at 50 percent of the expected long-term real returns on the fiscal reserves held by the GIC and MAS only. Temasek's net portfolio is 223 billion Singapore dollars, with a geographic allocation tilted towards Singapore and other Asia.

34. The fiscal impulse, projected at 1.6 percent of GDP in FY2015/16, is opportune (Table 5). While recognizing the medium-term orientation of fiscal policy, staff notes the insurance value of a somewhat expansionary near term fiscal stance, which is warranted by the higher downside risks to the external outlook and the prospective tightening of domestic credit conditions.

35. There is scope to enhance the clarity and transparency of the fiscal accounts. The policy debate in Singapore centers on the need for fiscal policy to continue being sustainable and to become fairer and more inclusive both within and across generations. It is also framed by the requirements of the fiscal rule, which limits the drawdown of accumulated government assets. Within this framework, there is scope to provide more clarity of the coverage and meaning of the reported fiscal balance. Several items, including the government's investment income and intra-government transfers via special funds and programs and land sales, require adjustments to be made to the fiscal balance to obtain a macroeconomically relevant measure of the fiscal position. While the presentation of the fiscal accounts in the annual budget is anchored in the Constitution, fiscal policy discussions could be enriched further by supplementing the budget presentation with an alternative based on the overall fiscal balance in line with *Government Finance Statistics Manual* (GFSM) 2001. This would clarify the additions to the government's fiscal reserves (held at the MAS, GIC, and Temasek) implied by the budget. In doing so, it would help reveal the budget's implications for fiscal sustainability and evolution of fiscal reserves.

Authorities' Views

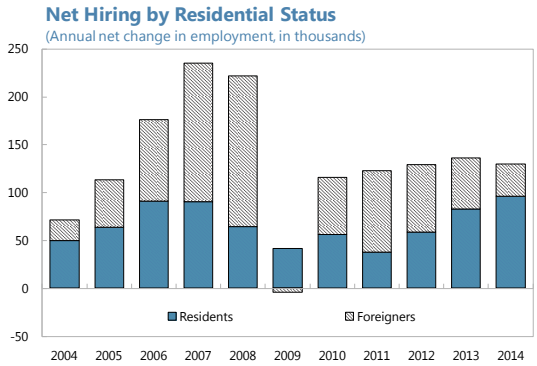
36. The authorities highlighted the medium-term orientation of the budget and their commitment to make greater use of fiscal policy to improve inclusiveness while remaining true to the primacy of personal and family responsibility. Recent measures to assist elderly individuals earning lower incomes reflect the authorities' belief that government has a role to support social mobility and take care of the elderly as the size and structure of Singaporean families change. Recent policies should be seen as an effort to provide help to people to take care of themselves without weakening private initiative and without undermining personal and family responsibility. Singapore supports a system of "sustainable inclusivity" where the government provides active support for personal responsibility.

37. Singapore's fiscal balances are presented in line with the requirements of the Constitution. Multiple presentations of the budget document would lead to confusion and possible misinterpretation of fiscal spending permissible under the Constitution. The general government finance data that follows the GFSM format are made available in the Yearbook of Statistics. All revenue data, including government land sales and investment income, are also included in the Budget documents, allowing analysts to make the necessary adjustments to the headline budget figures. The Ministry of Finance has also been publishing the fiscal impulse, based on a commonly accepted methodology, as part of the Budget documents. There is no ideal method of presentation that will satisfy both the need to correctly reflect the level of government spending permissible under the Constitution, and to facilitate analysis and cross-country comparisons.

38. Budget over performance does not reflect a systematic bias toward fiscal surpluses. The Ministry of Finance aims to be as accurate as possible during budget planning. In any given year, revenues could deviate from the budgeted figures, and there is no deliberate or consistent conservatism embedded in projections. The revenue over-performance in recent years was due to unexpectedly buoyant demand for real estate and vehicles.

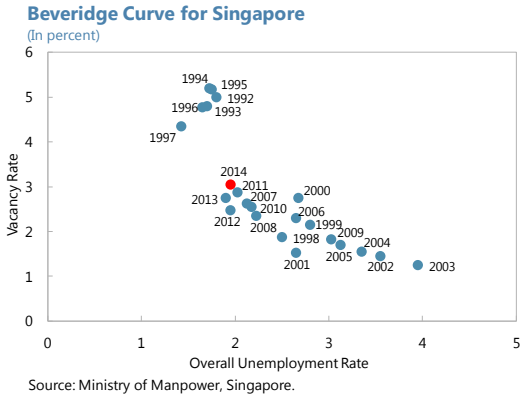
D. Economic Restructuring

39. The shift to a growth model that relies less on foreign workers has unleashed a multi-year economic restructuring process that is multi-dimensional and transformative. Policies focus, inter alia, on upgrading worker skills and investing in capital, broadly construed to include tangible and intangible forms (organizational capital and business processes). Tighter limits on foreign workers have led to a permanent increase in real wages relative to the cost of capital in Singapore. This has raised firms' long-term desired capital-labor ratio and should translate into increased investment as the restructuring matures (Appendix V). Staff welcomes policy measures, such as investment tax credits, that encourage capital accumulation. Temporary wage subsidies are also useful, by helping to moderate the increase in the relative price of labor and by smoothing firms' transition to the new economic structure. These measures should be subject to sunset clauses as planned to avoid distortions in the long run. However, the restructuring has also compressed firms' profits in the short run and lowered potential growth to a level consistent with Singapore's physical limits, leading to a weakening of investment during the initial phases of restructuring. Staff expects that private investment will rebound over time as firms react to higher wages and to government incentives by adjusting capital spending to reach their new higher optimum capital intensity levels.



Sources: Singapore, Ministry of Manpower; and IMF staff calculations.

40. Progress with the economic restructuring requires careful monitoring and a flexible policy approach to reach its medium-term goals. The more restrictive foreign worker policy has contributed to a tightening of the labor market, as exemplified by the recent increase in the ratio of vacancies to unemployment. Higher participation rates of older workers and workers with relatively low skills can help explain the decline in labor productivity. The looming full implementation of sectoral foreign worker quotas (or Dependency Ratio Ceilings, DRCs) in the services sector on July 1, 2015, could cause additional pressures in the coming months if firms need to release foreign workers to meet their DRCs. While tighter foreign worker quotas can incentivize



Source: Ministry of Manpower, Singapore.

firms to invest in labor-saving technologies and processes, it can also have a bearing on firms' ability to flexibly adjust and organize their labor forces and reduce incentives to invest due to compressed profits. Economic restructuring also entail risks, including higher than expected transitional costs (for instance a sharp increase in frictional unemployment, hallowing out in some sectors) with more long-term effects on growth and potential delays in achieving productivity gains. In such situations, a recalibration of the DRCs would be called for. Targeted fiscal support to businesses is being provided through grants and tax credits, to facilitate the restructuring. Staff welcomes the flexibility demonstrated recently in the calibration of foreign worker levies. Additional measures could support firms if activity falls or productivity does not pick up. The rising trend in public spending on health, education and infrastructure is expected to provide a supporting environment to increase productivity.

Authorities' Views

41. The 2015 budget continues to further the authorities' goal of restructuring Singapore's economy and facilitating the country's next phase of development. Accordingly, the budget emphasizes long-term investment to develop human, physical and organizational capital, including infrastructure, and encourages businesses to innovate and internationalize. It also sharpens incentives for individuals and businesses to invest for the future and improve productivity. Restructuring is taking place while Singapore is operating at full employment, making it harder to force productivity improvements. In addition, changes in investment plans dictated by the tight labor market and incentives to invest and innovate take several years to complete. The addition of older individuals to the workforce is good from an inclusion and long-term structural points of view. However, this increase in workforce can hold back productivity growth in the transition. The tight foreign and local labor market has incentivized firms to invest in capital and reorganize their businesses to use less labor. For instance, the take-up rate under the Productivity and Innovation Credit scheme has increased from 33 percent of active companies in 2011 to 46 percent in 2014. The pause in raising foreign worker levies for the manufacturing and services sectors does not alter the government's structural targets. The final tightening in quotas for the services sector is still set for July 2015, when the DRCs become applicable to companies' entire workforces.

E. Policies to Address Aging

42. The authorities have embarked on a multi-year effort to strengthen Singapore's institutional arrangements to deal with a rapidly aging population. The share of the working age population is projected to experience a sharp decline of above 10 percentage points between 2010 and 2040, one of the most precipitous declines in the world. Singapore's pension scheme, the Central Provident Fund (CPF), is a fully-funded,

Change in working-age population ratio during 2010–40

In percent	2010	2040	Change
Korea	72.7	56.8	-15.9
Singapore	**73.6**	**61.7**	**-11.9**
Thailand	71.8	61.1	-10.7
Japan	63.8	53.3	-10.5
China	73.5	63.4	-10.1
Europe	68.3	60.2	-8.1
U.S	67.1	60.4	-6.7
Asia	67.7	66.1	-1.6
Malaysia	67.5	68.2	0.7
Indonesia	65.2	66.8	1.6

Source: United Nations, World Population Prospects-2012 Revisions.

defined-contribution pension system (Appendix VI). It has the advantage of safeguarding financial sustainability relative to defined-benefit, pay-as-you-go systems common in advanced economies. But it could also provide weaker protection in terms of lower retirement income adequacy. A relatively low CPF income replacement rate is an important issue, especially for workers with interrupted work histories, such as women, the self-employed and others, who could not make regular contributions amid rising costs of living[12]. Informal family-based old-age support systems that have complemented the CPF could weaken over time or may not be operative in low income families. In Singapore, retirement income adequacy is also affected by the use of CPF resources for multiple purposes, including housing purchase and healthcare needs, with the former making retirees asset-rich but cash-poor.

43. Recent policy measures to enhance retirement income and to strengthen the labor force participation of the elderly are welcome. The authorities have taken steps to raise the adequacy of retirement and to provide targeted, budget-financed support for low-income pensioners while encouraging people to work beyond the normal retirement age and save more while in employment. Their reform process is ongoing (see Appendix VI). Going forward, the authorities need to continuously review the replacement rate for retirees to ensure that retirement savings are adequate in light of the changes in living costs, life expectancy and labor markets. The authorities have also increased spending on healthcare, including on infrastructure, and are committed to increasing it further over the medium term in the face of rapid population aging. These measures should help address high income inequality and rising costs of living that weigh more on lower and middle-income groups, thereby promoting a more inclusive society.

44. Going forward, the ability of the CPF to provide adequate retirement savings could be enhanced, by continuing to develop market-based and other schemes to facilitate the monetization of housing wealth, reducing its bias towards housing purchases, and raising the returns on the CPF asset portfolio. Investment performance of pension funds over a long-term horizon is a key element in providing adequate retirement income in fully-funded pension systems. It is especially important for the CPF given that the contribution rates are already high at around 37 percent, limiting the scope of enhancing retirement income through raising contribution rates. The CPF funds have been mostly invested in non-tradable special Singapore government bonds since its introduction in 1955. In return, the government offers the CPF a rate of return that is the higher of market rates benchmarked to deposit rates or the interest rate of Singapore government bonds and a fixed minimum guaranteed rate. In practice, since 1999, the minimum guaranteed return ranging from 2.5 to 4 percent has been applied, shielding retirees from the volatility in returns but not allowing them to share the benefit of higher returns that could have been achieved from a well-diversified asset portfolio. Despite the subdued outlook for investment returns on pension savings globally, allowing CPF contributors to share more on the upside to investment returns can help increase retirement income.

[12] About half of active CPF members who turned 55 in 2013 could not accumulate enough CPF savings to meet their Basic Retirement Sum that provide life-long monthly payouts of about S$700 estimated to cover their basic expenditure needs during retirement.

45. Productivity-enhancing policies, including investments in education and infrastructure, and labor market policies remain critical in meeting the challenges of an aging population. Singapore's success in healthcare and education outcomes is commendable and policies should continue to concentrate on improving productivity. Labor participation rates are already high but there could be some scope to raise women's participation rates further even as policies continue to focus on increasing fertility rates. Policy measures could target improving the availability of childcare facilities, part-time or flexible work arrangements and job-matching and placement programs.

Authorities' Views

46. The authorities are committed to promoting inclusive growth in the face of rapid population aging and globally-widening income gaps. The government's goal is to create a society where personal and collective responsibility reinforces each other, with personal responsibility remaining the core value. There are various schemes to support low-income households, including the Workfare program that supplements incomes and tops up CPF accounts, and the higher interest earned on lower CPF balances. Beginning from 2016, the Silver Support Scheme will play a key role in supporting the lower-income elderly as a permanent feature of the social security system.

47. The CPF and home ownership are twin pillars for ensuring adequate provisioning for retirement. Home ownership is important to a secure retirement. Home ownership rate in Singapore is high, even amongst the lower-income. Homes are assets that can be tapped on to supplement retirement savings and the government has introduced several programs to help the elderly monetize housing assets, depending on their family circumstances, preferences and needs. For example, the Lease Buyback scheme offers elderly households the option to monetize their housing equity by selling part of their flat lease to HDB. Income replacement rates in Singapore are not readily comparable to that of other countries given the much larger share of retirees who own their homes. Overall the CPF system is well-placed to enable active workers to accumulate sufficient savings for retirement. Risk-free CPF returns of up to 3.5 percent on ordinary accounts and up to 5 percent on medical and special accounts are relatively high among countries with defined contribution schemes. Various investment options including that with higher risk-return profiles are also available for CPF members. To ensure adequacy of retirement income going forward, the retirement sum which forms the basis of monthly payouts for life will be gradually increased from 2017 to 2020, accounting for both inflation and increases in the standard of living. The CPF Advisory Panel has been established in 2014 to study possible enhancements to the CPF system, including giving members more flexibility to invest in private investment plans and private annuities when they retire as an alternative to CPF Life. The panel's recommendations were released and endorsed by the government this year. Further recommendations from the advisory panel are expected to be released later this year.

STAFF APPRAISAL

48. Singapore's economy continues to perform well. Growth in 2014 moderated on the back of the slow and uneven global recovery, the domestic restructuring away from reliance on foreign workers, and the turning of credit and housing cycles. While the outlook is uncertain, growth is expected to pick up during the year and average 2.9 percent in 2015. Inflation has recently declined, driven by lower oil prices and modest downward adjustments in house rents and car permits. Headline and core inflation are expected to average 0 and 1 percent in 2015, respectively. The labor market is expected to remain tight. As a city state with a very open economy, Singapore is exposed to external risks, including a protracted period of slower growth in advanced and emerging economies and side effects from volatility in global financial markets. These external risks could be exacerbated by the elevated private indebtedness and a disorderly correction in property prices.

49. Macroeconomic policies are appropriately calibrated to reflect shifts in economic conditions and outlook. The current monetary policy setting is appropriate as risks to external demand are tilted to the downside and inflation is contained. The projected gradual increase in domestic interest rates will also lead to a tightening in monetary conditions. The uncertainty associated with the divergence of major advanced economies' monetary policies has increased the risk of higher interest rate and exchange rate volatility, which can pose challenges for the exchange-rate-based monetary policy framework. Monetary policy should continue to respond flexibly to evolving inflation and real developments. The medium-term orientation of fiscal policy and the enhanced emphasis on inter- and intra-generational equity and inclusion are commendable. The near-term fiscal impulse supports aggregate demand in a period of economic restructuring, through measures that will also help raise potential growth in the medium-term.

50. Singapore continues to maintain regulatory and supervisory standards that are among the highest in the world. Stringent new capital and liquidity requirements have been phased in smoothly since January 2015. Important progress was also made in implementing the 2013 FSAP recommendations. Recent macroprudential measures have contributed to a welcome, gradual and ongoing moderation of credit and house prices. The authorities are bringing the AML/CFT framework in line with enhanced international standards and continuing their efforts to demonstrate effective cooperation with foreign counterparts, particularly on tax matters.

51. The ambitious restructuring to a new growth model requires continuing monitoring and a flexible approach that recalibrates incentives to firms and households to achieve policy objectives. The policy focus on upgrading skills and business processes and reducing income inequality are commendable. The authorities are advised to monitor carefully the transition and to respond quickly with targeted measures that foster transformation in business operations with minimal disruption. As the more restrictive foreign worker policy has contributed to a tightening of the labor market and led to higher participation of older workers and others with relatively low skills, inclusiveness has increased. Compressed profit margins and managerial challenges associated with new ways of doing business could provide disincentives to firms to invest and temporarily hold back

productivity growth. If such a situation persists, a recalibration of labor policies and of incentives to firms and workers might be called for. Staff welcomes the targeted fiscal support being provided to businesses through grants and tax credits, as well as the flexibility demonstrated recently in the calibration of foreign worker levies. Additional measures to support investment and encourage the adoption of new business and organizational models could be called for if activity falls or productivity does not pick up.

52. Staff commends the ongoing efforts to strengthen institutional arrangements to deal with the rapid aging of the population and suggests continuous review of the adequacy of these arrangements, especially retirement incomes of lower income groups. The authorities are encouraged to continue to provide targeted, budget-financed old age support for lower-income elderly groups. Being fully-funded, the CPF is well designed to safeguard fiscal sustainability. The authorities need to continuously review the adequacy of retirement incomes provided through the CPF, to ensure that retirement savings are adequate in light of the changes in living costs, life expectancy, interest rates, and labor market conditions, taking into account Singapore's high home ownership rate. Going forward, the CPF's ability to provide adequate retirement income should be further strengthened, by continuing to develop market-based and other schemes to facilitate the monetization of housing wealth, by reducing the bias in the system towards housing purchase and by raising the returns on the CPF asset portfolio.

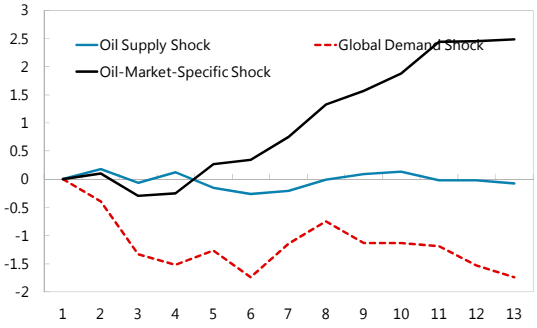
53. Singapore's external position is assessed to be substantially stronger than consistent with medium-term fundamentals and desirable policies, although the current account surplus is projected to moderate over the medium term. The assessment is subject to uncertainty reflecting Singapore's very open economy, position as a global trading and financial center, the existance of a fully funded pension system, and other idiosyncratic factors. An expected drawdown of accumulated private savings and increased public spending in response to aging in coming years, a stronger social safety net, and a lower growth of foreign workforce, are all expected to contribute to a moderation of the current account surplus over the medium term.

54. It is proposed that the next Article IV consultation with Singapore be held on the standard 12-month cycle.

Box 1. The Oil Price Shock: Implications for Singapore

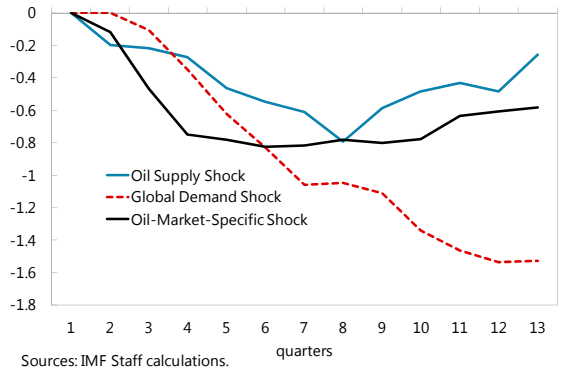
Staff's assessment of the impact of oil price shocks in Singapore suggests that the source of the oil price shock matters. A structural vector autoregression (SVAR) model following Kilian (2009) [1] is estimated using quarterly data for 1979Q1–2014Q4.[2] Consistent with the analysis in the 2015 April WEO, the estimated SVAR suggests that the shocks affecting oil prices during the second half of 2014 were mainly supply and oil-market-specific shocks. Although demand shocks also played a role, it was relatively smaller. More generally, the impact of oil supply shocks on inflation and output are estimated to be relatively small, whereas global aggregate demand shocks and oil-market-specific shocks have larger effects. A negative global aggregate demand shock leads to an immediate decline in output and the price level, whereby the effect on output is driven by the impact of the global demand contraction on Singapore's very open economy. A negative oil-market-specific shock that lowers oil prices has a positive effect on output realized with a lag. A similar analysis conducted by the authorities finds comparable results.[3]

Impulse Response of GDP to Oil Price Shocks (Cumulative)
(percent deviation from baseline)



Sources: IMF Staff calculations.

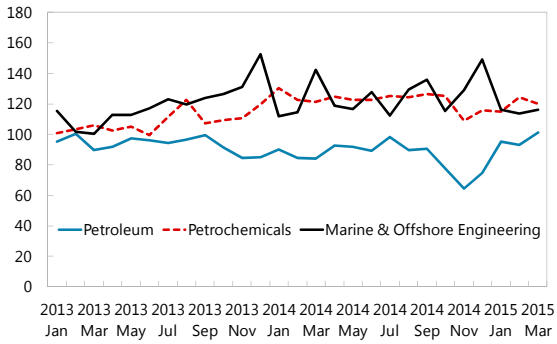
Impulse Response of CPI to Oil Price Shocks (Cumulative)
(percent deviation from baseline)



Sources: IMF Staff calculations.

The oil price shock observed during the second half of 2014 is expected to have a sizable but temporary effect on inflation, while the impact on output is expected to be relatively small. The pass-through of the oil price shock to domestic fuel prices and electricity and gas tariffs has been taking place. This has already resulted in a 0.4 percentage point decline in headline inflation during the first four months

Industrial Production Index: Oil-Related Segments
(level, seasonally adjusted)



Sources: Statistics Singapore.

1/ Kilian, L., 2009, "Not All Oil Price Shocks Are Alike: Disentangling Demand and Supply Shocks in the Crude Oil Market," *American Economic Review*, 99(3): 1053-69.

2/ For more details on the estimation methodology and results, see Sheridan (2015), "The Impact of Lower Oil Prices on ASEAN-5 Economies", forthcoming IMF Working Paper.

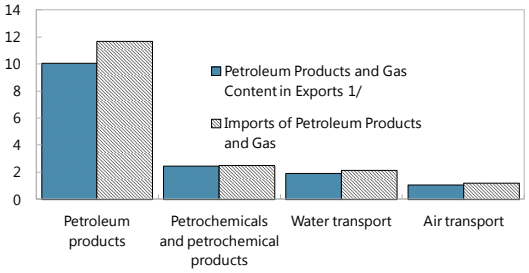
3/ See Box B "The Impact of Global Oil Shocks on the Singapore Economy", Macroeconomic Review, Monetary Authority of Singapore, Volume XIV, Issue 1, April 2015.

Box 1. The Oil Price Shock: Implications for Singapore (Concluded)

of 2015.[4] Based on staff's estimates, the impact of the oil price shock on headline CPI inflation will be about 1 percentage point in 2015. The impact on growth is estimated to be not significantly different from zero. The point estimates suggest a small negative effect in the first year and a positive effect in the second year. This could reflect a potential negative impact on Singapore's oil-related industries, which is eventually offset by a gradual pick-up in consumption. The fact that the recent oil price decline is driven in part by lower global aggregate demand also contributes to the benign impact of the oil shock. Looking at the performance of oil-related industries so far in 2015 suggests that marine and offshore engineering sectors may indeed show some softness.[5] Going forward, consumption should be supported by lower oil prices although relatively high household debt levels and rising interest rates may lead consumers to save a larger share of the windfall.

Although Singapore has a large energy trade deficit, the size of the oil price windfall is relatively small given the sizable imported oil content in its exports of related goods and services. Singapore's oil trade deficit has averaged about 5 percent of GDP during 2010–13, reaching a peak of 6.6 percent of GDP in 2012. In Singapore, a large share of the oil and gas imports is used as inputs in exports, not only in the petroleum products sector, but also the petrochemicals and water and air transport sectors. According to Singapore's 2010 Input-Output tables, sectors that use imported petroleum products and gas are also export-oriented sectors and hence the imported petroleum products are eventually exported. Looking at the oil trade balance alone can therefore overstate the size of the oil price windfall when the prices of export-oriented sectors that rely heavily upon imported oil products are subject to corresponding price adjustments.[6] Given the lower implied oil-trade deficit in Singapore, the recent oil shock is expected to have a modest, positive effect on the trade balance (by about 1.5 percent of GDP) in 2015. The positive impact of the oil price shock on the trade balance is expected to be partially offset by a potential slowdown in Singapore's exports from the marine and offshore engineering sectors, due to investment cuts in the upstream segment of the global oil industry.

Imports and Exports of Petroleum Products and Gas
(percent of 2010 value added)



1/ Computed for each sector by multiplying the import content of exports, the share of petroleum products and gas imports in total import use for the sector and the total exports of the sector relative to aggregate value added in 2010.
Sources: Singapore 2010 Input-Output Tables, Department of Statistics Singapore and IMF staff

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4/ The share of items directly affected by the oil price shock (fuels and lubricants under private road transport and electricity and gas under housing and utilities) make up 5 percent of the total CPI basket.

5/ The decline in the petroleum segment at the end of 2014 reflects maintenance shutdowns in the refining segment. Refining activity eventually resumed in 2015.

6/ The global price of petrochemicals has declined by about 40 percent during the second half of 2014, following the adjustment in international oil prices.

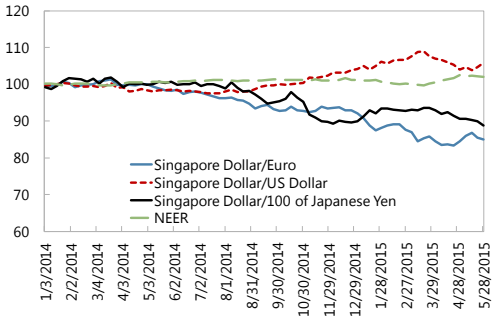
Box 2. Monetary Policies in Advanced Economies: Implications for Singapore

Asynchronous monetary policies in advanced economies (AEs). Monetary policies in AEs started to diverge in 2014 and are expected to remain asynchronous in the near and medium terms. While the US Federal Reserve has wound down its asset purchase program and is expected to start raising policy rates sometime in late 2015-early 2016, the ECB announced the start of its much-anticipated asset purchase program in early 2015. The Bank of Japan significantly expanded its asset purchase program late last year. The divergence in monetary policies among advanced economies reflects divergent relative economic strengths and prospects. AE monetary policies and their implications for emerging markets, including in Asia and ASEAN, have important financial and real spillovers for Singapore's highly open economy.

Transmission channels. The main transmission channels of AE monetary policies on Singapore include exchange rate movements; interest rates and the term premium; indirect spillover effects; and volatility in global financial markets and funding conditions.

Exchange rate movements. Asynchronous monetary policies in 2014–15 led to significant exchange rate movements among major currencies and against the Singapore dollar. While the Singapore dollar depreciated against the U.S. dollar, it appreciated against the Euro and the Japanese Yen. These large cross-currency exchange rate movements can have important balance sheet effects in a financial center like Singapore where banks, companies and the public sector have large gross foreign asset and liability positions. Exchange rate movements would also have real macroeconomic effects through the standard trade channels. Although the weight of the U.S. dollar and other currencies linked to the U.S. dollar is relatively large in Singapore's trade basket, the Euro and the Yen provide an important offset.

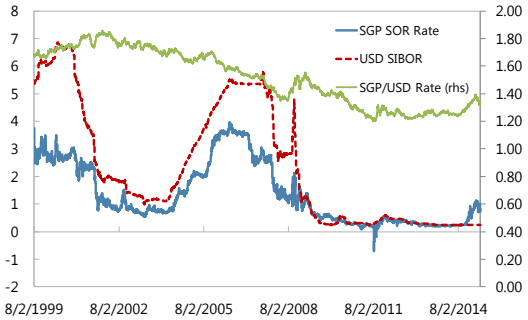
Weekly Exchange Rate, Jan.2014-May 2015
(Index number, 2014 Jan.=100)



Sources: Monetary Authority of Singapore; and IMF staff calculations.

Interest rates and term premium. Singapore's exchange rate-based monetary policy implies that domestic interest rates move closely with international rates. Despite some stickiness, historically Singapore's short-term interest rates have been highly correlated with the U.S. short-term rates, with a one percentage point increase in the U.S. rates on average being associated with a 0.4 percentage point increase in domestic rates. Interest rates in Singapore are therefore expected to increase as the Federal Reserve lifts off short-term interest rates in the U.S. However, shifts in exchange rate expectations and the risk premium may be more important in the near term.

Interest Rates and Spot Exchange Rate (USD vs SGP)
(percent, level)



Sources: Bloomberg LP.

Interest rates in Singapore edged up late last year, increasing by about 85 basis points during November 2014-March 2015. This was accounted by expectations of Singapore dollar depreciation vis-à-vis the U.S. dollar and higher exchange rate volatility. Uncertainty about the future course of U.S. policy rates and its implications for the region may lead to more abrupt and larger than anticipated increases in domestic interest rates. This would have important effects on businesses and households, with a large share of borrowing based on variable interest rates.

Box 2. Monetary Policies in Advanced Economies: Implications for Singapore (Concluded)

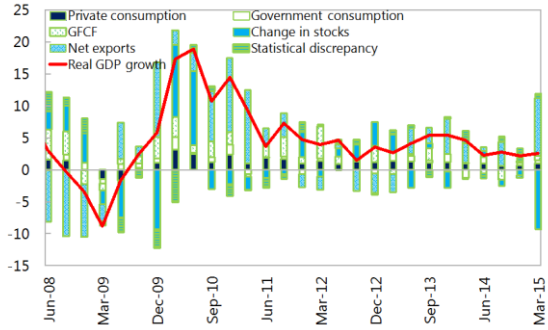
Indirect spillover effects. Monetary policy tightening in the U.S. may have far-reaching financial and real effects on Singapore's trading partners. Singapore's very open economy and strong linkages with the region implies that indirect spillovers can also play an important role.

Volatility in global financial markets and funding conditions. Changes and the divergence in monetary policies can lead to excessive volatility due to heightened uncertainty about exchange rates and interest rates. Spillovers from policies in the U.S. and Europe on each other and to the rest of the word can also amplify stress in financial markets. Singapore's financial sector may therefore be affected by this heightened volatility, in particular if there are spillovers to Asia. Withdrawal of U.S. dollar liquidity and tightening in monetary conditions in the U.S. can also lead to generalized tightness in liquidity. However, this would be partially offset by monetary easing in the Euro area and Japan. Global banks which are present in Singapore can play an important role in the transmission of these liquidity shocks in advanced economies and regions to Singapore and Asia.

Figure 1. Singapore: Real Sector Developments

Growth moderated in 2014, on slowing consumption and weak investment. Net exports held up.

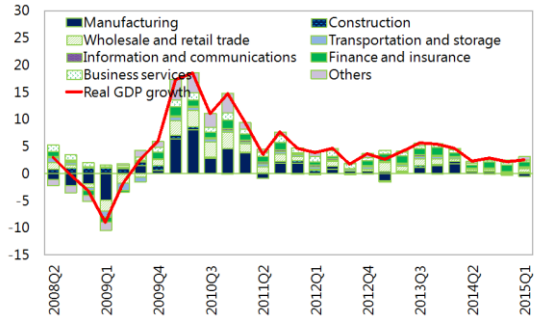
Contribution to Real GDP Growth
(In percent, year-on-year)



Sources: CEIC Data Company Ltd.; and IMF staff calculations.

Information and communication, and the finance and insurance sectors were bright spots.

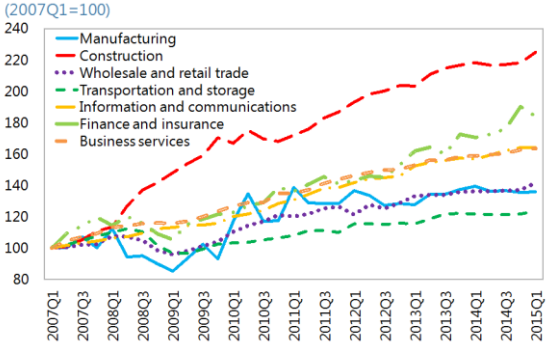
Contribution to Real GDP Growth by Industry
(In percent, year-on-year)



Sources: CEIC Data Company Ltd.; and IMF staff calculations.

The construction sector, which had experienced the highest cumulative growth since 2007, showed little growth in 2014.

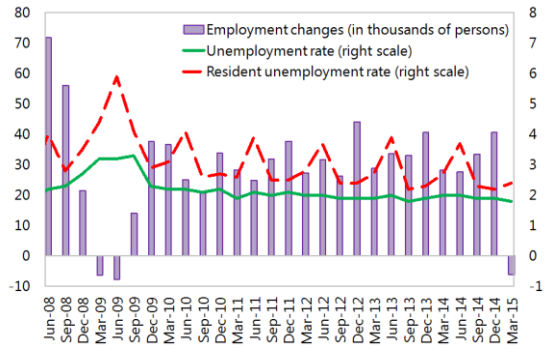
Real GDP by Industry, Seasonally Adjusted
(2007Q1=100)



Sources: CEIC Data Company Ltd.; and IMF staff calculations.

The overall unemployment rate remains low; but employment posted a decline in 2015Q1 for the first time since 2009.

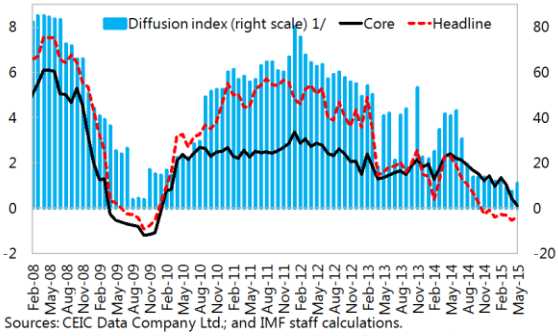
Employment and Unemployment



Sources: CEIC Data Co. Ltd.; and IMF staff estimates.

Core inflation amounted to 0.1 percent in May (y/y); overall inflation fell to -0.4 percent on lower oil prices and…

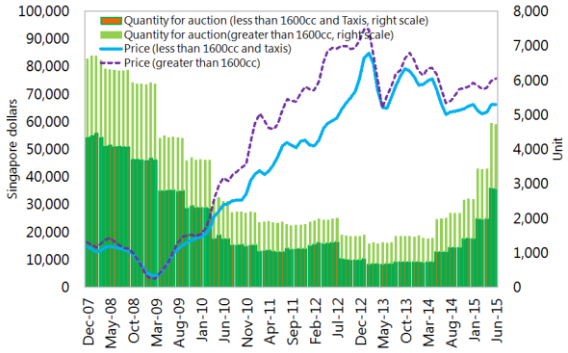
Inflation
(In percent, year-on-year)



Sources: CEIC Data Company Ltd.; and IMF staff calculations.
1/ Share in the CPI basket of components for which inflation exceeds 3 percent.

…moderating COE premiums and house prices owing to the implementation of macroprudential measures.

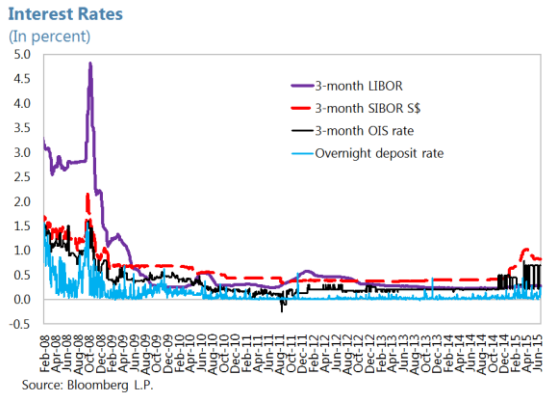
Car Certificates of Ownership, Price and Quantity



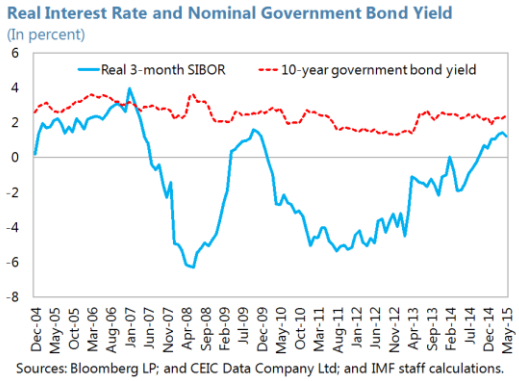
Source: CEIC Data Company Ltd.

Figure 2. Singapore: Monetary and Financial Sector Developments

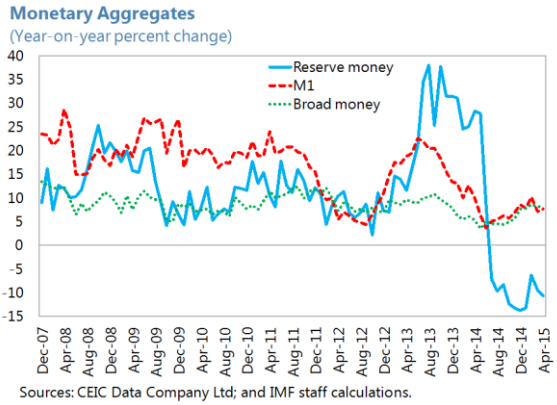
Recently, short-term interest rates ticked up noticeably…



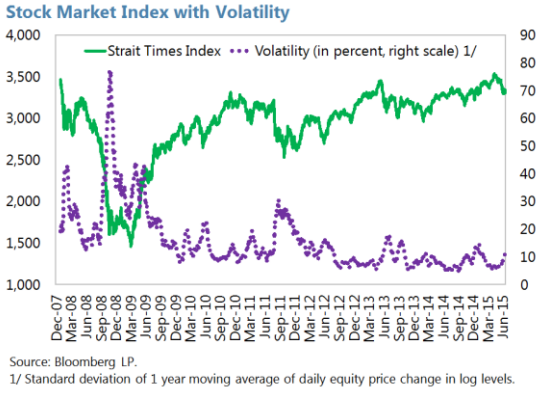
…and real short-term rates are now at a 5-year high.



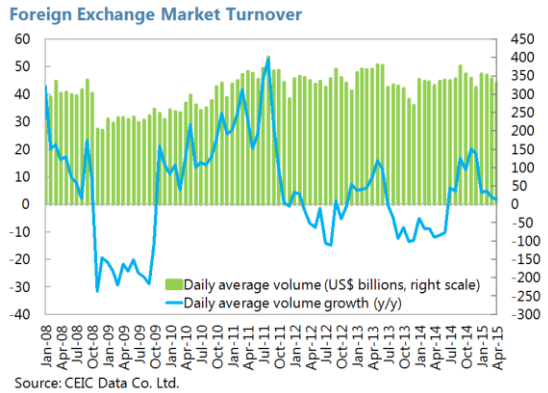
Broad money growth picked up to 8 percent (y/y) in April.



The stock market has performed well in 2014, but has dipped slightly in 2015.



The FX market was affected by the mid-2013 turbulence but volumes have increased since then.



The yield curve has shifted upward recently, at the short end, but remains below pre-crisis levels.

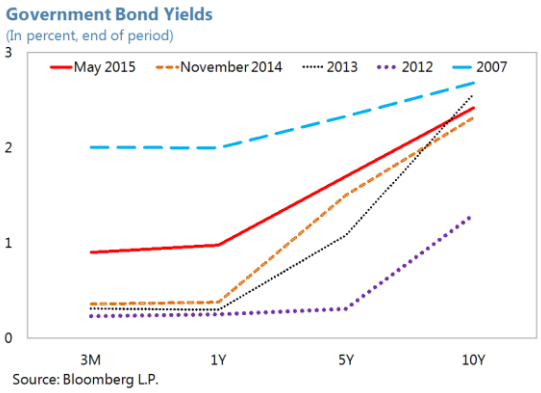
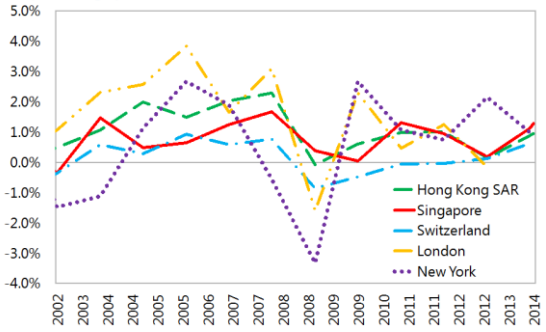


Figure 2. Singapore: Monetary and Financial Sector Developments (Concluded)

The financial services sector has been an important contributor to growth.

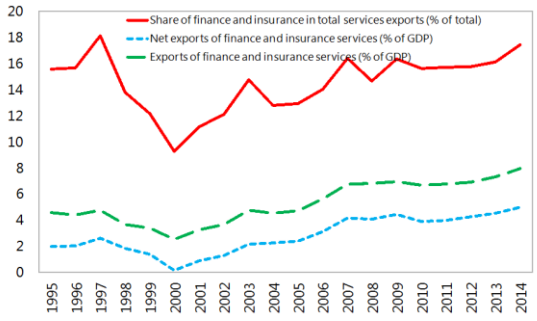
Contribution of Financial Services Sector to Growth
(In percentage points)



Sources: CEIC Data Co., Ltd.; and IMF staff calculations.

Financial services exports have reached about 8 percent of GDP in 2014.

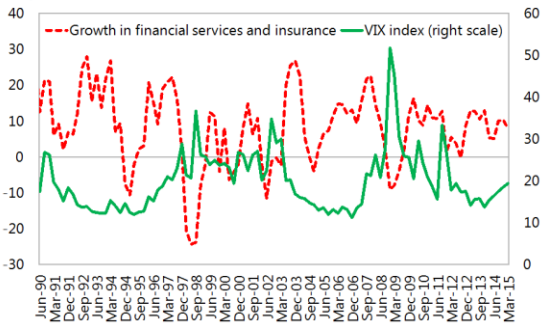
Singapore: Finance and Insurance Services Exports
(In percent)



Sources: CEIC Data Co., Ltd.; and IMF staff calculations.

Financial services activity in Singapore slows down during periods of heightened global risk sentiment.

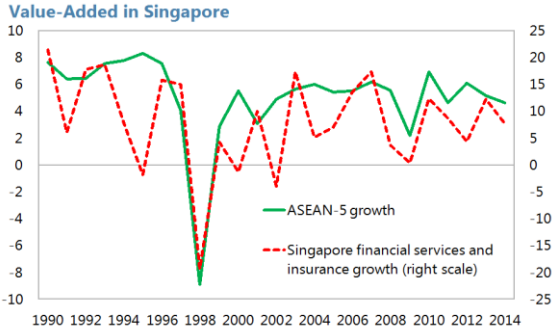
Growth in Financial Services Sector and the VIX Index
(In percent)



Sources: Bloomberg L.P.; CEIC Data Co., Ltd.; and IMF staff calculations.

Financial services activity in Singapore has been highly correlated with economic activity in ASEAN-5 countries.

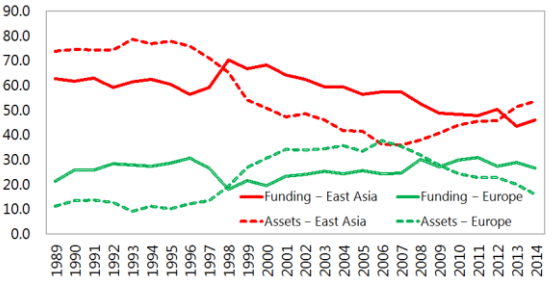
Growth in ASEAN-5 and Financial Services and Insurance Value-Added in Singapore



Sources: CEIC Data Co., Ltd.; and IMF staff calculations.

Cross-border banking activity in Singapore is dominated by East-Asian and European regions.

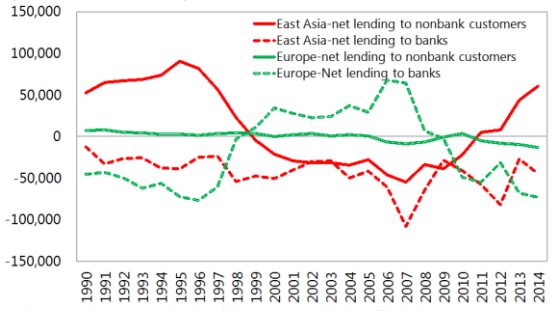
Share of East Asia and Europe in Asian Dollar Market, 1989–2014
(In percent of total cross-border funding and assets 1/)



Sources: Monetary Authority of Singapore.; and IMF staff calculations.
1/ Cross-border funding/assets include nonbank deposits/loans to nonbank customers and amounts due to/from banks.

Since the crisis, net lending to nonbank customers in East Asia and bank funding from Europe turned positive.

Asian Dollar Market: Composition of Lending/Funding Positions For East Asia and Europe
(In millions of U.S. dollar)

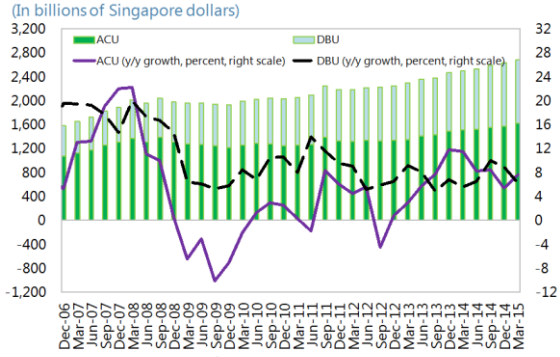


Sources: Monetary Authority of Singapore; and IMF staff calculations.

Figure 3. Singapore: Banking Sector Developments 1/

Asset growth of ACUs has slowed down to about 7.7 percent (y/y) in 2015Q1.

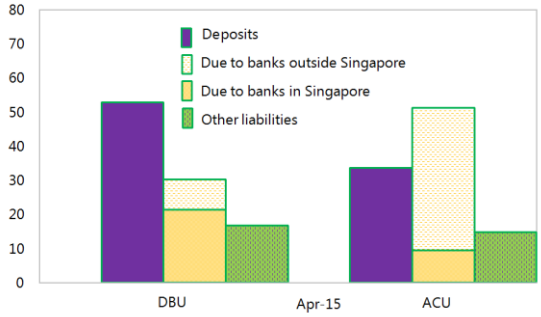
Banking Sector: Combined Assets
(In billions of Singapore dollars)



Source: CEIC Data Company Ltd.

DBUs rely primarily on deposit funding; while ACUs rely on cross-border bank funding, reflecting the global operations of foreign bank branches.

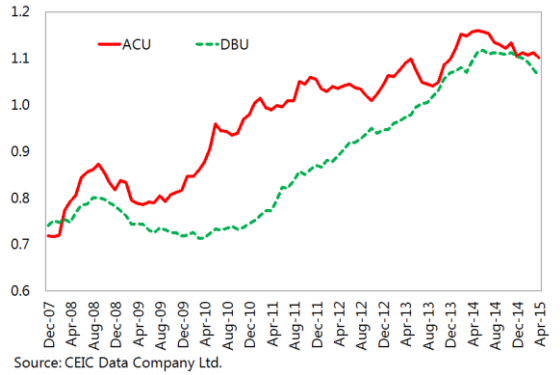
Funding Structure of the Banking System
(In percent of total liabilities)



Sources: CEIC Data Company Ltd.; and IMF staff calcualtions.

Loan to deposit ratios are around 1.1 for both ACUs and DBUs.

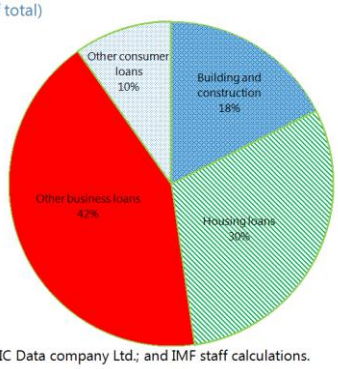
Banking Sector: Loan to Deposit Ratio



Source: CEIC Data Company Ltd.

48 percent of total DBU loans consist of housing loans and loans to the building and construction sectors.

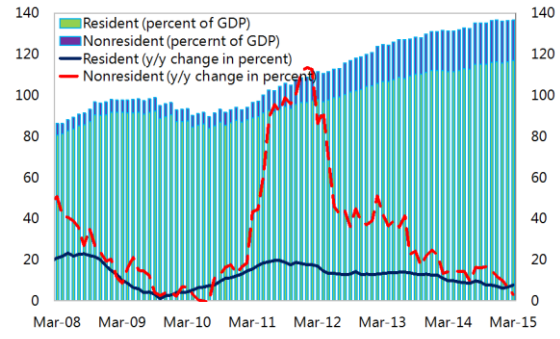
DBU Loans and Advances by Sector, April 2015
(In percent of total)



Sources: CEIC Data company Ltd.; and IMF staff calculations.

Growth in DBU loans to non-residents has slowed down.

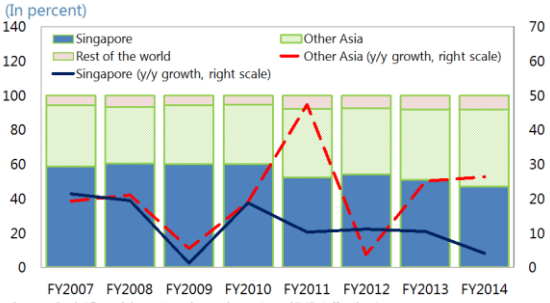
DBU Loans and Advances by Borrowers' Residence



Sources: CEIC Data Co. Ltd; and IMF staff estimates.

The big 3 domestic banks now have about 45 percent of their loan portfolio in other Asia (excluding Singapore).

Big 3 Singapore Incorporated Banks: Geographic Distribution of Customer Loans 1/
(In percent)

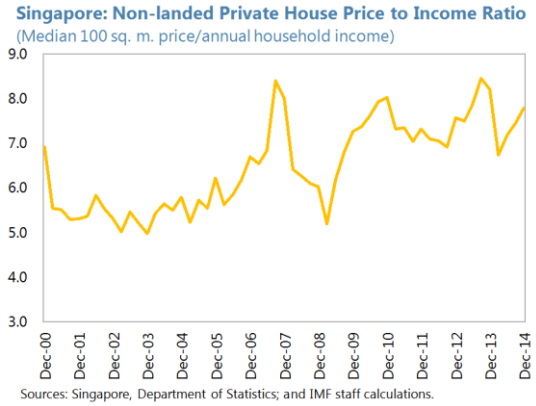


Sources: Banks' financial reports and annual reports; and IMF staff estimates.
1/ Classification varies by bank. OCBC, location of credit risk; DBS, location of borrower incorporation; and UOB, booking location.

1/ Asian currency unit (ACU) banking books are for non-Singapore dollar transactions, while domestic banking unit (DBU) books may include transactions in Singapore dollars and other currencies. Historically, ACU and DBU were analogous to foreign and domestic banks, respectively. More recently, banks with full banking licenses may maintain both DBU and ACU books, and DBU books are not restricted to Singapore dollar activities. Thus, while the ACU-DBU distinction has become blurred, data under an alternative classification that would be more economically relevant is not available.

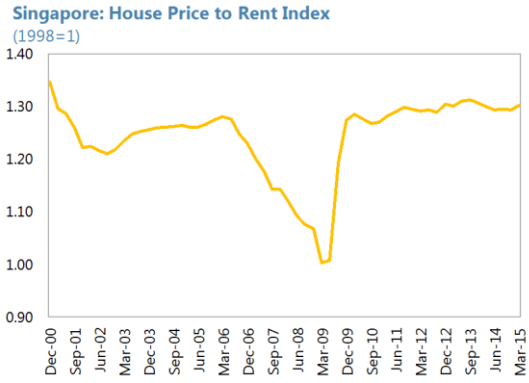
Figure 4. Singapore: Housing Market Developments

Singapore's housing market is cooling. The house price-to-income ratio increased again after the fall in 2014.



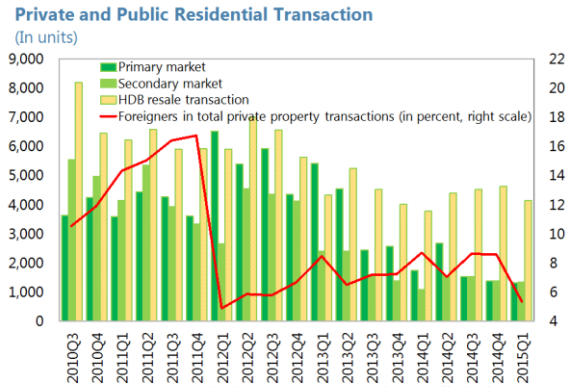
Sources: Singapore, Department of Statistics; and IMF staff calculations.

The house price-to-rent ratio has declined slightly and remains close to its historical trend.



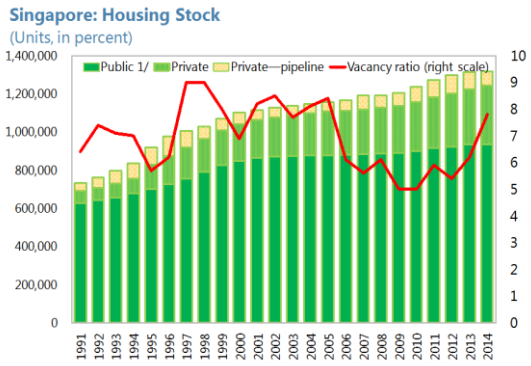
Sources: CEIC Data Co., Ltd.; and IMF staff calculations.

Housing transactions in the public market segment has edged up in 2014. The private market remains subdued.



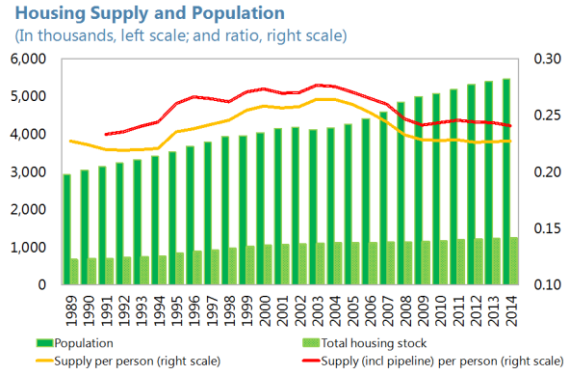
Sources: Singapore,Urban Redevelopment Authority; and IMF staff calculations.

The vacancy ratio has reverted to the historical average on easing supply constraints.



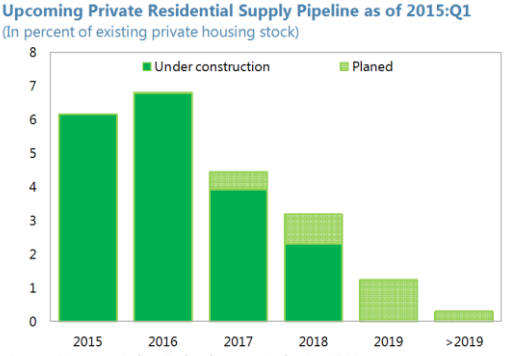
1/ 2014 public house stock is set to equal to the number in 2013.
Source: CEIC Data Co., Ltd.

Supply bottlenecks owing to rapid population growth with limited new housing supply...



Sources: CEIC Data Co., Ltd.; and IMF staff calculations.

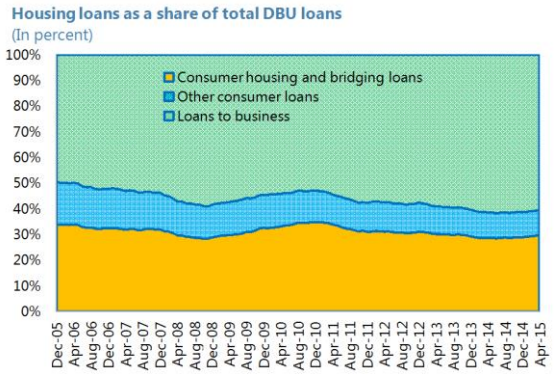
...look set to ease as a pipeline of housing supply is expected to come on the market in the coming years.



Source: Singapore, Urban Redevelopment Authority (URA).

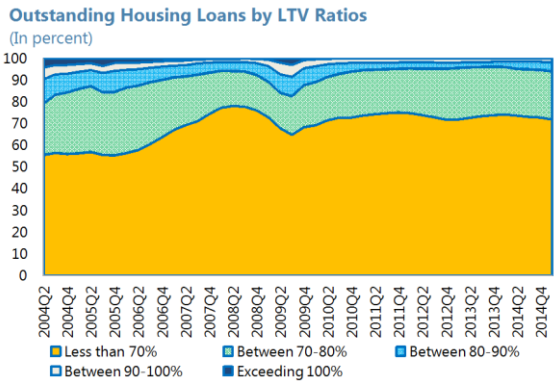
Figure 4. Singapore: Housing Market Developments (Concluded)

Banks have a substantial exposure to private housing loans.



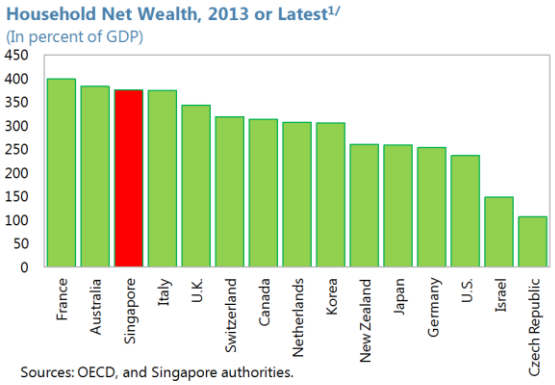
Sources: Monetary Authority of Singapore; and IMF staff calculations.

But MaPs helped improve their credit risk profile and limited banks' exposure to overextended households.



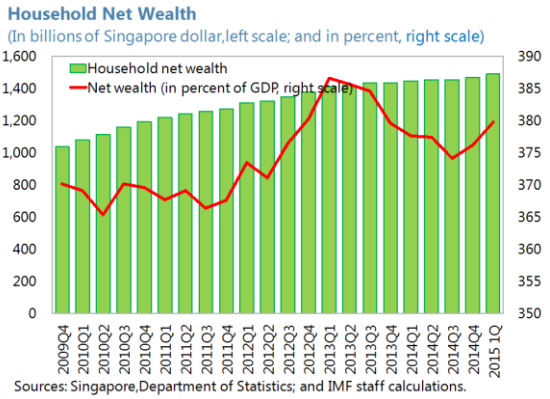
Source: Monetary Authority of Singapore.

Households have strong balance sheets in aggregate…



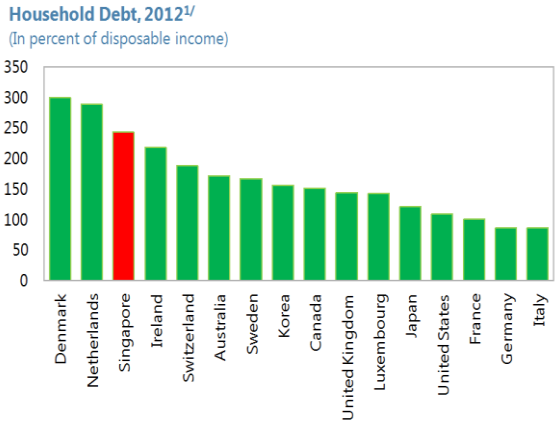
Sources: OECD, and Singapore authorities.
1/ Singapore data is 2014.

…as house price appreciation in the recent past pushed up households' wealth.



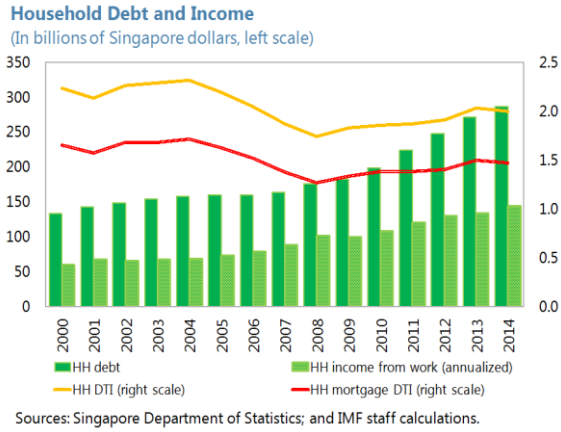
Sources: Singapore,Department of Statistics; and IMF staff calculations.

However, households are highly indebted.



Sources: OECD; Singapore Department of Statistics; and IMF staff calculations.
1/ Singapore data is in 2014.

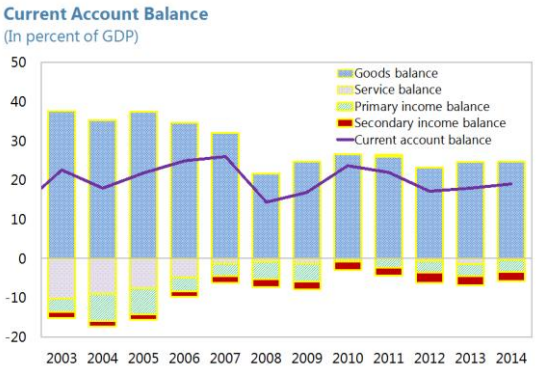
A rise in the overall indebtedness and debt-servicing burden could pose risks for groups of households.



Sources: Singapore Department of Statistics; and IMF staff calculations.

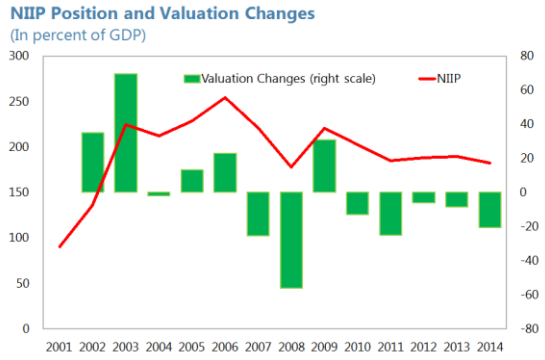
Figure 5. Singapore: External Sector

The current account surplus has averaged about 20 percent of GDP over the past decade.



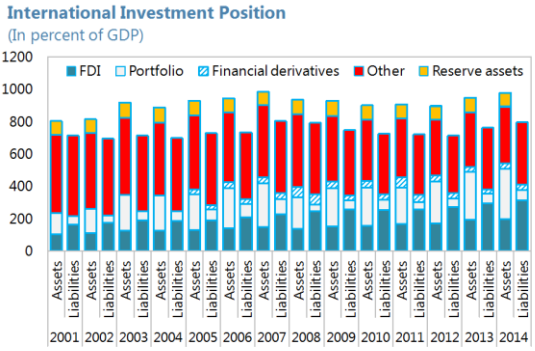
Source: Haver Analytics.

Negative valuation changes have kept Singapore's NIIP position at about 186 percent of GDP over the past 4 years.



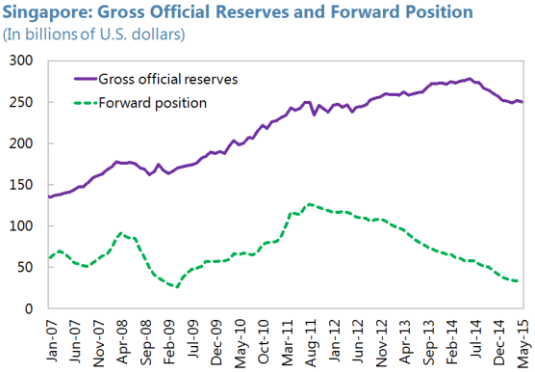
Sources: Singapore, Department of Statistics; CEIC Data Co., Ltd.; and IMF staff calculations.

Singapore has a net asset position in portfolio assets and a net liability position in FDI holdings.



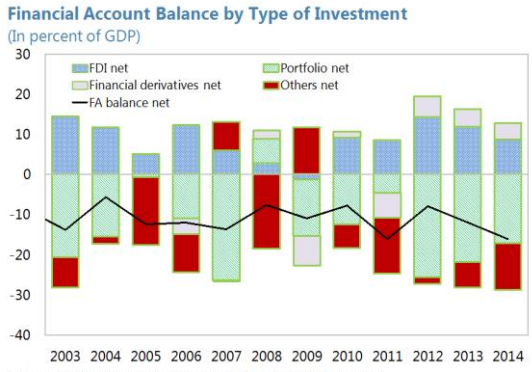
Sources: Singapore, Department of Statistics; CEIC Data Company Ltd.; and IMF staff calculations.

Gross official foreign reserves declined in 2014 weighed down by valuation losses. The forward position was reduced.



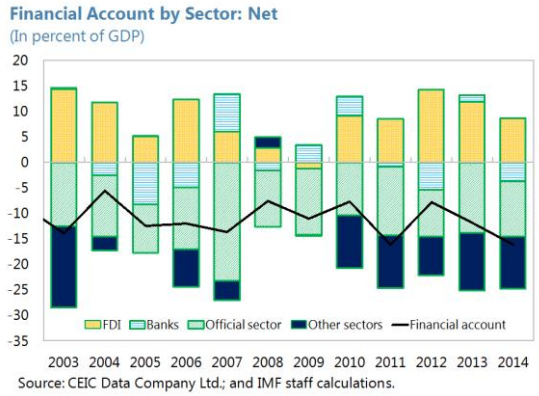
Sources: CEIC Data Co. Ltd; and IMF, *International Financial Statistics* database.

The financial account is characterized by net FDI inflows and net portfolio outflows.



Source: CEIC Data Company Ltd.; and IMF Staff calculations.

Official flows and FDI are the largest contributors to net financial flows, while bank-related flows are smaller but more volatile.

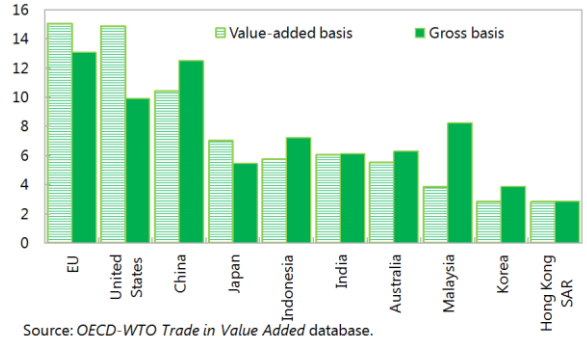


Source: CEIC Data Company Ltd.; and IMF staff calculations.

Figure 6. Singapore: Spillovers

Singapore depends mainly on foreign final demand from the E.U. and U.S., while China, Japan, Indonesia and India are important partners in the region.

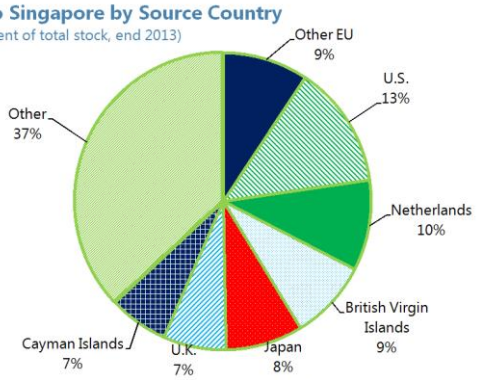
Singapore: Value Added in Foreign Final Demand versus Gross Exports
(In percent of total, 2011)



Source: *OECD-WTO Trade in Value Added* database.

Inward FDI are also dominated by the E.U. and the U.S. and are mainly concentrated in the finance and insurance sector.

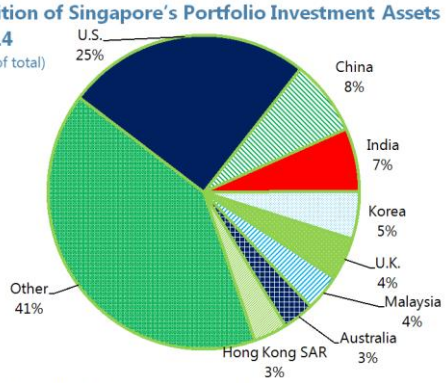
FDI to Singapore by Source Country
(In percent of total stock, end 2013)



Sources: Singapore, Department of Statistics; and IMF staff caclulations.

Singapore has large portfolio assets, which would make its external balance sheet vulnerable to shocks in the U.S and several regional economies such as China and India.

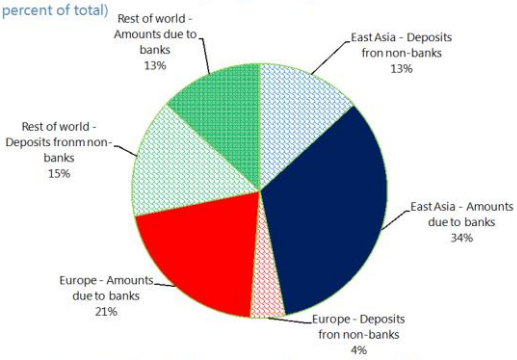
Composition of Singapore's Portfolio Investment Assets June 2014
(In percent of total)



Sources: IMF, *Coordinated Portfolio Investment Survey*.

Major sources of funding for Singapore's financial center include East Asian and European banks, followed by deposits from East Asian nonbanks.

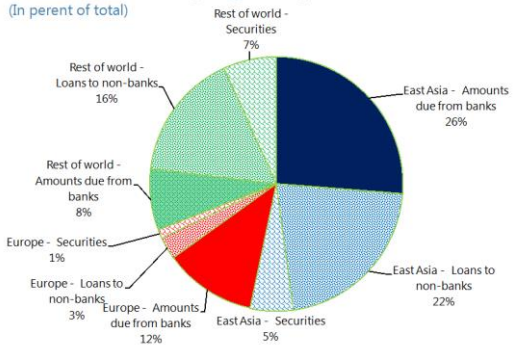
ACU Funding Sources by Region, April 2015
(In percent of total)



Source: Monetary Authority of Singapore, *Monthly Statistical Bulletin*.

East Asia is the largest user of funds and likely to receive outward spillovers from Singapore, in the event of a banking sector stress in Singapore.

ACU Use of Funds by Region, April 2015
(In perent of total)



Source: Monetary Authority of Singapore, *Monthly Statistical Bulletin*.

Cross-border exposures of domestic banks in Greater China and other Asian economies increased, leading to higher spillovers from the region.

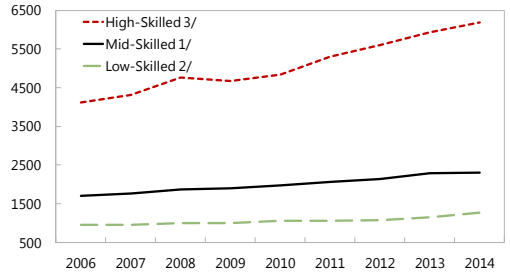
Cross-Border Exposures of Domestic Banks 1/
(In percent)

Sources: Banks' financial reports and annual reports; and IMF staff estimates.
1/ Classification varies by bank. OCBC, location of credit risk; DBS, location of borrower incorporation; and UOB, booking location.

Figure 7. Singapore: Social and Equality Indicators

Wages trended up in recent years, with a widening gap.

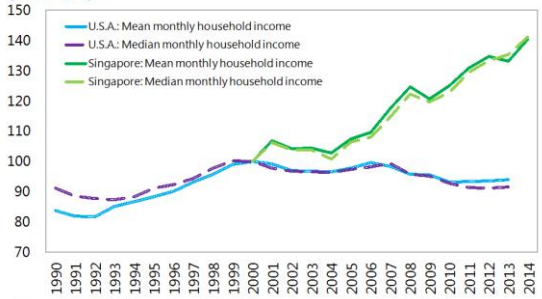
Weighted Gross Monthly Median Wages 4/
(In Singapore dollars)



Sources: Singapore, Department of Statistics and Ministry of Manpower; and IMF staff calcualtions.
1/ Mid-skilled comprises clerical supprot workers, Sales & service workers, craftsmen, plant & machine operators & assemblers.
2/ Low-skilled comprises cleaners, labourers and related workers.
3/ High-skilled comprises managers & administrators, working prioprietors, professionals, and technicians.
4/ 2014 data is as of June.

Median household income increased by 41 percent in the last 15 years.

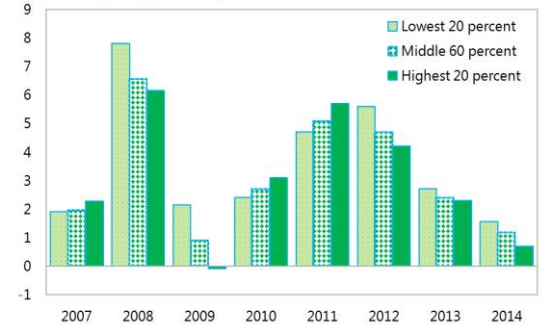
United States and Singapore: Mean and Median Household Income 1/
(2000=100)



Sources: *Key Household Income Trend 2014*; U.S. Census Bureau; and Fund staff calculations.
1/ 2013 data for U.S. is not available.

The recent decline in inflation benefits all income groups.

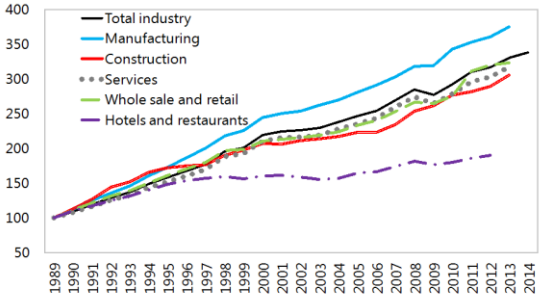
Inflation by Income Group
(Year-on-year percent change)



Source: Singapore, Department of Statistics; and IMF staff calculations.

Industrial earnings grew more than other sectors.

Average Nominal Monthly Earnings
(1989 = 100)



Source: Haver Analytics; and IMF staff calculations.
Note: The 2014 data for sub components of industries is not available.

Real incomes of lower incomes groups have recently increased considerably.

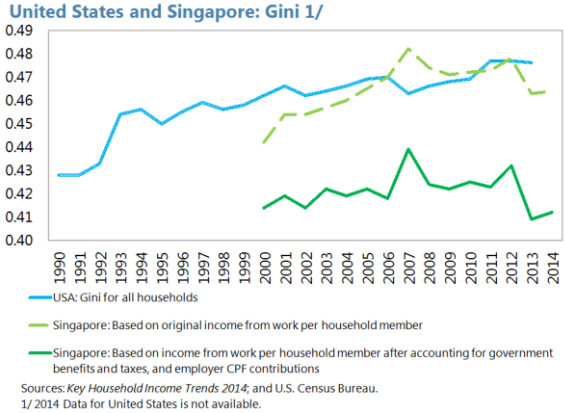
Average Monthly Real Household Income by Decile 1/

Decile	2000	2014	Cumulative Change (in percent) 2000–2014	2000–2006	2006–2014
Total	1,735	2,559	47.5	17.6	25.4
1st-10th	315	346	9.9	-6.6	17.6
11th-20th	537	680	26.7	1.1	25.3
21st-30th	720	1,015	41.0	9.2	29.1
31st-40th	911	1,311	43.9	10.6	30.1
41st-50th	1,119	1,617	44.5	12.0	29.0
51st-60th	1,366	1,971	44.3	13.4	27.3
61st-70th	1,669	2,413	44.6	14.8	25.9
71st-80th	2,093	3,046	45.5	17.2	24.2
81st-90th	2,821	4,389	55.6	25.0	24.4
91st-100th	5,801	9,559	64.8	31.1	25.7
Memo:					
Top dec/bottom dec	18.4	27.6			

1/ Income from work per household member in employed households. Household income from work includes employer CPF contributions. Deflated by CPI for the respective income group (lowest 20 percent, middle 60 percent, top 20 percent).

Government policies (taxes and benefit payments) contribute to a reduction in inequality

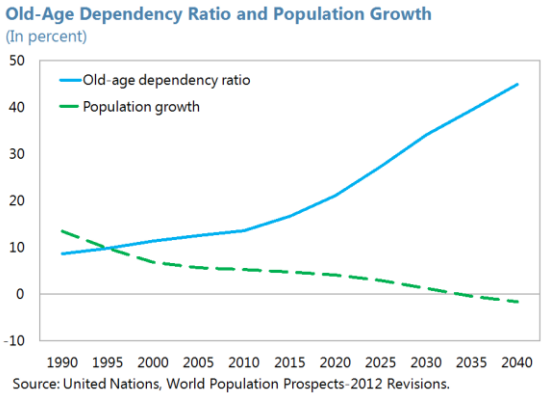
United States and Singapore: Gini 1/



Sources: *Key Household Income Trends 2014*; and U.S. Census Bureau.
1/ 2014 Data for United States is not available.

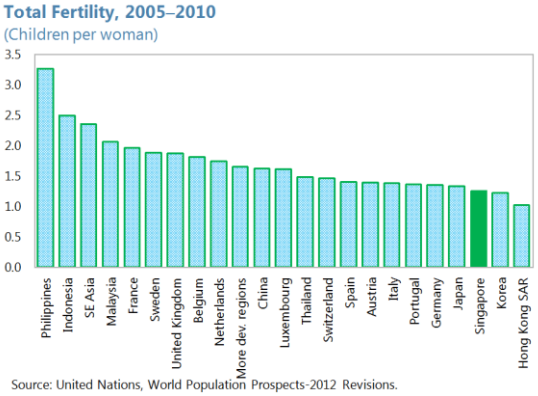
Figure 8. Singapore: Demographic Transition

Old-age dependency is projected to increase significantly in the medium to long term.



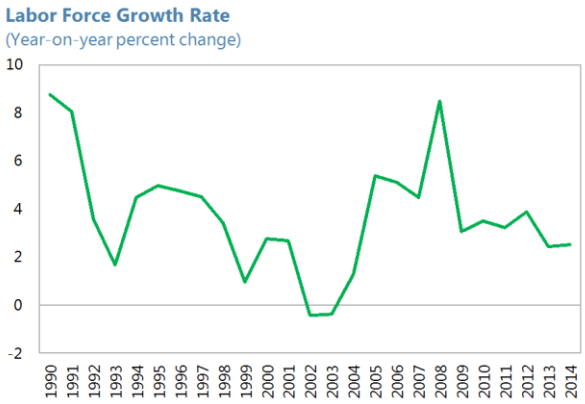
Source: United Nations, World Population Prospects-2012 Revisions.

The average number of children per woman is among the lowest in the world.



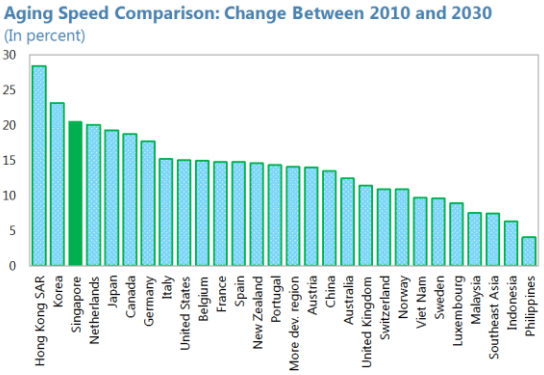
Source: United Nations, World Population Prospects-2012 Revisions.

Labor force growth has declined in recent years, after a period of very strong growth during 2005–2009…



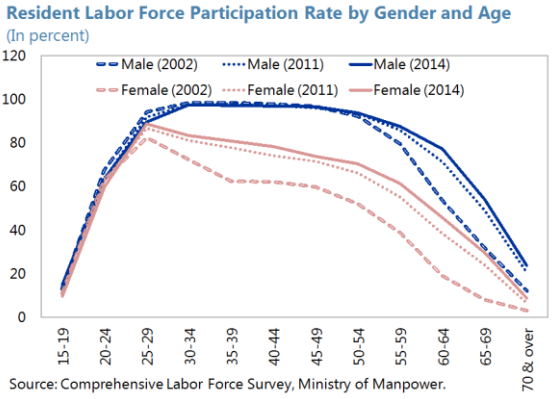
Source: Haver Analytics; and IMF staff calculations.

Singapore's aging speed is among the highest in the region and in advanced economies.



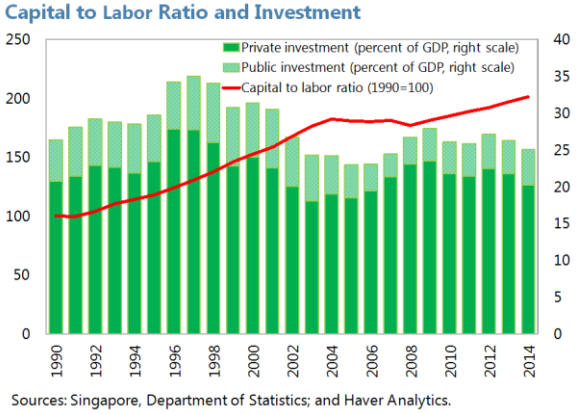
Source: United Nations, World Population Prospects-2012 Revisions.

Labor force participation rates have been rising for both male and female workers.



Source: Comprehensive Labor Force Survey, Ministry of Manpower.

…contributing to a gradual increase in the capital to labor ratio.



Sources: Singapore, Department of Statistics; and Haver Analytics.

Table 1. Singapore: Selected Economic and Financial Indicators, 2011–16

Nominal GDP (2014): US$308 billion
Main exports (percent of total domestic exports): Electronic products (19%); chemical products (17%)
GDP per capita (2014): US$56,287
Population (June 2014): 5.47 million
Unemployment rate (2014): 2.0 percent

	2011	2012	2013	2014	Proj. 2015	Proj. 2016
Growth (percentage change)						
Real GDP	6.2	3.4	4.4	2.9	2.9	3.1
Total domestic demand	3.6	6.9	2.8	0.3	3.8	4.0
Consumption	2.7	2.5	5.2	2.0	3.8	4.0
Private consumption	4.0	3.4	3.6	2.5	3.5	3.5
Gross capital formation	5.0	14.0	-0.7	-2.4	3.8	4.1
Saving and investment (percent of GDP)						
Gross national saving	49.2	47.2	46.9	46.7	47.5	46.5
Gross domestic investment	27.3	30.0	29.0	27.6	27.1	27.8
Inflation and unemployment (period average, percent)						
CPI inflation	5.2	4.6	2.4	1.0	0.0	1.8
Core CPI inflation	2.2	2.5	1.7	1.9	1.0	1.8
Unemployment rate	2.0	2.0	1.9	2.0	2.0	2.0
Central government budget (percent of GDP) 1/						
Revenue	22.7	22.5	21.7	21.5	21.4	21.6
Expenditure	14.7	14.5	15.6	17.6	19.7	19.7
Overall balance	8.0	8.0	6.1	3.9	1.7	1.9
Primary balance 2/	0.4	1.4	0.3	-1.1	-2.8	-2.7
Money and credit (end of period, percentage change)						
Broad money (M2)	11.8	6.8	7.9	7.6	8.1	...
Credit to private sector	18.9	11.3	15.5	7.5	4.6	...
Three-month S$ SIBOR rate (percent)	0.4	0.4	0.4	0.5	...	...
Balance of payments (US$ billions)						
Current account balance	60.6	49.8	54.1	58.8	62.9	62.0
(In percent of GDP)	(22.0)	(17.2)	(17.9)	(19.1)	(20.4)	(18.7)
Trade balance	71.5	67.5	74.5	76.4	80.8	80.7
Exports, f.o.b.	435.6	439.4	441.7	437.3	395.0	427.0
Imports, f.o.b.	-364.1	-371.9	-367.2	-360.9	-314.2	-346.3
Financial account balance	-44.4	-22.8	-36.1	-49.6	-59.9	-54.2
Overall balance	17.1	26.1	18.2	6.8	3.1	7.8
Gross official reserves (US$ billions)	237.7	259.3	273.1	256.9	259.9	267.7
(Months of imports) 3/	(5.7)	(6.1)	(6.5)	(6.8)	(6.3)	(6.0)
Singapore dollar/U.S. dollar exchange rate (period average)	1.26	1.25	1.25	1.27	...	...
Nominal effective exchange rate (percentage change) 4/	3.7	2.4	2.6	0.9	...	...
Real effective exchange rate (percentage change) 4/	5.5	4.7	2.7	-0.3	...	...

Sources: Data provided by the Singapore authorities; and IMF staff estimates and projections.

1/ On a calendar year basis.
2/ Overall balance excluding investment income, capital revenue, and interest payments.
3/ In months of following year's imports of goods and services.
4/ Increase is an appreciation.

Table 2. Singapore: Balance of Payments, 2010–16 1/

(In billions of U.S. dollars)

						Projections	
	2010	2011	2012	2013	2014	2015	2016
Current account balance	55.9	60.6	49.8	54.1	58.8	62.9	62.0
Trade balance	62.8	71.5	67.5	74.5	76.4	80.8	80.7
Exports, f.o.b.	370.3	435.6	439.4	441.7	437.3	395.0	427.0
Imports, f.o.b.	-307.4	-364.1	-371.9	-367.2	-360.9	-314.2	-346.3
Services balance	-0.4	1.1	-1.8	-4.3	-1.1	-1.4	-1.4
Exports	100.8	118.6	127.3	137.3	140.4	140.8	146.3
Imports	-101.2	-117.4	-129.1	-141.6	-141.6	-142.2	-147.7
Primary income balance	-1.3	-6.3	-8.5	-9.3	-9.3	-9.1	-10.3
Receipts	62.6	65.5	65.3	66.5	66.5	65.1	77.6
Payments	-64.0	-71.8	-73.7	-75.8	-75.8	-74.2	-87.9
Secondary income balance	-5.2	-5.8	-7.4	-6.8	-7.2	-7.3	-7.0
Capital and financial account balance	-18.3	-44.4	-22.8	-36.1	-49.6	-59.9	-54.2
Capital account (net)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial account (net)	-18.3	-44.4	-22.8	-36.1	-49.6	-59.9	-54.2
Direct investment	21.7	23.5	41.5	36.0	26.9	27.4	29.0
Assets	-33.4	-24.5	-15.1	-28.8	-40.7	-43.4	-48.2
Liabilities	55.1	48.0	56.7	64.8	67.5	70.8	77.3
Portfolio investment	-29.4	-12.9	-74.5	-65.9	-52.9	-59.2	-53.7
Assets	-37.4	-6.5	-79.6	-63.6	-51.1	-57.2	-51.8
Liabilities	8.0	-6.3	5.1	-2.3	1.2	-2.1	-1.9
Other investment and financial derivatives	-10.5	-55.1	10.2	-6.2	-23.6	-28.0	-29.5
Net errors and omissions	4.5	0.9	-0.9	0.2	-2.4	0.0	0.0
Overall balance	42.2	17.1	26.1	18.2	6.8	3.1	7.8
Memorandum items:							
Current account as percent of GDP	23.7	22.0	17.2	17.9	19.1	20.4	18.7
Trade balance as percent of GDP	26.6	26.0	23.3	24.6	24.8	26.2	24.3
Re-exports as percent of GDP	71.4	67.4	62.1	63.2	62.9	...	...
Net international investment position							
In billions of U.S. dollars	505.9	492.7	557.2	566.0	537.4	...	...
In percent of GDP	202.1	185.0	187.9	189.4	182.0	...	...

Sources: Monetary Authority of Singapore, *Economic Survey of Singapore*; and IMF staff estimates and projections.

1/ Data for the current account balance, the capital and financial account balance, and net errors and omissions are converted to U.S. dollars from the official presentation in Singapore dollars using period-average exchange rates.

Table 3. Singapore: Monetary Survey, 2010–15 1/

	2010	2011	2012	2013	2014	2015	
						Apr.	Dec. Proj.
	(In billions of Singapore dollars, end of period)						
Net foreign assets	368	380	405	433	455	448	479
Monetary authorities	287	305	314	339	342	333	346
Banks	81	74	92	93	113	115	121
Domestic credit	511	596	660	745	801	804	850
Claims on resident private sector	419	498	554	640	688	685	726
Claims on central government	92	98	105	105	113	119	124
Other items (net)	-358	-393	-443	-507	-534	-514	-561
M2	521	582	622	671	722	738	767
M1	166	192	213	241	262	268	278
Quasi-money	355	391	410	430	461	470	490
	(Annual percentage change)						
Domestic credit	11.5	16.7	10.6	13.0	7.5	5.0	6.1
Claims on private sector	13.2	18.9	11.3	15.5	7.5	4.6	5.5
M2	7.6	11.8	6.8	7.9	7.6	8.1	6.2
	(Contribution to M2 growth, in percent)						
Net foreign assets	-1.1	2.3	4.4	4.4	3.4	1.9	3.2
Domestic credit (net)	10.8	16.3	10.9	13.8	8.3	5.6	6.8
Claims on private sector	10.1	15.2	9.7	13.8	7.1	4.4	6.0
Claims on central government (net)	0.8	1.1	1.2	0.0	1.2	1.2	1.5
Other items (net)	-2.2	-6.8	-8.5	-10.3	-4.1	0.5	-3.8
Memorandum items:							
Total loans to nonbanks (in billions of Sing. dollars) 2/	668	827	907	1,081	1,180	1,173	1,239
Total loans to nonbanks (annual percentage change)	13.3	23.9	9.7	19.2	9.2	3.6	5.0

Sources: IMF, *International Financial Statistics* ; and CEIC Data Co., Ltd.

1/ Based on DBUs and ACUs.
2/ Total loans of DBUs and ACUs to both residents and nonresidents.
3/ For ACUs, data are converted to Singapore dollar using end-of-period exchange rate.

Table 4. Singapore: Indicators of Vulnerability, 2010–15

	2010	2011	2012	2013	2014	2015 April
Financial sector indicators						
Broad money (M2, percent change, y/y)	7.6	11.8	6.8	7.9	7.6	8.1
Private sector credit (percent change, y/y)	13.2	18.9	11.3	15.5	7.5	4.6
Credit to the property sector (percent change, y/y) 1/	18.2	19.5	16.3	11.8	9.0	8.0
Share of property sector credit in total nonbank credit (percent) 1/	51.4	47.2	47.0	44.9	46.3	47.7
Credit rating of local banks (S&P) 2/	A+/AA-	A+/AA-	AA-	AA-	AA-	...
Three-month S$ SIBOR (percent, end-year) 6/	0.4	0.4	0.4	0.4	0.5	0.8
NPL ratio (local banks, percent) 3/ 4/	1.6	1.2	1.2	1.0	0.9	...
Capital adequacy ratio of local banks (percent) 4/	18.6	16.0	18.1	16.4	16.0	...
Asset market indicators						
Stock prices (percent change, y/y) 6/	10.1	-17.0	19.7	0.0	6.2	2.9
P/E ratio 6/	19.0	10.3	13.4	13.1	12.6	14.6
Stock prices of the finance sector (percent change, y/y) 6/	2.4	-23.4	36.8	-1.1	10.3	13.4
Real estate prices (percent change, y/y) 5/						
Private residential	25.4	9.5	2.3	3.1	-2.9	...
Office space	8.6	18.8	3.8	4.9	3.2	...
Industrial space	11.2	30.2	28.3	10.5	2.5	...
External indicators						
Current account balance (US$ billion)	55.9	60.6	49.8	54.1	58.8	...
(In percent of GDP)	23.7	22.0	17.2	17.9	19.1	...
Gross official reserves (US$ billion) 6/	225.8	237.7	259.3	273.1	256.9	250.2
(In months of next year's imports of goods and services)	5.6	5.7	6.1	6.5	6.8	6.6
Real effective exchange rate (end of period, 2010=100)	102.7	105.0	113.6	114.0	112.1	111.9

Sources: Data provided by the Singapore authorities; and IMF, *Information Notice System* .

1/ For domestic banking units (DBU).
2/ Ratings of the three major local banks.
3/ In percent of global nonbank loans.
4/ The number for 2014 is as of September.
5/ The underlying price indices are computed based on the Laspeyres method and are 4-quarter moving averages.
6/ The number for 2015 is as of May.

Table 5. Singapore: Summary of Government Operations and Stock Positions, 2010/11–2015/16 1/

	2010/11	2011/12	2012/13	2013/14	2014/15		2015/16	
					Budget	Prel.	Budget 11/	Proj.
I. Statement of government operations								
				(In billions of Singapore dollars)				
Revenue	69.8	81.3	81.4	82.3	84.2	84.2	86.8	86.9
Taxes	41.8	46.1	50.1	51.1	53.2	54.3	55.7	55.7
Social contributions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Grants	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other revenue 2/	27.9	35.2	31.2	31.2	31.1	29.9	31.1	31.1
Of which : interest income	2.0	1.7	1.7	1.9	2.5	2.5	2.9	2.9
Expenditure	48.1	51.5	52.8	61.2	72.1	71.3	82.3	82.3
Expense 3/	34.4	38.6	39.0	47.9	56.0	55.9	64.7	64.7
Compensation of employees	5.9	5.7	6.2	6.8	7.1	7.5	8.1	8.1
Use of goods and services	15.4	15.3	15.7	16.3	17.7	17.8	19.2	19.2
Interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Expense not elsewhere classified	13.1	17.6	17.1	24.8	31.2	30.6	37.4	37.4
Grants, subventions & capital injections to organisations	6.0	6.7	6.7	7.1	7.9	8.0	9.4	9.4
Transfers 3/	11.0	13.8	13.4	17.3	19.5	20.3	23.9	23.9
Other expense	-3.8	-2.9	-3.0	0.4	3.8	2.2	4.0	4.0
Net acquisition of nonfinancial assets	13.7	12.9	13.9	13.2	16.1	15.4	17.6	17.6
Development expenditure	12.1	11.4	12.6	12.0	13.9	13.9	15.4	15.4
Land-related expenditure	1.6	1.5	1.3	1.2	2.2	1.5	2.2	2.2
Gross operating balance	35.4	42.7	42.4	34.4	28.2	28.3	22.2	22.2
Net lending/borrowing	21.7	29.8	28.6	21.1	12.1	12.9	4.6	4.6
Net acquisition of financial assets	...	...	...	...	...	...	...	...
Net incurrence of liabilities	...	...	...	...	...	...	...	...
				(In percent of GDP)				
Revenue	21.1	23.2	22.3	21.5	21.5	21.5	21.4	21.4
Taxes	12.6	13.1	13.7	13.4	13.5	13.8	13.7	13.7
Other revenue 2/	8.4	10.1	8.6	8.1	7.9	7.6	7.7	7.7
Expenditure	14.5	14.7	14.5	16.0	18.4	18.2	20.2	20.2
Expense 3/	10.4	11.0	10.7	12.5	14.3	14.2	15.9	15.9
Net acquisition of nonfinancial assets	4.1	3.7	3.8	3.5	4.1	3.9	4.3	4.3
Gross operating balance	10.7	12.2	11.6	9.0	7.2	7.2	5.5	5.5
Net lending/borrowing	6.6	8.5	7.8	5.5	3.1	3.3	1.1	1.1
Memorandum items:								
Primary balance 4/	0.0	0.6	1.7	-0.1	-2.1	-1.4	-3.3	-3.3
Cyclically adjusted primary balance	-1.0	-0.6	0.5	-1.3	-3.3	-2.6	-4.5	-4.5
Expenditures on social development 5/	6.2	6.4	6.2	6.7	7.3	7.4	...	...
Land sales revenue	4.4	5.4	5.0	4.5	4.2	3.7	3.4	3.4
Spending from Endowment and Trust Funds (9)	0.6	0.7	0.8	1.0	1.1	1.2	1.3	1.3
Fiscal impulse -(((5)-(9))-(5(-1)-(9(-1))) 6/	-1.6	-0.6	-0.9	1.0	1.1	0.8	1.6	1.6
Authorities' budgetary accounts 7/								
Operating revenue (1)	13.9	14.6	15.3	14.9	15.2	15.6	15.8	...
Total expenditure (2)	13.7	13.3	13.4	13.5	14.6	14.6	16.8	...
Primary fiscal balance (3)=(1)-(2)	0.2	1.3	1.9	1.4	0.6	1.1	-1.0	...
Special transfers (excl. transfers to endowment funds) (4)	0.5	0.8	0.4	0.8	0.9	1.1	1.4	...
Basic balance (5)=(3)-(4)	-0.2	0.5	1.5	0.6	-0.3	0.0	-2.4	...
Transfers to Endowment and Trust Funds (6)	1.7	1.6	2.0	1.5	2.2	2.2	1.5	...
Net investment returns contribution (7)	2.2	2.3	2.2	2.2	2.1	2.2	2.2	...
Overall balance (8)=(5)-(6)+(7)	0.3	1.1	1.6	1.3	-0.4	0.0	-1.7	...
II. Stock positions	2010	2011	2012	2013	2014			
				(In billions of Singapore dollars, unless otherwise indicated)				
Gross financial assets 8/	...	...	...	816.7	833.7			
Gross debt 9/	321.2	354.0	385.0	390.4	387.3			
Gross debt (in percent of GDP) 9/	99.6	102.2	106.3	103.2	99.3			
Memorandum items:								
Government deposits at the Monetary Authority of Singapore 8/	119.6	124.5	146.9	162.8	114.2			
Temasek asset holdings 8/ 10/	186.0	193.0	198.0	215.0	223.0			

Sources: Data provided by the Singapore authorities; and IMF staff estimates and projections.

1/ The fiscal year runs from April 1 through March 31. The presentation of the table is based on GFSM 2001.
2/ Includes revenue from land sales and investment income.
3/ Central government spending is adjusted by adding spending by endowment and trust funds set up by the government (line (9)).
4/ Overall balance excluding investment income, capital revenue, and interest payments.
5/ Includes development and operating expenditure on education, health, national development, environment and water resources, culture, community and youth, social and family development, communications and information, and manpower (financing security program). Includes spending on social development purposes from endowment and trust funds set up by the government.
6/ The fiscal impulse is approximated by the change in the adjusted basic balance (basic balance derived from the authorities' budgetary accounts minus spending from endowment and trust funds).
7/ The authorities' budgetary accounts are based on Singapore's Constitutional rules governing the protection of Past Reserves. It includes the net investment returns contribution, which reflects the amount of investment returns that is taken into the Budget. It excludes receipts such as proceeds from land sales and the remaining part of investment income that accrues to Past Reserves and cannot be used to fund government expenditures without the approval of the President. While such receipts are not reflected in the Overall Balance, the information is presented annually to Parliament and included in Budget documents.
8/ Gross asset stock figures are as at the end of March for each year.
9/ Gross debt stock figures are as at the end of the calendar year. Government debt is issued to develop domestic capital markets and to provide an investment vehicle for the mandatory saving scheme.
10/ Temasek owns the assets on its own balance sheet. The government of Singapore is the sole equity shareholder of Temasek.
11/ The IMF staff projection for GDP is used to calculate the numbers for the 2015/16 budget in the authorities' budgetary accounts in percent of GDP.

Table 6. Singapore: Medium-Term Scenario, 2010–20

						Projections					
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Real growth (percent change)											
GDP	15.2	6.2	3.4	4.4	2.9	2.9	3.1	3.2	3.2	3.2	3.2
Total domestic demand	12.9	3.6	6.9	2.8	0.3	3.8	4.0	3.8	3.8	3.8	3.9
(Contribution to GDP growth, in percent)	9.7	2.6	5.0	2.1	0.2	2.7	2.9	2.7	2.8	2.8	2.9
Final domestic demand	7.3	3.6	4.8	3.6	0.5	4.5	3.2	3.9	3.9	4.0	4.0
Consumption	6.9	2.7	2.5	5.2	2.0	3.8	4.0	3.9	4.1	4.1	4.2
Private	5.9	4.0	3.4	3.6	2.5	3.5	3.5	3.7	3.9	3.9	4.0
Public	10.7	-1.8	-0.9	11.5	0.1	4.8	5.6	4.5	4.9	4.9	4.9
Gross capital formation	24.4	5.0	14.0	-0.7	-2.4	3.8	4.1	3.6	3.4	3.3	3.4
Private	23.3	4.4	13.7	-0.6	-4.9	2.0	4.6	4.0	3.2	3.1	3.5
Public	30.2	8.2	15.4	-1.1	9.9	11.5	2.2	2.0	4.1	4.1	3.3
Gross fixed investment	7.8	5.2	8.6	1.1	-1.9	5.8	1.8	4.0	3.7	3.6	3.7
Change in inventories 1/	4.1	0.0	1.6	-0.5	-0.2	-0.4	0.7	0.0	0.0	0.0	0.0
Net exports /1	6.3	3.8	-2.0	2.3	1.7	0.0	0.2	0.4	0.4	0.4	0.4
Saving and investment (percent of GDP)											
Gross national savings	51.5	49.2	47.2	46.9	46.7	47.5	46.5	45.8	45.0	44.4	43.7
Government 2/	9.1	11.8	11.8	9.6	7.7	5.9	6.0	6.2	6.4	6.6	6.6
Private and other	42.4	37.4	35.4	37.2	39.1	41.6	40.6	39.6	38.6	37.8	37.0
Gross capital formation	27.9	27.3	30.0	29.0	27.6	27.1	27.8	28.3	28.6	28.8	29.0
Government 3/	3.9	3.8	3.8	3.5	3.8	4.2	4.1	4.1	4.1	4.2	4.2
Private and other	24.0	23.5	26.2	25.5	23.8	22.9	23.7	24.2	24.5	24.6	24.8
Inflation and unemployment (period average, percent)											
CPI inflation	2.8	5.2	4.6	2.4	1.0	0.0	1.8	1.9	1.9	1.8	1.8
Core CPI inflation	1.5	2.2	2.5	1.7	1.9	1.0	1.8	1.6	1.6	1.5	1.5
Unemployment rate	2.2	2.0	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Output gap	2.4	3.6	2.2	1.9	0.7	0.2	0.1	0.1	0.1	0.1	0.0
Central government (percent of GDP) 4/											
Revenue	20.2	22.7	22.5	21.7	21.5	21.4	21.6	21.8	22.2	22.5	22.6
Expenditure	15.4	14.7	14.5	15.6	17.6	19.7	19.7	19.7	19.9	20.1	20.2
Overall balance	4.8	8.0	8.0	6.1	3.9	1.7	1.9	2.1	2.3	2.4	2.5
Primary balance 5/	-1.1	0.4	1.4	0.3	-1.1	-2.8	-2.7	-2.4	-2.4	-2.4	-2.5
Merchandise trade (percent change)											
Export volume	18.6	5.9	0.3	2.8	2.5	2.7	4.5	5.8	6.0	6.0	6.0
Import volume	18.1	5.1	1.2	0.9	2.4	3.1	5.5	6.5	6.7	6.7	6.7
Terms of trade	-0.9	-2.8	-0.5	0.0	0.7	4.1	-1.0	-0.4	-0.2	-0.1	-0.1
Balance of payments 6/ (percent of GDP)											
Current account balance	23.7	22.0	17.2	17.9	19.1	20.4	18.7	17.5	16.4	15.6	14.7
Balance on goods and services	26.4	26.4	22.6	23.2	24.4	25.8	23.9	22.6	21.6	20.6	19.7
Balance on primary and secondary income	-2.8	-4.4	-5.5	-5.3	-5.3	-5.3	-5.2	-5.1	-5.1	-5.0	-5.0
Gross official reserves (US$ billions)	226	238	259	273	257	260	268	278	292	306	321
(In months of imports) 7/	(5.6)	(5.7)	(6.1)	(6.5)	(6.8)	(6.3)	(6.0)	(5.8)	(5.7)	(5.5)	(5.4)

Sources: Data provided by the Singapore authorities; and IMF staff estimates and projections.

1/ Contribution to GDP growth.
2/ Based on fiscal accounts data.
3/ Based on national accounts data.
4/ On a calendar year basis.
5/ Overall balance excluding investment income, capital revenue, and interest payments.
6/ The authorities recently migrated to the *Balance of Payments Manual 6* (BPM6), which resulted in some balance of payments data revisions.
7/ In months of next year's imports of goods and services.

Table 7. Singapore: Financial Soundness Indicators—Local Banking Sector, 2010–14 1/

	2010	2011	2012	2013		2014
				Sep.	Dec.	Sep.
			(In percent)			
Capital adequacy ratio						
Regulatory capital to risk-weighted assets	18.6	16.0	18.1	16.1	16.4	16.0
Regulatory tier I capital to risk-weighted assets	15.5	13.5	14.9	13.5	13.8	13.5
Shareholders' equity to assets	9.5	8.7	9.2	8.3	8.4	8.5
Asset quality						
NPLs to nonbank loans	1.6	1.2	1.2	1.1	1.0	0.9
Total provisions to NPLs	110.9	125.5	128.3	131.2	135.4	148.6
Specific provisions to NPLs	40.5	39.3	41.8	35.7	34.8	32.4
Loan concentrations (in percent of total loans)						
Bank loans	12.2	13.3	12.7	14.4	15.5	14.4
Nonbank loans	87.8	86.7	87.3	85.6	84.5	85.6
Of which :						
Manufacturing loans	8.1	8.1	7.9	8.1	7.9	8.0
Building and construction loans	12.0	12.1	12.6	13.0	12.8	12.9
Housing loans	23.2	20.7	22.0	20.4	19.8	20.4
Loans to professionals and private individuals	8.6	8.3	8.8	8.6	8.4	8.8
Loans to nonbank financial institutions	11.7	10.7	10.7	8.8	8.8	9.0
Profitability						
After tax return on assets	1.2	1.0	1.1	1.0	1.0	1.0
After tax return on equity	12.2	11.1	12.0	11.6	11.5	12.4
Net interest margin	2.0	1.9	1.8	1.6	1.7	1.7
Non-interest income to total income	40.6	37.3	43.6	40.1	39.5	42.2
Liquidity 2/						
Liquid DBU assets to total DBU assets	9.3	9.9	9.7	9.5	9.7	9.4
Liquid DBU assets to total DBU liabilities	10.1	10.7	10.5	10.2	10.5	10.1

Source: Monetary Authority of Singapore.

1/ The data is for local banks' consolidated operations. Local banks include five Singaporean banks.
2/ Liquidity data reflect all commercial banks operating in Singapore, including branches and subsidiaries.

Table 8. Singapore: International Investment Position, 2010–14

	2010	2011	2012	2013	2014
	(in billions of Singapore Dollars)				
External Assets	2998	3140	3303	3592	3815
Direct Investment	591	605	659	713	762
Portfolio Investment	758	794	969	1127	1208
Equity Securities	381	399	509	567	605
Debt Securities	377	395	460	559	603
Financial Derivatives	138	185	113	110	140
Other Investment	1222	1247	1245	1298	1366
Reserve Assets	289	308	317	345	340
External Liabilities	2347	2499	2622	2876	3105
Direct Investment	815	896	1004	1101	1205
Portfolio Investment	205	166	193	224	250
Equity Securities	183	146	166	185	205
Debt Securities	22	20	28	39	45
Financial Derivatives	119	130	104	104	131
Other Investment	1209	1307	1320	1447	1519
Net International Investment Position	651	641	681	716	710
		(in percent of GDP)			
External Assets	930	906	912	950	978
Direct Investment	183	175	182	189	195
Portfolio Investment	235	229	267	298	310
Equity Securities	118	115	140	150	155
Debt Securities	117	114	127	148	155
Financial Derivatives	43	53	31	29	36
Other Investment	379	360	344	343	350
Reserve Assets	90	89	87	91	87
External Liabilities	728	721	724	760	796
Direct Investment	253	259	277	291	309
Portfolio Investment	64	48	53	59	64
Equity Securities	57	42	46	49	52
Debt Securities	7	6	8	10	12
Financial Derivatives	37	38	29	28	34
Other Investment	375	377	364	383	389
Net International Investment Position	202	185	188	189	182

Source: Singapore, Department of Statistics

Appendix I. Singapore—Risk Assessment Matrix 1/

Sources of Risk	Likelihood and Transmission	Expected Impact of Risk	Recommended Policy Response
Protracted period of slower growth in key advanced and emerging economies	**Euro Area and Japan: High** **Emerging markets: Medium** *Direct and intraregional trade linkages*. Singapore's high degree of openness and position as a financial center and a trading hub would imply large spillovers from advanced or emerging economies' lower growth. High household leverage and potential asset price corrections could exacerbate a slowdown in economic activity, with potential spillovers to banks. *Financial linkages*. Potential inward spillovers from banks in advanced markets with significant presence in Singapore's domestic market.	**Medium to High**	Should domestic demand weaken substantially, use temporary and targeted fiscal stimulus, loosen monetary policy and recalibrate MaPs as necessary while maintaining financial stability.
Side-effects from global financial conditions: **A surge in financial volatility** **Persistent dollar strength**	**High** *Corrections in asset prices and in exchange rates* due to sustained capital flow reversals and *higher-than-expected increases in interest rates* could affect growth prospects through wealth effects and deteriorate banks' capital, especially in light of the elevated levels of household and corporate debt and prevalence of variable interest rates. *A decline in financial sector activity*—an important driver of the economy and very sensitive to the global risk sentiment—could slow growth. *Liquidity risks* owing to sudden retrenchment of interbank—including intragroup—funding of offshore banks and funding pressures due to foreign currency liabilities of domestic banks. Dollar denominated loans off shore could see an increase in arrears.	**Medium**	Ensure financial institutions maintain prudent risk management practices and have adequate liquidity and capital buffers. Maintain close links with home country supervisors. Recalibrate macroprudential policies to mitigate financial sector stress. In an extreme event, the strong official reserve position could provide an additional cushion. Swap lines with other central banks could complement this.
Sharp growth slowdown and financial risks in China	**Insufficient progress with reforms leads to a continued buildup of vulnerabilities: Medium** **Sharp slowdown in 2015–16: Low** *Direct and intraregional trade linkages.* A significant slowdown in China would have both direct and indirect effects on Singapore's exports, on the back of increasing direct trade links between China and the region. China is also the second largest source of tourists for Singapore. Domestic demand would also be hit through worsening investment sentiment. *Financial linkages*. Although most of the domestic banks' lending to China is in the form of trade finance, total exposures have grown to around 40 percent of GDP. Widespread corporate defaults could lead to rising NPLs. More broadly, given Singapore's role as a financial center, financial stress in China could lead to a decline in investor sentiment, pullback of funding and market volatility.	**Medium to High**	Provide temporary and targeted fiscal support and loosen monetary policy to offset headwinds from a potential slowdown. Continue to monitor banks' exposures to China and the rest of the region. Use prudential policies and bank supervision to ensure risks are managed well.
Disorderly or excessive correction in property prices	**Low** *Decline in collateral values and wealth effects* could trigger a fall in economic activity and bank lending with further adverse feedback effects on household indebtedness and property prices	**Medium**	Adjust macroprudential policies while safeguarding financial stability. Use targeted fiscal transfers to households whose debt servicing capacity is adversely affected.
Structural reforms fail to generate significant productivity gains and increased investment	**Medium** *Sharp increase in unit labor costs and loss of competitiveness.* A more limited access to foreign workers may reduce competitiveness and profitability and provide disincentives to invest in some sectors. *Higher than expected transitional costs* such as high frictional unemployment or higher than expected hallowing out in some sectors can have long-term effects on growth.	**Medium**	Adjust foreign worker policies to relax tightness in labor markets. . Provide temporary and targeted fiscal transfers or incentives to companies in impacted sectors during the transition.
Retreat from globalization and international cooperation. **Delays in the implementation of AML standards and associated reputational risks**	**Medium to Low** *Decline in cross-border banking activity*. Aggravating challenges, uncertainty about regulatory reform and uneven progress across major jurisdictions could lead to regulatory arbitrage, financial fragmentation, weakening of global financial safety net, and a decline in cross-border banking activity. *Reputational risks*. If risks related to opaque ownership structures in the wealth management sector are not adequately addressed, any change in perceptions about Singapore's good reputation could have adverse effects on the viability of the industry.	**Medium**	Ensure regulatory standards and risk management practices keep up with international regulatory norms. Continue to maintain collaboration with financial sector supervisors in other major jurisdictions. Fully implement international AML standards. Ensure service providers report suspicious transactions, and close accounts where supporting evidence of beneficial ownership is incomplete.

1 The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Appendix II. Singapore—External Sector Developments and Assessment

Current account and real effective exchange rate (REER)

After narrowing by about 6½ percentage points during 2010–12, Singapore's current account (CA) surplus increased by close to 2 percentage points over the past two years and reached 19.1 percent of GDP in 2014. The real effective exchange rate (REER) has appreciated by 26 percent since 2005, raising it above its previous peak in the late 1990s. The REER depreciated by 0.2 percent in 2014 and is 0.5 percent lower as of May 2015 relative to the 2014 average. This mainly reflects decelerating inflation but is also contributed by a lower NEER appreciation driven by a strong U.S. dollar and the easing of monetary policy.

The oil price decline has led to a significant increase in the oil trade balance at the end of 2014 and the first quarter of 2015, and is expected to contribute to raising the CA in 2015 (by about 1.5 percent of GDP) if the price decline is sustained.[1] A still-uncertain outlook for external demand and more accommodative fiscal policies are expected to partially offset this. The easing in January of MAS monetary policy through a lower trend appreciation of the nominal effective exchange rate (NEER) band is not expected to materially affect the external balance. Overall, the CA is expected to increase by 1–1.5 percent of GDP in 2015. The recent halt in REER appreciation is expected to reverse over time as the temporary impact of the oil price shock on inflation is reversed in 2016 and domestic demand picks up in response to the large terms of trade shock.

Despite narrowing during 2010–12, Singapore's current account surplus is one of the highest in the world and high relative to other financial centers. Historically, a very high savings rate (both public and private) has underpinned Singapore's current account. High public sector savings are driven by Singapore's prudent fiscal policy framework, which involves a balanced budget rule over the political cycle and a cap on the transfer to the budget of investment returns earned on government assets. In fact, fiscal policy has been more prudent than implied by these fiscal rules. The relatively limited social safety nets, a rapid pace of projected aging, the mandatory defined-contribution pension scheme, and greater income inequality than in other countries may have contributed to the high level of private savings. High corporate savings represent another important driver of private savings in Singapore while its status as a financial center may have contributed to precautionary saving motives.[2]

Despite having increased over the past two years, the narrowing of the current account since 2010 is expected to be structural and continue in the medium term. In addition to the adjustment in the rest of the world, the narrowing of Singapore's current account will be driven

[1] Box 1 provides more details on the impact of the oil price shock on Singapore.

[2] See *Singapore—Staff Report for the 2013 Article IV Consultation*, Appendix 2 for a more detailed discussion of corporate savings and other structural factors that contribute to Singapore's strong external position.

by Singapore's economic restructuring in the near term, rapidly aging population, lower public sector savings and enhanced social safety nets. Consistent with these structural trends, the REER is expected to appreciate in the medium term.

Foreign asset and liability position

Singapore has a large positive net international investment position, reflecting large net portfolio assets and official reserves. It stood at 182.5 percent of GDP at end-2014 and has been relatively flat since 2011 after declining significantly relative to the pre-GFC peak of 254 percent of GDP in 2006. Although the size of official foreign assets held by Government Investment Corporation, Singapore's sovereign wealth fund, is unknown, it likely accounts for a considerable share of the portfolio holdings. Gross assets and liabilities are significant relative to GDP, which implies that valuation changes are an important driver of changes in the foreign asset and liability position. Singapore's high net foreign asset position does not appear to make a significant contribution to the current account through the income balance given the higher income paid on IIP liabilities (mainly FDI) than on assets (portfolio and official reserves). Singapore's NIIP position is expected to increase over time, based on declining but still sizable current account balances that are projected in the medium-term.

Capital and financial accounts

Singapore has a fully open capital account. The financial account deficit is mainly driven by official sector flows, reflecting the reinvestment abroad of income from large foreign assets. These flows tend to co-move with the global financial cycle. Net FDI inflows are also significant and have historically been driven by foreign investment in the financial services sector. Net bank-related flows are relatively small but gross banking sector-related flows are significant and highly volatile. The financial account is expected to remain in deficit as long as income from net foreign assets is reinvested abroad.

Reserve adequacy

During June 2014-March 2015, Singapore's official reserves declined by 11 percent (29.6 billion US$), reflecting valuation changes. There was also a large decline in the central bank's FX swap positions by 24 billion USD. Based on a statement issued by the central bank, most of the receipts from maturing swaps were transferred to the sovereign wealth fund for longer term investment.

There is no standard quantitative metric to assess reserve adequacy for advanced economies but, as noted in recent IMF papers, scenario analysis can be a useful tool to assess a country's reserve needs.[3] Staff's assessment of reserve adequacy in Singapore takes into account both precautionary and other factors related to the operation of its exchange-rate-based monetary

[3] See IMF staff paper on *Assessing Reserve Adequacy-Specific Proposals*, April 2015.

policy. Singapore's position as an international financial center that does not issue a reserve currency implies potential precautionary need for reserves in periods of market distress and low foreign exchange liquidity.[4] Singapore has a large stock of short-term external debt (354 percent of GDP in 2014), which mainly reflects the cross-border activities of its large international banking system and would therefore call for generous reserve buffers. However, banks' short-term liabilities are largely covered by their short-term external financial assets, and FSAP's U.S. dollar liquidity stress tests in 2013 showed that the banking sector's FX funding gap over a one-year horizon would be about 50 billion U.S. dollars, which is easily covered by Singapore's official reserves (at 252 billion U.S. dollars as of end-April 2015). In addition, Singapore's strong framework for effective supervision of banks and potential ability to access swap lines with major central banks in case of a severe and generalized funding stress would reduce the need to have significant reserve buffers.

Reserve buffers also serve an important role in the implementation of monetary policy under Singapore's managed exchange rate system. With the nominal effective exchange rate used as the intermediate target, intervention is undertaken as required to achieve monetary policy's inflation and output goals. Based on considerations of both precautionary needs and the effective implementation of the monetary policy framework, Singapore's current levels of reserves appear adequate and there is no clear case for further reserve accumulation.

Quantitative assessment of the current account and the REER

Singapore is a very open economy that serves as a regional financial center and trading hub. Its export and import shares relative to GDP are one of the highest in the world (188 and 163 percent of GDP in 2014), and changes in its current account are relatively large, making quantitative assessments difficult (see Figure). Singapore is also an outlier with respect to its income per capita, pace of aging and type of pension system, and NIIP position, limiting the applicability of quantitative assessments based on cross-country econometric models.

[4] We use MAS's official reserves in the assessment of reserve adequacy as opposed to the total foreign assets of the public sector, given the more liquid nature of MAS's foreign reserves.

Singapore: Quantitative Exchange Rate Assessment

	Norm	Projection 2020 1/	Gap Total	Gap Policy 2/
		(In percent of GDP)		
Current acccount				
CGER (WEO April 2015)				
Macroeconomic balance approach 3/	6.4	14.7	8.3	...
Macroeconomic balance approach with financial center dummy 4/	7.9	14.7	6.8	...
External sustainability approach 5/	7.8	14.7	6.9	...
External balance assessment (EBA) 6/	13.8	...	5.8	1.2
External balance assessment (EBA-lite) 7/	15.1	...	4.0	1.2

1/ Staff's projection for 2020.
2/ In EBA and EBA-lite methodologies the current account gap can be decomposed into policy gap and the unexplained residual in the current account regression.
3/ Norm based on CGER-like methods using April 2015 WEO data.
4/ Norm based on CGER-like methods with a dummy for financial centers. The financial centers are defined as in *Exchange Rate Assessments in Special Cases* (IMF, January 2014).
5/ Using actual end-Q32014 NFA/GDP as benchmark.
6/ Singapore is not part of the EBA sample. The etimates are obtained by applying EBA regression coefficients to Singapore data. The gap is computed relative to the cyclically-adjusted CA in 2014.
7/ EBA-lite methodology extends the EBA approach to a a broader group of countries aand includes Singapore in its sample of countries. The gap is computed relative to the cyclically-adjusted CA in 2014.

Standard CGER-like models and the EBA model were used to assess the external balance.[5] The macroeconomic balance (MB) approach allowing for a financial center dummy (staff's preferred MB approach specification) and the external sustainability approach imply a CA surplus of 8 percent of GDP as the norm consistent with medium-term fundamentals, and a CA gap of 7 percent of GDP relative to staff's medium term CA projection of 14.7 percent of GDP.[6] EBA-like estimates imply a CA balance norm of 14–15 percent of GDP for 2014 in cyclically-adjusted terms, suggesting a CA gap of about 4–6 percent of GDP relative to the cyclically-adjusted CA balance in 2014.[7] In the MB and EBA models, the current level of NFA is used as an explanatory variable and if the high NFA level is a byproduct of past excessive surpluses, the CA balance norm may be overstated. In the ES approach, the current level of NFA is implicitly assumed to be optimal, which could overstate the norm in countries like Singapore with a large NFA position.

[5] We only consider the current account specifications as they deliver more robust estimates compared to the REER models.

[6] The financial center dummy may capture precautionary saving motives, a high level of net foreign assets and other characteristics that are associated with financial centers affecting saving and investment decisions.

[7] Singapore is not in the sample used to estimate the EBA model because it is an outlier along several dimensions (e.g. the NFA position, per capita income, fiscal balance and the aging speed) and nonlinearities in their impacts on the CA would not be captured in the EBA framework. It is however included in the EBA-lite model which extends the EBA methodology to a broader group of countries. Applying the EBA coefficients to Singapore suggests that the CA surplus is mainly explained by the high level of productivity, the large fiscal surplus and high rate of aging, plus a dummy regressor for status as a financial center, and its large NFA position. Of the EBA-estimated CA gap of about 6 percent of GDP, about 1¼ percentage points is identified as policy gaps (driven by the fiscal balance (both in Singapore and in the rest of the world) and public spending on health care) and the remaining 4½ percentage point of GDP is the residual.

Based on these model estimates and reflecting the wide range of uncertainty in the case of Singapore, the current account gap is assessed to be in a range of 2–8 percent of GDP. With respect to the REER, staff assesses that the real exchange rate is around 4–16 percent weaker than warranted by medium term fundamentals and desirable policies. This estimate is drawn from the CA assessment and relies on a semi elasticity of the CA with respect to the REER of about 0.5, consistent with Singapore's high level of openness. It therefore reflects the uncertainty in the underlying CA assessment and the semi-elasticity of the CA with respect to the REER.

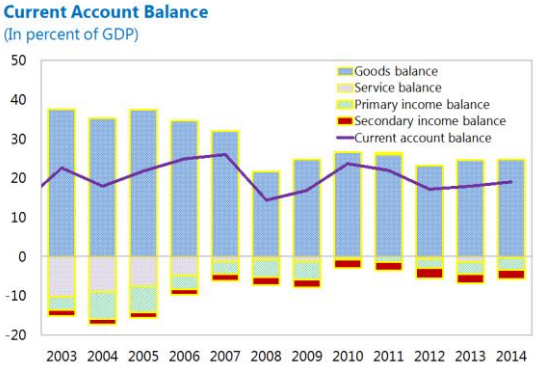
Despite the wide range of quantitative assessments for the current account and REER gaps, they are still large relative to other countries covered in the External Sector Report (ESR).

Overall assessment

Based on a range of quantitative assessments and associated policy gaps, a large positive NIIP position which is expected to increase in the medium-term, continuation of a deficit in the financial account and adequate levels of foreign reserves, the external position is assessed to be substantially stronger than what is consistent with medium term fundamentals and desirable policies. However, this assessment and the size of the imbalance are subject to a wide range of uncertainty reflecting Singapore's very open economy and position as a global trading and financial center. From a multilateral perspective, and consistent with the authorities' current policies, increased public spending, a stronger social safety net, a more-even distribution of income across generations, helped by an expected slower absorption of foreign workers are expected to contribute to further moderate the current account.

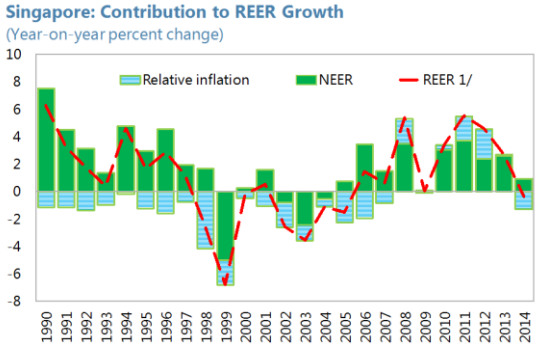
Figure. Singapore: External Sector

The current account surplus increased slightly in 2014, after narrowing by 6½ percentage points during 2010–2012.



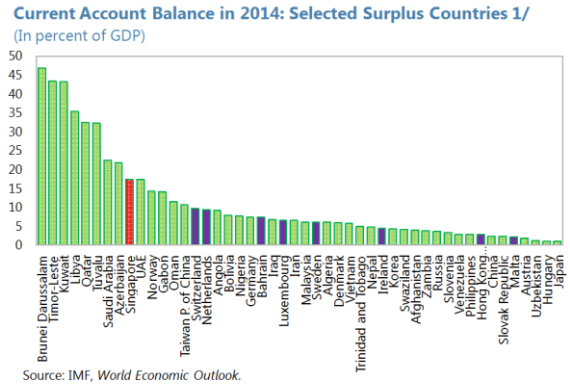
Source: Haver Analytics.

The REER has depreciated slightly in 2014, driven by relative inflation and reduced level of NEER appreciation.



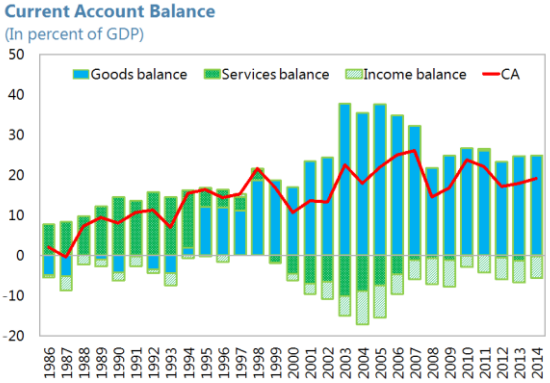
Sources: IMF, *Information Notice System*; and staff calculations.
1/ Sum of contributions of relative inflation and NEER.

Singapore's large CA surplus reflects its extraordinary trade openness, among other factors.



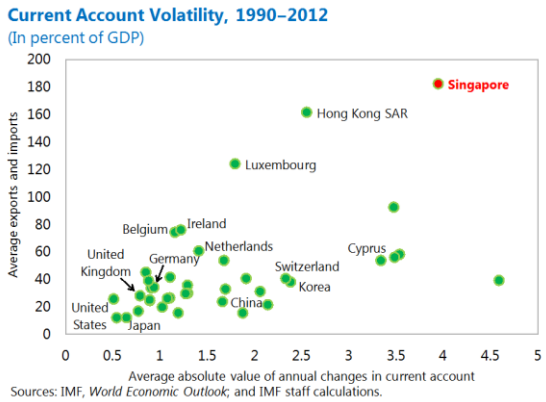
Source: IMF, *World Economic Outlook*.
1/ Financial centers shown in purple color.

The trade balance has accounted for the strong current account position, increasing significantly since the mid-1990s.



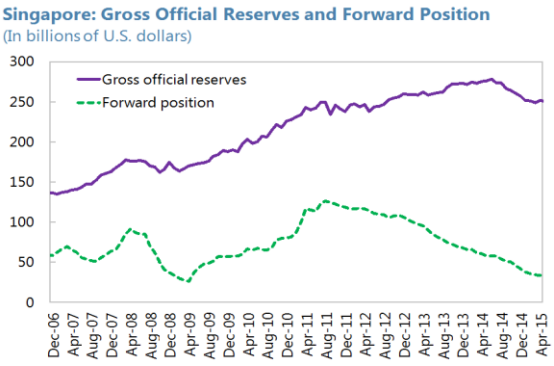
Source: CEIC Data Co., Ltd.

Singapore's current account volatility is relatively high, reflecting its very open economy.



Sources: IMF, *World Economic Outlook*; and IMF staff calculations.

Gross official foreign reserves declined in 2014 weighed down by valuation losses. The forward position was reduced.



Sources: CEIC Data Co. Ltd; and IMF, *International Financial Statistics* database.

Appendix III. Singapore—2013 FSAP Key Recommendations and Actions Taken

No.	Recommendations	Actions Taken
Short-Term Implementation (within 12 months)		
1.	Increased attention to onsite inspections of banks' credit risk.	MAS has instituted a multi-year credit onsite inspection schedule for major banks and updated the relevant guidance to supervisors. MAS is also in the process of conducting a thematic inspection of selected banks to assess their credit underwriting standards and lending practices.
2.	Monitor LCR ratios for significant foreign currencies.	MAS monitors LCRs for consolidated currency, Singapore dollar and significant foreign currencies (including the U.S. dollar) for locally incorporated banks headquartered in Singapore on a monthly basis since January 2015. Foreign banks subject to the LCR framework will start reporting the LCRs from January 2016.
3.	Mitigate legal risks to CCPs from conflicts of law across jurisdictions.	MAS has engaged with the U.S. and EU authorities to address cross-border legal risks to CCPs. The Singapore Exchange Derivatives Clearing Limited (SGX-DC) is now registered with the U.S. Commodity Futures Trading Commission (CFTC) as a derivatives clearing organization, enabling US clients to clear trades on SGX-DC. The Singapore CCP regime has been recognized by the European Commission as equivalent, enabling European clients to clear trades on CCPs within the Singapore CCP regime.
4.	The CCPs to explore with members the possibility of widening their collateral pool and examine the feasibility of receiving Singapore government securities as collateral to improve access to central bank liquidity in times of stress.	The Singapore Exchange (SGX) concluded that it is not practicable to require posting of non-cash collateral at this point. A study in 2014 by SGX concluded that, although Singapore government securities already qualify as eligible collateral, cash collateral was preferred by clearing members of the Central Depository (Pte) Limited and SGX-DC, because cash is most easily valued and transferable.
5.	Consider subjecting loans for owner-occupied housing to a limit to be set by MAS.	MAS decided not to introduce a limit on owner-occupied loans. When granting an owner occupied housing loan, a bank is primarily exposed to the financial position of the borrower, and its exposure to the property collateral is secondary. The TDSR Framework has also helped to contain household leverage and associated stability risks.
6.	Encourage over-extended households to reduce their leverage.	MAS has taken preemptive measures to curb excessive borrowing. (i) *Rules on unsecured credit facilities*: Effective in June 2015, financial institutions may not extend further credit to borrowers whose interest-bearing unsecured debt exceeds 24 times of monthly income. The limit will be lowered to 18 times in June 2017 and 12 times in June 2019. The industry-led *Repayment Assistance Scheme* also offers a lower interest rate to help overextended borrowers to gradually pay down debts. (ii) *TDSR framework* continues to work through the system by encouraging households to be prudent when they take up property loans. (iii) *Outreach and education*: The December 2014 Financial Stability Review by MAS warned about vulnerabilities of highly leveraged households to interest rate or income shocks. In addition, MoneySENSE, a national financial education program, provides financial education on managing debt through, inter alia, talks and workshops.
7.	Stand ready to adjust macroprudential measures in the housing market in line with changes in market conditions.	MAS monitors various indicators and changes in market conditions, including prices, transactions, and housing loans, as well as global and domestic macroeconomic conditions. The series of property-related measures taken over the past few years have dampened momentum in the property market. Prices and transactions have moderated and the risk profile of housing loans has improved.

No.	Recommendations	Actions Taken
Medium-Term Implementation (1–3 years)		
8.	Further strengthen banks' capital framework, with implementation of the countercyclical capital buffer in line with the Basel III timelines.	MAS is on track to implement the countercyclical capital buffer framework by January 2016, in line with the Basel III timelines.
9.	Further develop SGX recovery plans, identifying additional scenarios.	SGX is in the process of developing its recovery and resolution plans to be in line with the CPMI-IOSCO Recovery Report for FMIs and the FSB Key Attributes on Effective Resolution.
10.	Upgrade the collateral that covers credit exposures related to the link with the Chicago Mercantile Exchange (CME).	SGX is reviewing the use of letter of credit (LC) and will consult CME as appropriate. SGX is also reviewing if the clearing fund can be used to cover losses from the Mutual Offset System (MOS) link.
11.	Formalize bilateral cooperative crisis management agreements for FMIs.	The existing supervisory cooperation MOU with CFTC allows MAS to engage with CFTC in emergency situations. MAS will consider international standards on crisis management and include more details on crisis coordination, where appropriate, in consultation with CFTC.
12.	Collect more granular data on household balance sheets, drawing on surveys and strengthened credit bureau practices.	Data collected by the consumer credit bureau have been enhanced since June 2014, providing comprehensive information on a borrower's overall credit limits and aggregate outstanding debt balances across lenders. In addition, effective in April 2015, members of the credit bureaus have access to information on the interest-bearing outstanding unsecured debt balances of borrowers.
13.	Authorize the Singapore Deposit Insurance Corporation (SDIC) to provide support, on a least-cost basis, for the transfer of deposit liabilities to a bridge bank or healthy institution.	MAS has issued a consultation paper in 2015Q2 on proposals to enhance resolution regimes in Singapore. As work on resolution funding remains at a nascent stage internationally, MAS will continue to study and develop possible arrangements that are best suited to Singapore's context. MAS will also draw on evolving international practices/standards, before finalizing the details of the resolution funding framework.
14.	Ensure that the banking industry adequately contributes to the costs of bank failures.	
15.	Further facilitate cross-border cooperation in bank resolution.	MAS has engaged with foreign authorities to understand the systemic importance of Singapore banks overseas, and will take this into consideration in the resolution plans for the Singapore banks. MAS also participates in the Crisis Management Groups of global systemically important foreign banks. During times of crisis, MAS will step up the level of engagement with home supervisors or resolution authorities. In addition, MAS will issue a consultation paper on proposals to enhance its resolution framework. Amongst others, MAS will consult on proposed powers for MAS to impose temporary stays on early termination rights on financial contracts. This will contribute to orderly cross-border resolutions.
16.	Consider changes to the structure of the MAS Board to strengthen operational independence in financial supervision.	No action will be taken. In MAS' view, MAS has legal and institutional safeguards that protect against potential conflicts of interest and maintains full operational independence. MAS will review the safeguards from time to time.
17.	Ensure that MAS' mandate for prudential supervision is not compromised by its developmental mandate.	MAS is in the process of reviewing the MAS Act to clarify that, where there are safety and soundness concerns, the prudential supervision mandate will prevail over the developmental mandate.
18.	Review and strengthen the resolution framework to enhance MAS' operational independence in bank resolution.	The recommendation is under review.

Appendix IV. Singapore—
Estimating a Monetary Policy Rule for MAS

Background. The empirical literature (Parrado (2004), McCallum (2007), IMF(2013), Mihov (2013)) has found that Singapore's exchange rate-based monetary policy is parsimoniously characterized by a policy rule similar to a Taylor Rule with the short-term interest rate replaced by the nominal effective exchange rate (NEER) appreciation. This Appendix estimates a similar policy rule to address the recent developments in NEER and the MAS policy response.

MAS reaction function. The MAS does not describe its monetary policy as following a particular rule for NEER appreciation, rather it emphasizes the "basket-band-crawl" (BBC) nature of its policy framework. The MAS is also not an inflation targeter but one of its principal objectives as specified in the MAS Act is "to maintain price stability conducive to sustainable growth of the economy." As argued by McCallum (2006 and 2007), if the parameters of the "basket-band-crawl" framework are adjusted to target a certain inflation and output objective, a rule based on the exchange rate can be a reasonable characterization of the monetary policy framework. Parrado (2004) is the first paper that has estimated a policy rule with inflation and output objectives.

$$\Delta e_t = (1-\rho)\Delta e_t^* + \rho\Delta e_{t-1} + \tau_t$$

$$\Delta e_t^* = \overline{\Delta} e + \beta(E[\pi_{t+n}|\varphi_t] - \pi^*) + \gamma(E[y_{t+m}|\varphi_t] - y^*)$$

Where Δe_t is the NEER appreciation which is adjusted based on the target/equilibrium NEER appreciation (Δe_t^*) while allowing for some degree of policy inertia captured by the parameter (ρ). The target exchange rate appreciation is a function of expected inflation n periods ahead from the inflation target, π^*, and the expected deviation of output in m periods from its target, y^*. The two equations can be combined to estimate the following reduced form equation:

$$\Delta e_t = (1-\rho)\alpha + (1-\rho)\beta\pi_{t+n} + (1-\rho)\gamma x_{t+m} + \rho\Delta e_{t-1} + \varepsilon_t$$

Where $\alpha = \overline{\Delta} e - \beta\pi^*$ and $x_t = y_t - y^*$. Different versions of his estimated policy rule were explored in McCallum (2007) and IMF (2013). Previous estimates all find a high degree of policy inertia, a strong and significant response to expected inflation and the output gap. IMF (2013) also used unit labor costs (ULCs) as an alternative policy target instead of the standard expected inflation, finding a more robust relationship between the NEER and the ULCs.

Updated estimates. We update estimates in previous papers by including more recent data and using alternative inflation measures and then ask for the predicted NEER appreciation for 2015 consistent with the estimated policy rule. We use IMF staff estimates of the output gap as well as the HP filter estimate (respectively, specifications 1 and 2).[1] We also experiment with using one-year-

[1] The IMF staff estimate of the output gap is very similar to the HP filter estimate but for the more recent period, the staff estimate assumes a higher output gap consistent with the authorities' estimates.

ahead inflation expectations from *Consensus* directly as opposed to using instruments for expected inflation (specification 3). We also try breaking down inflation into ULC and import prices in foreign currency in the monetary policy reaction function (specification 4). Finally we experiment with using core inflation as opposed to headline inflation (specification 5). We use 1991Q1–2014Q4 as our sample but also run rolling window regressions to look at the stability of estimates. Inflation, ULC and import price inflation are the 4-quarter ahead, 4-quarter moving average of inflation, ULC increase and import price inflation respectively. The contemporaneous value of the output gap is used in all regressions. Finally four lags of inflation and output gap are used as instruments.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	neer_dif	neer_dif	neer_dif	neer_dif	neer_dif
inf_forward	0.365*	0.427**			
	(0.193)	(0.193)			
rgdp_gap	0.149**				
	(0.075)				
L.neer_dif	0.683***	0.680***	0.641***	0.707***	0.704***
	(0.066)	(0.066)	(0.061)	(0.068)	(0.065)
gap_desk		0.115*	0.171***	-0.098	-0.013
		(0.068)	(0.050)	(0.142)	(0.106)
inf_exp			0.748***		
			(0.249)		
ulc_forward				0.292**	
				(0.127)	
import_forward				0.069	
				(0.064)	
inf_core_forward					1.030**
					(0.468)
Constant	-0.204	-0.351	-1.100**	0.045	-1.241
	(0.390)	(0.382)	(0.529)	(0.239)	(0.784)
Observations	92	92	92	88	88
R-squared	0.624	0.612	0.691	0.698	0.562

Robust standard errors in parentheses

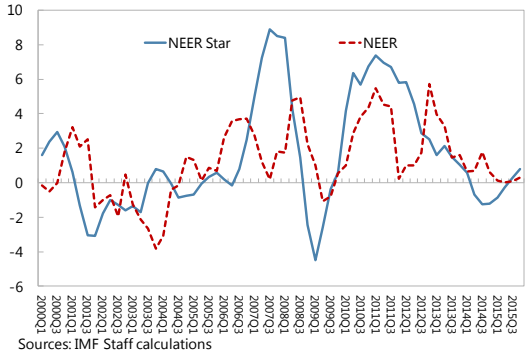
*** p<0.01, ** p<0.05, * p<0.1

Main findings. Results indicate that the coefficient of lagged NEER is always significant and large (around 0.65-0.7), suggesting a high degree of policy inertia. The coefficient for expected future inflation suggests that MAS increases NEER appreciation by 1.33 percent when future inflation increases by one percentage point. This results in a REER appreciation of 0.33 percent. The estimates of β using *Consensus* inflation expectations and core inflation are higher at 2 and 3.5 percent respectively. In some specifications the estimate of the response to output gap is also significant at around 0.12–0.17. The model fit is very good under all specifications. Rolling window estimates show

a higher coefficient on inflation more recently under all specifications, except the specification using inflation expectations from *Consensus*.

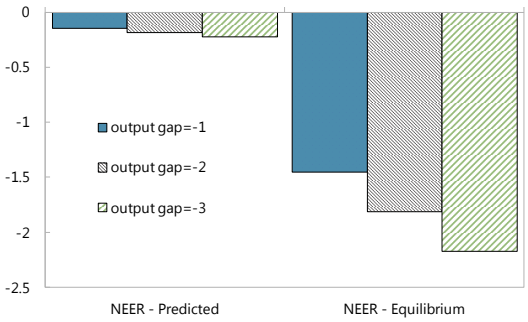
Model-based NEER predictions. The model can be used to assess the predicted NEER growth rate based on projections of inflation and the output gap. The chart below shows the estimate of the equilibrium change in NEER based on MAS's estimated reaction function (i.e. Δe_t^*) using specification 2 and the predicted actual NEER growth (i.e. Δe_t). The average equilibrium NEER appreciation predicted for 2015 is about zero, reflecting low inflation and closed output gap. However toward end-2015, equilibrium NEER rises reflecting the assumption, consistent with staff's macro-framework, that inflation will pick up somewhat. Predicted NEER growth also depends on lagged NEER appreciation. This gives an estimated NEER appreciation of 0.14 percent. The estimated reaction function can be used to predict MAS response (in terms of NEER appreciation) if expected inflation 4-quarters ahead is lower than baseline (say about zero) and the economy is softer than baseline (output gap becomes negative). Assuming that lagged NEER growth is 0, we predict a small NEER depreciation. Equilibrium change in NEER implies a larger depreciation pointing to the importance of policy inertia.

Actual and Equilibrium NEER Appreciation
(percent growth rate y/y)



Sources: IMF Staff calculations

Predicted NEER Appreciation Under Different Assumptions
(in percent)



Sources: IMF Staff Calculations

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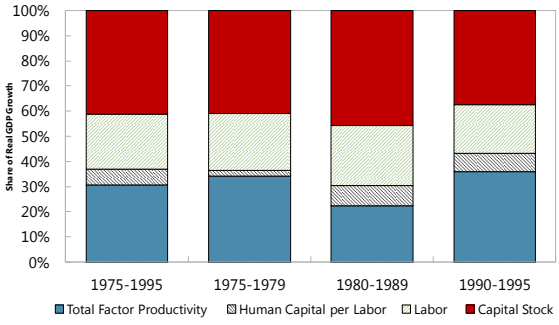
Appendix V. Singapore Productivity and Growth—Record and Prospects

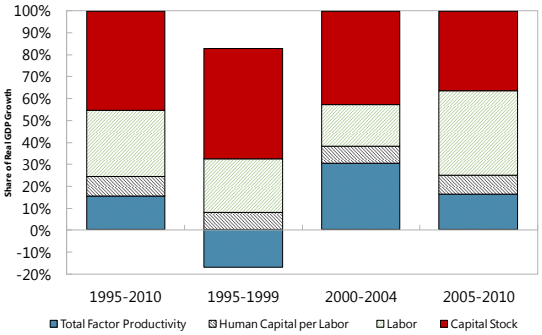
Singapore's growth and development record since independence has been impressive. The economy has grown at an average annual rate of 7.7 percent since independence, and annual growth in living standards (per capita real GDP) has reached a stunning 5.4 percent. Growth was even faster (8.7 percent per annum) until 2000. Capital accumulation has been the largest growth driver (over 40 percent), followed by effective labor (about a third), and TFP (about a quarter). Growth in effective labor was due to both increases in labor force and substantial improvements in labor quality.[1] The temporal profile of the contributions was stable, except for TFP, whose contribution fell by about 1 percentage point in the 1980s, partly compensated by rising labor quality. In the recent past economic growth was driven by growing capital intensity and gains in labor quality as well as growth in labor inputs. From 1995 to 2010, growth averaged 5.7 percent per annum. The contribution of physical capital accumulation to growth was 2.5 percentage points (45 percent). The contribution of labor was 1.7 percent (30 percent). Improvements in the quality of labor contributed 9 percent, and TFP's contribution was 15 percent.

Singapore: Contribution to GDP Growth, 1975–1995
(In percent)



Sources: World Development Indicators; and IMF staff calculations.

Singapore: Contribution to GDP Growth, 1995–2010
(In percent)



Sources: World Development Indicators; and IMF staff calculations.

Capital accumulation. Investment has also made an important contribution to Singapore's growth in the period following the global financial crisis, in contrast with many Advanced Economies (AEs) where investment has been subdued.[2] Singapore's strong investment performance could reflect its trade and financial links with Emerging Asia which was booming during this period. Investment has weakened most recently during the transition to Singapore's new growth model, which relies less on foreign workers, and amid an uncertain global recovery. In 2014, gross fixed investment contracted for the first time in more than ten years. Going forward, investment is expected to rebound (to an

[1] The growth accounting model used here accounts for three factors: capital and quantity and quality of labor. The data is from World Development Indicators of the World Bank. The labor quality data is based on the schooling data of Robert J Barro and Jong-Wha Lee, "A new data set of educational attainment in the world, 1950–2010," Journal of Development Economics (2013).

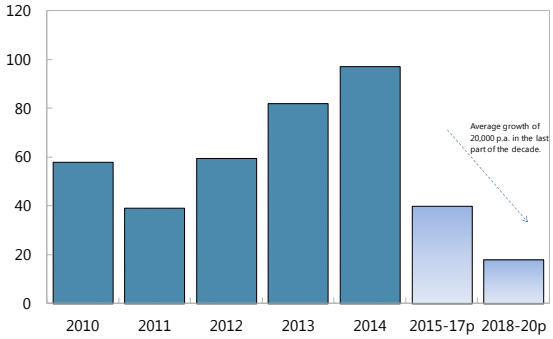
[2] When compared with other countries, and taking investment projections in the pre crisis period into account, Singapore is one of the few AEs in which investment surpassed projections by a large margin. See *World Economic Outlook*, Spring 2015, Chapters 3–4.

average annual rate of growth of 3.6 percent) as firms raise their capital-labor ratios amid lower growth in foreign labor inputs.

The role of services. Singapore has moved up in the production value chain over time and is now exporting pharmaceuticals, semiconductors and other high end manufactures as well as modern services, whose share in GDP, has doubled (from 16 to 32 percent) between 1965 and 2014. In recent years, services and services exports have recorded robust growth, driven by financial and business management, accounting, engineering, legal and other professional services, which now account for 40 percent of services exports.[3] Services exports add more value per dollar exported and are expected to grow in importance reflecting structural shifts in the economy. A key factor will be the increased internationalization of services, a trade category that is still subject to significant regulation and impediments. Work now under way to reduce barriers in trade services in ASEAN and other high quality trade agreements can provide an important additional boost to services trade and activity. While the value added by services exports has grown, that of goods has remained constant in relation to GDP in line with those of other regional economies.

Potential growth. Like other AEs, Singapore has experienced a moderation of its potential growth in recent years. AE growth slowdown is generally driven by slower growth in labor input, partly related to aging, and the subdued pace of physical capital accumulation in the aftermath of the global financial crisis. Declining TFP growth has also played a role.[4] Singapore's potential growth is now estimated at about 3.2 percent per year, the result of a rapidly aging population (see Appendix VI) and domestic restructuring policies which have resulted in reduced inflows of foreign worker.The contribution to growth from capital is expected to be 1.3 percentage points, TFP is expected to contribute 1 percentage point, labor quality 0.6 percentage points, and labor quantity 0.3 percentage points. Growth is expected to be increasingly driven by gains in labor productivity, projected about 2 percent per year.[5] Regarding labor force growth, the Ministry of Manpower expects resident workforce growth to slow to an average of 20,000 per year in the second half of the 2010s, less than a third of the 66,000 of the last five years. The labor force participation of older workers and women has been rising and has reached about 70 and 60 percent, respectively, in 2014, providing a boost to labor input. Overall, workforce growth is projected at 1–2 percent during 2015–20, taking into account aging, reduced numbers of foreign workers, and the already high participation of older workers and women.

Singapore: Resident Workforce Growth and Projections
(In Thousand)



Source: Administrative Records and Labour Force Survey, Ministry of Manpower (MOM). Mom Projections
Note: P means projected.

[3] See "Recent trends in services exports" in Economic Survey of Singapore, 2014.

[4] See Staff Discussion Note:" The New Normal: A Sector-Level Perspective on Growth and Productivity Trends in Advanced Economies", March 2015.

[5] See Economic Survey of Singapore, First Quarter, 2015.

Foreign labor force growth is projected at 0.7 percent per year. Slower growth in labor input could drive up wages and unit labor costs and the wage-rental ratio. Investment and TFP growth have been subdued in recent years but are projected to recover over time as firms adjust to higher desired capital-labor ratios.

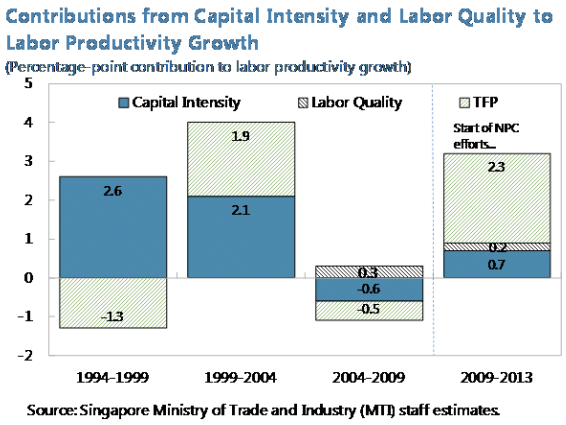
Labor productivity. Growth in labor productivity slowed to 2½ percent per year in the post-crisis period (2009–14). Employment growth for high skilled workers moderated during this period, and that of low skilled workers rose, as the restructuring effort unfolded. Higher participation of older workers lowered economy wide productivity. Labor productivity grew more in export oriented sectors, including biomedical manufacturing, precision engineering and transport engineering. These gains were partially offset by employment shifts towards less productive sectors, including Construction and Food & Beverage Services. Higher employment in construction is in part the consequence of increased investment in public housing and Mass Rail Transit (MRT). A reallocation of labor toward less productive sectors during a financial boom is not an anomaly.[6] Labor productivity was boosted by gains in capital intensity related to greater availability of machinery and equipment and of buildings and infrastructure. Recently, however, machinery and equipment investment has slowed down weighed by uncertainties in the global economy and the ongoing restructuring.[7]

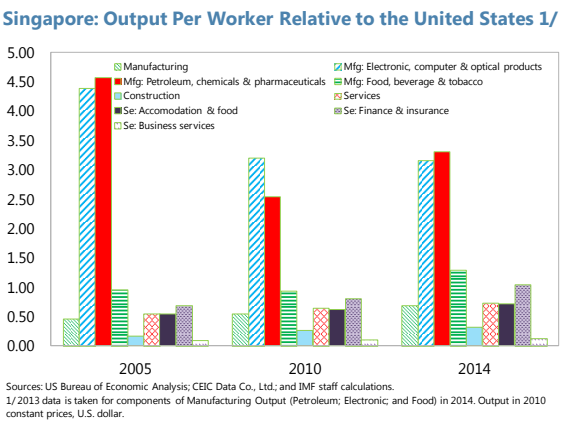
Raising labor productivity. Singapore has already high labor productivity in several sectors, in particular subsectors in manufacturing. A comparison with the United States shows that there is room for productivity improvements in construction, services and some other sectors. This situation is not uncommon in AEs and reforms in the services sectors of high productivity economies can provide a benchmark.

Restructuring. Singapore is meeting the twin challenges of slower workforce growth and an aging population amid a sluggish global growth environment. A panoply of measures is aimed at raising labor productivity and TFP growth and achieving potential growth consistent with the physical limits of a city state. Restructuring policies cover a wide area. Inflows of foreign labor have slowed down following the imposition of stricter quantitative restrictions and higher levies. Since 2010, Singapore has introduced progressive gradual increases in levies for firms hiring foreign workers. There are also sector specific quotas, defined through the Dependency Ratio Ceilings, which affect the proportion of foreign to domestic employees, and which have been reduced. The government is supporting investments in human capital, most notably through the program *Skills Future* which finances spending in education and training. It covers educational expenses in support of on-the-job education and training or outside any job relationship.

[6] Labor Reallocation and Productivity Dynamics: Financial Causes, Real Consequences, by Claudio Borio, Enisse Kharroubi, Christian Upper, Fabrizio Zampolli, Bank for International Settlements

[7] See "Drivers of Labor Productivity Growth Trends in Singapore" in Economic Survey of Singapore, 2014.





Incentives. The authorities are also using grants and tax credits to support investments in technology and improved business practices. To encourage innovation and internationalization, the *Capability Development Plan* supports small and medium enterprises (SMEs) and the *National Research Fund* has increased funding product development and commercialization of new products. With similar objectives, the *Business Angels Scheme*, *Startup Enterprise Development Scheme* and the *Venture Debt Risk-Sharing Program* help secure financing of start ups. The *Double Tax Deduction for Internationalization* Scheme contributes to cover salaries for Singaporeans posted to new overseas entities. The *International Growth Scheme* reduces the taxes for income from international activities. The *Mergers and Acquisitions Scheme* and the *Internationalization Finance Scheme* both encourage the scaling up international business operations.

The transition. The restructuring involves a lengthy transition. The *Transition Support Package* helps firms and households cope, with measures that will be gradually phased out. The *Wage Credit Scheme* co-funds wage increases of Singaporean employees earning below S$4,000. The *Corporate Income Tax Rebate* mitigates the impact of rising costs related to restructuring. The *Productivity and Innovation Credit Bonus* is aimed at lowering the cost of investing in technology. The *Temporary Employment Credit* offsets contributions to CPF.

Policy Measures	Effect on Private Sector
Increased levies	Increased cost of foreign labor
Lower Dependency Ratio Ceilings	Reduced supply of foreign labor
Skills Future	Lower cost of training
Grants and Tax Credits	Lower costs of projects supporting innovation and internationalization
Transition Support Package	Transitional support lowering costs of labor and investment
Temporary Employment Credit	Lowers the cost of labor

Appendix VI. Singapore Pension Reform—Recent Initiatives and Issues

Introduction. In the face of rapid population aging and high income inequality, the Singapore government has recently taken several measures to strengthen retirement income, particularly for low income pensioners. The changes now under way in the Central Provident Fund (CPF) are helping to recalibrate intergenerational risk-sharing in Singapore. This Appendix provides an overview of the CPF and describes recent (2014–15) and planned changes to the CPF and their implications together with suggestions to better achieve its core mandate of providing adequate retirement income.

Aging. Singapore is aging rapidly. According to the United Nations, its old-age dependency ratio—the ratio of the population aged 65 years or over to the population aged 15–64—is projected to increase from 12.2 percent in 2010 to 48.7 percent in 2050. Life expectancy at age 65 is among the highest in the world, reaching 20.3 years between 2010 and 2015, and is expected to rise further. As a result, according to the United Nations Singapore is projected to experience a sharp decline in the share of its working-age population between 2010 and 2040. Informal family support for old age is important in Singapore and has complemented the CPF. However, family ties could weaken over time, calling for a stronger role for the CPF.

Change in working-age population ratio during 2010–40

In percent	2010	2040	Change
Korea	72.7	56.8	-15.9
Singapore	**73.6**	**61.7**	**-11.9**
Thailand	71.8	61.1	-10.7
Japan	63.8	53.3	-10.5
China	73.5	63.4	-10.1
Europe	68.3	60.2	-8.1
U.S	67.1	60.4	-6.7
Asia	67.7	66.1	-1.6
Malaysia	67.5	68.2	0.7
Indonesia	65.2	66.8	1.6

Source: United Nations, World Population Prospects-2012 Revisions.

Life expectancy at 65

In percent	2010–15	2045–50	Change
Janpan	21.9	25.6	3.7
Singapore	**20.3**	**24.6**	**4.3**
Korea	19.7	24.8	5.1
U.S	19.3	21.9	2.6
Europe	17.8	20.9	3.1
Thailand	17.6	20.4	2.8
Asia	15.6	17.6	2
China	15.6	17.8	2.2
Malaysia	15.2	18.5	3.3
Indonesia	14.2	16.4	2.2

Source: United Nations, World Population Prospects–2012 Revisions.

Central Provident Fund. The CPF was created in 1955, as a defined contribution, fully funded scheme that requires Singaporeans to make contributions to individual CPF accounts. As of March 2015, the 3.6 million CPF members had total balances of S$282 billion. The CPF is administered by its board and supervised by the Ministry of Manpower. Eligible employees can delay retirement for three years after retirement age of 62. CPF contributions amount to 36 percent of individual earnings and are high compared to around 8 percent in average OECD countries with defined contribution scheme. The authorities recently raised contribution rates and the minimum sum that must be set aside for life-long monthly payouts. Raising contributions going forward appears to be difficult given their high level and impact on business costs. Measures to strengthen the CPF's redistribution function are budget-financed and are facilitated by the soundness of Singapore's public finances.

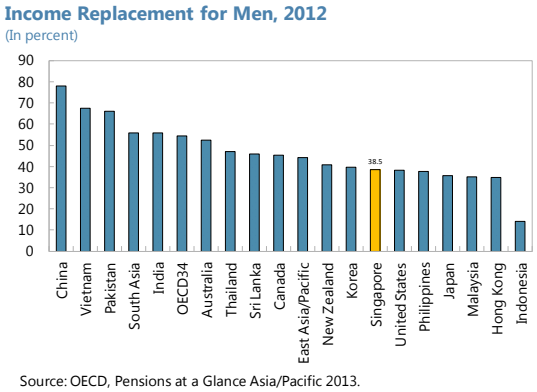
Accounts and Annuities. CPF members have three accounts which are ring-fenced for specific purposes: the *Ordinary Account* for housing, investment and education needs; the *Special Account* for retirement and investment needs; and the *Medisave Account* for medical needs. At 55, the *Retirement Account* is created by transferring the savings from the Ordinary and Special Accounts and stipulated minimum sum are set aside to provide an annuity (a life-long monthly payout) paid by *CPF life* to pensioners starting at age 65. In July 2014 the minimum sum was raised from S$148,000 to S$155,000; it is to be raised further to S$161,000 in July 2015 and provides about S$1,200 per month. Starting from 2016, three different minimum sums will be made available for CPF members to choose from depending on their economic situations and preferences, which will provide monthly payouts ranging from S$700 to S$1,900. These minimum sums are: S$80,500 for the *Basic Retirement Sum*; S$161,000 for the *Full Retirement Sum*; and S$241,500 for the *Enhanced Retirement Sum*.

Investment and rate of return. Since the CPF's inception in 1955 contributions have been invested in risk-free *Special Singapore Government Securities* (SSGSs). CPF interest rates are pegged to returns on investments of comparable risk and duration in the market. Hence, changes in the yields on market instruments such as Singapore Government Bonds and fixed deposits will automatically have an impact on CPF interest rates through the interest rate pegs. To shield members from the risk of low market interest rates, the Singapore government has maintained a floor interest rate of 2.5 percent for the Ordinary Account and a floor interest rate of 4 percent for the Special, Medisave, and Retirement Accounts (SMRA). In 2008, the extra interest was introduced as part of government's efforts to enhance CPF members' retirement savings. Under this policy, an additional 1 percent interest rate is paid on the first S$60,000 of a CPF members' combined balances, with up to S$20,000 from the Ordinary Account. From 2016, additional extra interest will be paid on the first S$30,000 of CPF balances for CPF members aged 55 and above. In practice, since 1999, the minimum guaranteed return ranging from 2.5 to 4 percent has been applied. In the current low interest rate environment, the CPF's minimum legislated interest rates are significantly higher than computed interest rates currently of about 0.2 percent for the OA and about 3.3 percent for the SMRA, based on the interest rate peg formula.

CPF adequacy. In Singapore, as has been noted in the literature, older generations of retirees have lower retirement savings within the CPF. This is due to several factors: significantly lower wages in the past and greater uses of their CPF savings for home purchases and education and health care needs. Members can use CPF savings in down payments when purchasing house or to make regular mortgage payments. This has resulted in significant amounts of pre-retirement withdrawals from the CPF for housing purposes: as of 2013, around a third of CPF contributors were using their CPF savings for housing mortgages and made some retirees asset rich but cash poor. The net withdrawals of CPF savings for housing have also been on the rise, accounting for 32.3 percent of total contributions and 55.5 percent of total withdrawals in 2014. The older generation of retirees also did not benefit as much from recent policy changes such as the extra 1 percent interest on the first S$60,000 of CPF balances. Besides housing needs, the CPF savings can be also used to pay for medical expenses via the Medisave account. But while reducing their retirement savings, CPF savings allowed many older Singaporeans to meet their housing needs and contributed to a very high home

ownership rate of about 90 percent. Many older Singaporeans have fully paid up for the homes they own. The substantial savings in their homes could be monetized to supplement retirement incomes.

CPF replacement rates in international comparisons. Headline CPF replacement rates appear on the low side in an international cross section but Singapore's high rate of home ownership complicates the comparison. According to the OECD, the income replacement rate for men in Singapore was 38.5 percent in 2012. This compared to 54 percent in OECD countries, 56 percent in South Asia and 44 percent in East Asia/Pacific.[1] Moreover, about half of active CPF members—those who made at least one contribution in the last three months—who turned 55 in 2013 could not accumulate enough CPF savings to meet their Basic Retirement Sum that provides monthly payouts of about S$700. However, caution is needed in comparing income replacement rates across countries. Replacement rates in Singapore are not readily comparable to those of other countries given that the bulk of CPF savings are used for housing purchases, which reduce housing-related expenses in retirement.



Source: OECD, Pensions at a Glance Asia/Pacific 2013.

Inflation protection. Inflation is an important risk factor to retirement adequacy and CPF payouts are not indexed to prices. Erosion of real retirement savings has made some countries with defined contribution systems adopt price indexation. The authorities have made efforts to provide stable and reasonable returns on top of inflation through various schemes including extra 1 percent interest on lower balance of CPF. The compounding effect of the extra 1 percent interest, on top of long term bond rates, should over the long run help to shore up members' CPF savings—especially those in the lower-income groups. It should also be noted that a large proportion of CPF savings of Singaporeans is invested in housing, which is a hedge against inflation.

CPF reform directions. Substantial reforms to the CPF are under way. These follow the creation of a *CPF Advisory Panel* in Sep 2014 to review ways to strengthen the CPF system. Reforms are made in a deliberate manner after close consultation with tripartite partners and taking into account evolving economic conditions. The changes under way in the CPF system should help to strengthen its redistributive functions, provide greater flexibility to CPF members and strengthen CPF adequacy particularly for low-income pensioners.

CPF reforms under way. The Government has accepted *Part One* of the CPF Advisory Panel's recommendations. These changes and additional ones included in the 2015 budget changes should make the CPF more flexible to the members' needs and responsible for retirement income (Table 1). They include the creation of three minimum sums with different payout options; an option to

[1] OECD, "Pensions at a Glance Asia/Pacific 2013."

receive higher payout in return for working beyond 65; higher salary ceiling for CPF contributions; equating contribution rates for older workers with those paid by younger ones[2]; and higher interest rates for CPF members aged 55 and above on the first S$30,000 of their CPF balances, which raises the rate of return they can earn up to 6 percent risk-free on their retirement balances. Importantly, from the first quarter of 2016, a new *Silver Support Scheme* will be introduced as a permanent feature in Singapore's social security system. It is targeted at the bottom 20 percent of Singaporeans aged 65 and above with a lower level of support extended to cover up to 30 percent of seniors. About 150,000 of today's elderly are expected to receive Silver Support payouts of between S$300 and S$750 per quarter. Assessment will not require application of eligible people and to ensure that assistance goes to those with lesser means, the Singapore Government will look at several factors such as lifetime wages, the level of household support, and housing type.

Future CPF reforms. The CPF Advisory Panel is undertaking its second phase of study, which includes recommendations on (i) improving a CPF LIFE plan to address increasing costs of living over time; and (ii) providing more flexibility for members to take more risk with their CPF savings for higher return. The study is due to be completed by end- 2015. Together with additional measures announced in the 2015 budget, the changes are intended to provide greater flexibility to CPF members to meet their individual retirement needs while enhancing retirement adequacy by helping members save more while working and increasing the payouts that they can receive in retirement. These changes have important implications for labor force participation of older workers and fiscal costs.

Strengthening the CPF's redistribution function. The CPF is becoming more progressive through various devices, including the extra interest paid on lower CPF balance. Transfers from the government budget are another means of increasing the CPF's progressivity: these take place in the CPF through *Workfare*, *housing grants* and *Medisave top-ups* and are funded from the Singapore government budget, not through transfers from one generation to the next. This feature underscores the strength of the CPF system, which is sustainable and avoids promises made to the current generation that must eventually be funded by future ones.

The treatment of housing costs. Costs associated with the features of the CPF to encourage home ownership, most prominent type of drawing down retirement income, have an important bearing on the assessment of retirement income adequacy. In this context, further facilitating the liquidation of houses through financial instruments such as reverse mortgage scheme can play an important role. In Singapore, a flat provided through the Housing Development Board (HDB) is both a home producing a stream of housing services for those who live in it and an asset—a store of value and a hedge against inflation.

[2] CPF contribution rates for older workers had been lowered in the past to enhance their employability. With the economic restructuring under way, employment rates of older residents have risen significantly in recent years. The authorities have therefore progressively raised CPF contribution rates for older workers. With the latest announced change, the contribution rates for workers aged 50–55 will be restored to be on par with younger workers.

Tighter use of CPF funds for housing. The Singapore government is committed to providing affordable HDB flats to Singaporeans. This has been done by increasing housing grants for the lower to middle-income households. At the same time, mortgage financing for HDB flats has been tightened, by reducing the maximum loan tenure for HDB loans from 30 years to 25 years, such that households do not over-leverage themselves in their housing purchase. This will ensure that the additional grants do not lead to greater expenditure in housing, so that Singaporeans set aside income from the later years of their working lives for their medical and retirement needs. The authorities have also put in place policies to ensure that CPF members buy a property within their financial means without excessively depleting their CPF retirement savings. For instance, a member's usage of CPF savings for housing is capped at the Valuation Limit (VL), which is the lower of the purchase price or property value at the time of purchase. To use his CPF savings beyond the VL, he has to first set aside the Basic Retirement Sum in his CPF accounts, and the absolute amount of CPF savings that can be used for housing is capped at 120 percent of VL.

Monetizing housing wealth. The authorities have also introduced schemes, such as the *Enhanced Lease Buyback*[3] scheme and the *Silver Housing Bonus*, to help the elderly monetize their housing asset for retirement needs. The recent increase in older workers' contribution rates will also help to boost retirement savings for older workers nearing retirement. The authorities are constantly reviewing the CPF scheme to better help the elderly monetize housing wealth. To supplement retirement income of asset-rich but cash-poor seniors, it would be useful to promote wider use of market based schemes to monetize real estate, including reverse mortgage. To this end, more efforts are needed to overcome limits in increasing the take-up rate of reverse mortgages, which are associated with risks from the volatility of real estate price, longevity and interest rate as well as operational, legal and reputational risks that are unique to reverse mortgage. The tilt toward housing purchase should be reduced to make the CPF more dedicated to its core function of providing necessary retirement income. Continuous review is needed to ensure CPF savings allocated for the purchase of CPF annuity are adequate in light of the changes in standard of living, life expectancy and labor market developments.

Minimum rate of return on CPF contributions. The rate of return earned on CPF contributions is an important element in retirement adequacy. As discussed earlier, since 1999 the Singapore government has offered CPF members a legislated minimum interest rate which shields them from the risk of low market interest rates. In the current environment, legislated interest rates are significantly higher than market interest rates. This could raise sustainability issue—the potential fiscal costs involved in maintaining the minimum interest rate—even if associated risks are circumscribed by Singapore's strong public finances to some extent.

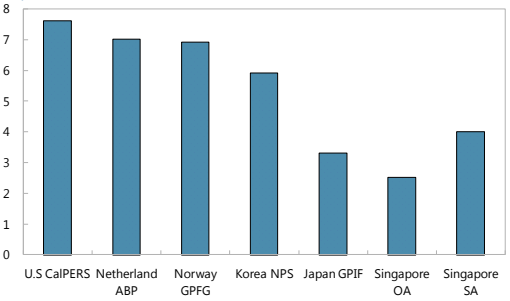
[3] This is a type of reverse mortgage, a loan that allows senior homeowners to access a portion of their home's equity to supplement their retirement income. Under this scheme, they sell part of their flat lease to HDB and the proceeds are used to top up their CPF Retirement Account, which provide higher monthly payout. These loans generally do not have to be repaid until the last surviving homeowner permanently moves out of the property or passes away. At that time, the estate can repay the balance of the loan or sell the home to pay off the balance.

Enhancing the CPF rate of return. There is scope to enhance the rate of return of CPF, including through changes in its investment scheme. The CPF Advisory Panel is reviewing how to provide more flexibility for members to take more risk with their CPF savings for higher return. Today, the *CPF Investment Scheme* (CPFIS) allows members to invest some of their CPF savings in a wide range of investments such as shares and loan stocks, unit trusts, government bonds, statutory board bonds, bank deposits, fund management accounts, endowment insurance policies, investment-linked insurance policies (ILPs), exchange traded funds (ETFs) and gold.

Singapore Savings Bonds (SSBs). The recent announcement to make *Savings Bonds* available to local investors could enhance investment returns of CPF members. Savings Bonds is a special type of Singapore government securities with features of easy access by individual investors, allowing them to invest up to 10 years with as little as S$500. The SSBs aims to expand the range of simple, low-cost investment options available to individual retail investors with a long-term savings option that offers safe returns. The Monetary Authority of Singapore (MAS) expects to launch the Savings Bonds program in the second half of 2015. Further details, including whether the SSBs will be open to CPF monies, will be announced later.

Diversifying asset portfolio. CPF returns could be further enhanced through its well-diversified asset portfolio. One or two of percentage points' difference per annum in returns on pension savings could make a huge difference over a person's lifetime. While the minimum guaranteed return offers an interest rate floor, it has ranged from 2.5 to 4 percent since 1999, not allowing CPF members to fully enjoy the upside of high domestic economic growth. Even though higher return entails higher risk, there is a scope for the CPF members to share the benefit of higher returns through well-diversified asset portfolio as can be seen from the investment performance of global pension funds.

Average Returns of Global Pension Funds, 2005-2013[1/]
(In percent)



Sources: Annual reports of individual pension fund.
[1/] Simple average of yearly rate of returns assuming funds' different settlement periods are all calendar year-based

Voluntary pension schemes. For the majority of Singaporeans, the CPF remains at the core of providing for their old age security. Beyond mandatory contributions, both individuals and employers can make voluntary contributions to the CPF accounts and enjoy tax benefits. For the less well-off, the Government provides support through Workfare, housing grants and the enhanced interest scheme. In addition, the Income Tax Act provides tax deductions to employers if they wish to provide corporate retirement plans for their employees. Those who wish to save on their own may tap on the *Supplementary Retirement Scheme*, or SRS operated by the private sector. They will enjoy tax benefits on the SRS contributions they make. This scheme is subject to government review from time to time.

Summary remarks. The Singaporean authorities are engaged in an ambitious yet affordable multi-year effort to strengthen collective responsibility while remaining true to the principle of personal responsibility. As part of this effort, the ability of the CPF to provide adequate support for old age is

being strengthened and retirement savings in the CPF of successive cohorts are expected to improve. Recent policy moves to enhance retirement adequacy, by providing targeted cash transfers and raising contribution rates and the age of retirement, are welcome. There is scope for further reviewing the income replacement rate for retirees of various age cohorts and income groups, and facilitating the monetization of housing wealth, as well as diversifying the CPF asset portfolio. Particularly, continuous review of the replacement rate would ensure CPF savings dedicated to the purchase of CPF annuity are adequate in light of the changes in standard of living, life expectancy and labor market developments.

Table. Changes to CPF, with effect from January 2016

- The salary ceiling for which CPF contributions are payable will be increased from S$5,000 to S$6,000 per month.
- CPF contribution rates for older workers will be increased. Older workers aged 50–55 will have the same contribution rates as their younger counterparts.
- CPF members aged 55 and above will enjoy an additional extra interest of 1 percent on the first S$30,000 of their CPF balances. This means that members aged 55 and above can earn up to 6 percent risk-free interest on their retirement balances.
- From the first quarter of 2016, a new Silver Support Scheme will be introduced as a permanent feature in Singapore's social security system.
- CPF members can make additional top-ups to an "Enhanced Retirement Sum" from age 55 to get lifelong payouts of up to about S$1,900 per month from age 65
- CPF members will need to meet a lower threshold of savings (i.e. the Basic Retirement Sum) before they can transfer their savings to their spouses' CPF Accounts
- CPF members will only need to choose their CPF LIFE annuity plans when they want to start payouts, at age 65 or later, up to age 70, instead of the current system where they have to choose their plans at age 55 and payouts start at 65.
- The CPF Board will introduce a guided one-to-one retirement planning service to CPF members to help them better understand the various CPF options and decide on the option best suited for their individual needs and circumstances.
- Starting from the cohort that turned 55 in 2013, CPF members will be able to withdraw up to 20 percent of their retirement savings when they reach their payout eligibility age of 65.

Appendix VII. Singapore—Public Sector Debt Sustainability Analysis (DSA)

Singapore Public Sector Debt Sustainability Analysis—Baseline Scenario

(In percent of GDP, unless otherwise indicated)

Debt, Economic and Market Indicators [1/]

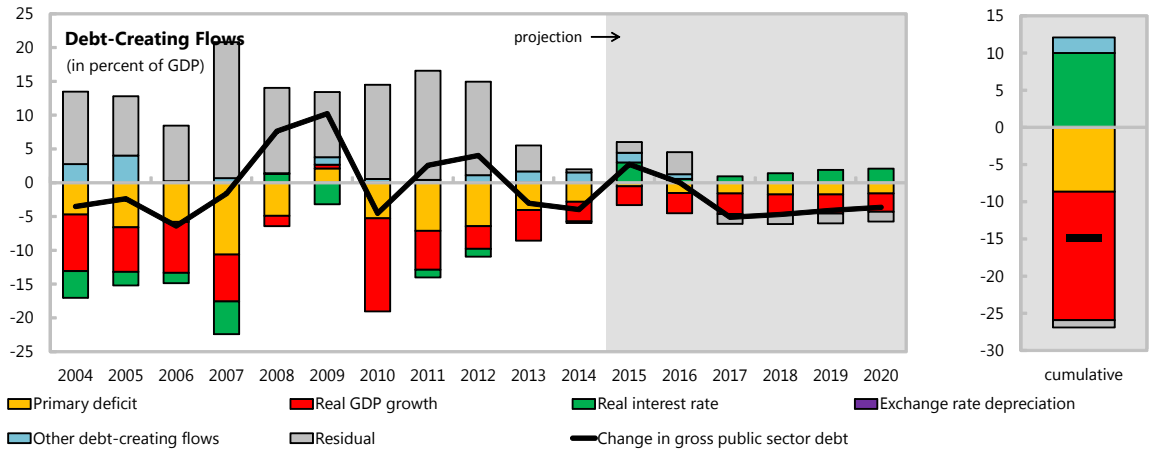
	Actual			Projections					
	2004-2012 [2/]	2013	2014	2015	2016	2017	2018	2019	2020
Nominal gross public debt	96.8	103.2	99.3	102.0	102.0	96.9	92.2	88.1	84.5
Public gross financing needs	-7.0	-5.5	-4.3	6.1	7.6	8.1	4.0	0.8	1.9
Real GDP growth (in percent)	6.8	4.4	2.9	2.9	3.1	3.2	3.2	3.2	3.2
Inflation (GDP deflator, in percent)	2.0	-0.1	0.2	-0.1	2.7	2.8	2.7	2.7	2.7
Nominal GDP growth (in percent)	9.0	4.4	3.1	2.7	5.9	6.0	6.0	6.1	6.1
Effective interest rate (in percent) [4/]	0.0	0.0	0.0	3.0	3.3	3.8	4.4	5.0	5.4

As of June 18, 2015

Sovereign Spreads		
EMBIG (bp) 3/		12
5Y CDS (bp)		N/A
Ratings	Foreign	Local
Moody's	Aaa	Aaa
S&Ps	AAA	AAA
Fitch	AAA	AAA

Contribution to Changes in Public Debt

	Actual			Projections							
	2004-2012	2013	2014	2015	2016	2017	2018	2019	2020	cumulative	debt-stabilizing primary balance [9/]
Change in gross public sector debt	0.7	-3.0	-4.0	2.7	0.0	-5.1	-4.7	-4.1	-3.6	-14.8	
Identified debt-creating flows	-12.0	-6.9	-4.4	1.1	-3.2	-3.7	-3.2	-2.6	-2.2	-13.8	
Primary deficit	-5.5	-4.0	-2.8	-0.5	-1.5	-1.6	-1.7	-1.7	-1.6	-8.7	-0.6
Primary (noninterest) revenue and grants	20.1	20.3	21.1	21.1	21.4	21.7	22.0	21.3	20.4	128.0	
Primary (noninterest) expenditure	14.6	16.3	18.3	20.6	19.9	20.1	20.3	19.6	18.8	119.4	
Automatic debt dynamics [5/]	-7.8	-4.5	-3.1	0.2	-2.4	-2.1	-1.5	-0.9	-0.6	-7.3	
Interest rate/growth differential [6/]	-7.8	-4.5	-3.1	0.2	-2.4	-2.1	-1.5	-0.9	-0.6	-7.3	
Of which: real interest rate	-1.8	0.1	-0.2	3.0	0.6	1.0	1.4	1.9	2.1	10.0	
Of which: real GDP growth	-5.9	-4.5	-2.9	-2.8	-3.0	-3.0	-2.9	-2.8	-2.7	-17.3	
Exchange rate depreciation [7/]	0.0	0.0	0.0	...	...	...	...	...	...	...	
Other identified debt-creating flows	1.2	1.6	1.5	1.4	0.7	0.0	0.0	0.0	0.0	2.1	
Net privatization proceeds (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other change in financial assets	1.2	1.6	1.5	1.4	0.7	0.0	0.0	0.0	0.0	2.1	
Residual, including asset changes [8/]	12.7	3.8	0.4	1.6	3.3	-1.5	-1.5	-1.5	-1.5	-1.0	



Source: IMF staff.

1/ Public sector is defined as central government.

2/ Based on available data.

3/ Long-term bond spread over U.S. bonds.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

5/ Derived as [(r - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as r - π (1+g) and the real growth contribution as -g.

7/ The exchange rate contribution is derived from the numerator in footnote 5 as ae(1+r).

8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

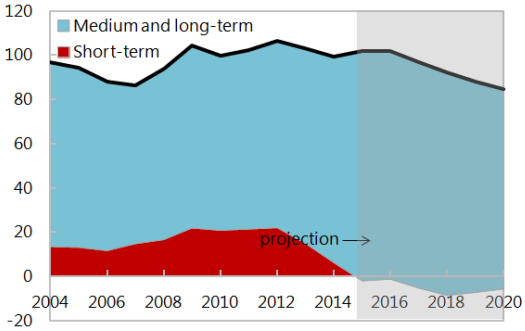
9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

Singapore Public DSA—Composition of Public Debt and Alternative Scenarios

Composition of Public Debt

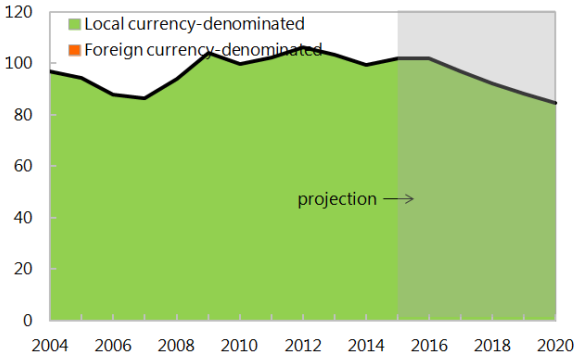
By Maturity

(in percent of GDP)



By Currency

(in percent of GDP)

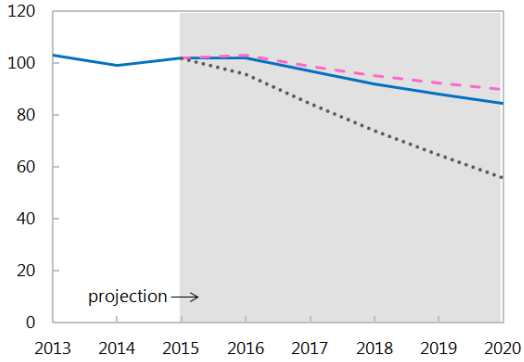


Alternative Scenarios

Baseline Historical Constant Primary Balance

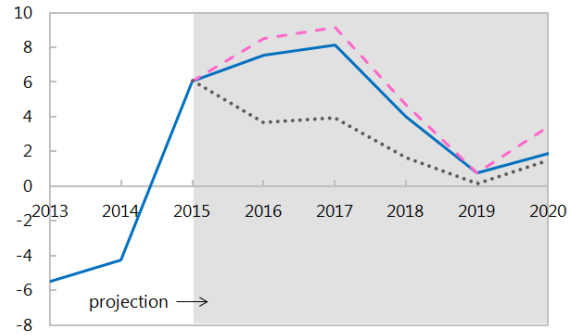
Gross Nominal Public Debt

(in percent of GDP)



Public Gross Financing Needs

(in percent of GDP)



Underlying Assumptions

(in percent)

Baseline Scenario	2015	2016	2017	2018	2019	2020
Real GDP growth	2.9	3.1	3.2	3.2	3.2	3.2
Inflation	-0.1	2.7	2.8	2.7	2.7	2.7
Primary Balance	0.5	1.5	1.6	1.7	1.7	1.6
Effective interest rate	3.0	3.3	3.8	4.4	5.0	5.4
Constant Primary Balance Scenario						
Real GDP growth	2.9	3.1	3.2	3.2	3.2	3.2
Inflation	-0.1	2.7	2.8	2.7	2.7	2.7
Primary Balance	0.5	0.5	0.5	0.5	0.5	0.5
Effective interest rate	3.0	3.3	3.9	4.4	5.0	5.3

Historical Scenario	2015	2016	2017	2018	2019	2020
Real GDP growth	2.9	5.9	5.9	5.9	5.9	5.9
Inflation	-0.1	2.7	2.8	2.7	2.7	2.7
Primary Balance	0.5	5.1	5.1	5.1	5.1	5.1
Effective interest rate	3.0	3.3	3.5	3.8	4.2	4.6

Source: IMF staff.

INTERNATIONAL MONETARY FUND

SINGAPORE

STAFF REPORT FOR THE 2015 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

June 25, 2015

Prepared By Asia and Pacific Department

CONTENTS

FUND RELATIONS

(As of May 31, 2015)

Membership Status: Joined August 3, 1966; Article VIII

General Resources Account

	SDR Millions	Percent of Quota
Quota	1,408.00	100.00
Fund holdings of currency (exchange rate)	1,097.74	77.96
Reserve tranche position	311.12	22.10
Lending to the Fund:		
New Arrangements to Borrow	130.50	

SDR Department

	SDR Millions	Percent of Allocation
Net cumulative allocation	744.21	100.00
Holdings	874.13	117.46

Outstanding Purchases and Loans: None.

Financial Arrangements: None.

Projected Payments to the Fund: None.

Exchange Arrangement

Singapore's de facto exchange rate arrangement is classified as "stabilized." The de jure exchange rate arrangement is "other managed." The Monetary Authority of Singapore (MAS) monitors its value against an undisclosed basket of currencies and intervenes in the market to maintain this value within an undisclosed target band. The U.S. dollar is the intervention currency. Singapore has accepted the obligations of Article VIII, Sections 2, 3, and 4 and maintains an exchange rate system free of restrictions on the making of payments and transfers for current international transactions, except for restrictions maintained solely for the preservation of national or international security, which have been notified to the Fund in accordance with the procedures set forth in Executive Board decision 144-(52/51). Singapore maintains restrictions on Singapore dollar credit facilities to, and bond and equity issuance by, nonresident financial institutions. Singapore-dollar proceeds obtained by nonresident financial entities (such as banks, merchant banks, finance companies, and hedge funds) from loans exceeding S$5 million, or any amount for equity listings or bond issuance to finance activities outside Singapore must be swapped or converted into foreign currency upon draw-down. Financial institutions are prohibited from extending Singapore-dollar credit facilities in excess of S$5 million to nonresident financial entities if there is reason to believe that the

Singapore-dollar proceeds may be used for Singapore-dollar currency speculation. In a bid to contain a real estate price bubble, Singapore imposed additional stamp duties on purchases by foreigners and corporate entities of residential properties in Singapore.

Article IV Consultation

Singapore is on the 12-month consultation cycle. The 2014 Article IV consultation discussions were held during April 30–May 12, 2014; the Executive Board concluded the consultation on September 22, 2014 (IMF Country Report No. 14/312).

FSAP Participation

The FSAP Update involved two missions: May 15−22, 2013 and July 25–August 7, 2013. The findings were presented in the Financial System Sustainability Assessment (IMF Country Report No. 13/325).

Technical Assistance: None.

Resident Representative: Mr. Geoffrey Heenan has been posted in Singapore since January 2014.

STATISTICAL ISSUES

Assessment of Data Adequacy for Surveillance
General: Data provision is broadly adequate for surveillance. While the authorities have continued to expand the range of publicly available data, dissemination of more disaggregated data would enhance the basis for macroeconomic policy analysis, particularly in the external, monetary and fiscal areas.
National accounts: The Singapore Department of Statistics (DOS) has made improvements in data sources and methodology. The reconciliation of various national accounts estimates was conducted in 2014, resulting in lower statistical discrepancies. DOS has completed the rebasing of Singapore's national accounts to reference year 2010. **Price statistics**: DOS has completed the rebasing of the Consumer Price Index (CPI) to base year 2014. The CPI is rebased once every five years to reflect the latest consumption pattern and composition of goods and services consumed by resident households.
Government finance statistics: Information on government assets held abroad is neither published nor provided to the Fund. The government publishes annually partial information on the interest and dividends on these assets. Debt service payments on domestic debt made from the extra budgetary Government Securities Fund are published on an annual basis. Data on the financial position of the consolidated public sector are not published.
Monetary statistics: The Monetary Authority of Singapore has not submitted the standardized report forms (SRFs) for monetary statistics introduced in October 2004. The SRFs provide for accounting data to be broken down by instrument, sector, and currency.
Balance of payments: In February 2012, the DOS concluded the migration of the balance of payments accounts to the 6th edition of the *Balance of Payments and International Investment Position Manual (BPM6*). The main changes relative to the 5th edition include: reclassification of repairs on goods for processing fees to services (from goods); reclassification of merchanting to goods (from services); and treating banks' Asian Currency Units (ACUs) as residents (previously they were regarded as nonresidents, and hence their transactions were excluded from the balance of payments). Data on Singapore's international investment position (IIP) is not provided on a disaggregated sectoral basis as suggested by the BPM6. The authorities have completed revising the IIP data to include all foreign assets held by Singapore's Government Investment Corporation. The associated flows were already included in the balance of payments data.

Data Standards and Quality	
Singapore provides data on a timely basis and meets all the SDDS specifications. These include the coverage, periodicity, and timeliness of the data; and the dissemination of advance release calendars; quarterly certification of the metadata posted on the Fund's Dissemination Standards Bulletin Board; and provision of information to allow users to assess data quality.	No data ROSC is available.

Singapore—Table of Common Indicators Required for Surveillance

(As of June 24, 2015)

	Date of Latest Observation	Date Received	Frequency of Data[1]	Frequency of Reporting[1]	Frequency of Publication[1]
Exchange rates	6/24/15	6/24/15	D	D	D
International reserve assets and reserve liabilities of the Monetary Authorities[2]	5/2015	5/2015	M	M	M
Reserve/base money	4/2015	4/2015	M	M	M
Broad money	4/2015	4/2015	M	M	M
Central bank balance sheet	5/2015	5/2015	M	M	M
Consolidated balance sheet of the banking system	5/2015	5/2015	M	M	M
Interest rates[3]	6/24/15	6/24/15	D	D	D
Consumer price index	5/2015	5/2015	M	M	M
Revenue, expenditure, balance and composition of financing[4]—general government[5]	3/2014	3/2014	A	A	A
Revenue, expenditure, balance and composition of financing[4]—central government	4/2015	4/2015	M	M	M
Stocks of central government and central government-guaranteed debt[6]	20145:Q1	5/2015	Q	Q	Q
External current account balance	2015:Q1	5/2015	Q	Q	Q
Exports and imports of goods and services	5/2015	6/2015	M	M	M
GDP/GNP	2015:Q1	5/2015	Q	Q	Q
Gross external debt[7]	2015:Q1	5/2015	Q	Q	Q
Net international investment position	2015:Q1	5/2015	Q	Q	Q

[1] Daily (D); weekly (W); monthly (M); quarterly (Q); annually (A); irregular (I); and not available (NA).
[2] Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.
[3] Both market-based and officially determined, including discount rates, money market rates, rates on treasury bills, notes, and bonds.
[4] Foreign, domestic bank, and domestic nonbank financing.
[5] The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.
[6] Including currency and maturity composition.
[7] Official external debt is zero.

Statement by Mr. Marzunisham Omar, Executive Director and Mr. Ian Chung, Advisor to the Executive Director On Singapore Staff Report for the 2015 Article IV Consultation

1 Introduction

1.1 The Singapore economy has developed rapidly over the past five decades, recording average real GDP growth of almost 8% p.a. Amid a lack of natural endowments and a small domestic market, the country's strong economic performance reflected in large part its embrace of an outward-oriented development strategy. The extreme openness of the economy, however, meant that Singapore has been subject to frequent external shocks. Over the years, the domestic household, corporate and public sectors have built up significant financial buffers and developed the flexibility needed to deal with adverse shocks. The government has been responsive to short-term fluctuations in economic activity, even as it has ensured the medium-term economic consistency and sustainability of its policies.

1.2 With the maturing of the economy, Singapore's potential growth rate has slowed in recent years, to around 2–4%. The authorities are keenly aware of the new challenges facing the economy at this juncture, and are firmly committed to policies to facilitate the transition toward more skill-intensive, productivity-driven growth. This will lay the foundation for sustainable, inclusive growth in the medium-to-long term, consistent with shifts in Singapore's comparative advantage.

2 Recent Economic Developments and Outlook

2.1 Singapore's GDP growth decelerated slightly from 4.9% q-o-q SAAR in Q4 2014 to 4.2% in Q1 this year (2.8% in y-o-y terms), largely due to a reversal of momentum in the sentiment-sensitive segments within the financial services industry. This drag was partly offset by a stronger performance in the trade-related sectors, as activity recovered in some oil-related industries. Over the next few quarters, the domestic economy should remain on a moderate growth trajectory, with GDP growth forecasted to come in at 2–4% in 2015. The external-oriented industries will benefit from gradual improvements in the global economy, as well as some pick-up in the global IT industry. Domestic-oriented sectors should stay resilient, supported by a pipeline of public sector-driven expansions in healthcare and education, as well as in transport infrastructure.

2.2 The impact of sharply lower global oil prices and enhanced government subsidies for healthcare and education continued to exert downward pressure on Singapore's consumer prices. Cost pass-through has moderated as well. As a result, both MAS Core Inflation and CPI-All Items Inflation eased by around 1% point from H2 2014, to an average of 0.8% and −0.4% in Jan–May 2015, respectively. Going forward, both external and domestic price developments are expected to stay benign given ample supply buffers in major commodities, and a moderate domestic growth environment, respectively. There will also be temporary disinflationary effects from budgetary measures, and from expected increases in housing supply and quotas for motor vehicle

purchases. Consequently, both MAS Core Inflation and CPI-All Items inflation are expected to be lower in 2015 compared with last year, and projected at 0.5–1.5% and −0.5–0.5%, respectively.

2.3 There are, however, potential headwinds to growth. As highlighted in the Staff Report, the Singapore economy is particularly exposed to external risks. These risks include a sharper-than-expected deceleration in China, financial market volatility in response to recent developments in the Eurozone and the uncertainty about the timing and extent of the Fed's interest rate hikes. On the inflation front, the labour market remains tight, with strong demand for workers in specific sectors. The authorities remain vigilant over underlying cost pressures which could feed into higher consumer prices, although its extent will depend on the strength of the underlying economic conditions.

3 Monetary Policy

3.1 Singapore's macroeconomic policy approach has been to balance the medium-term considerations of growth and inflation, while facilitating the ongoing restructuring of the economy. The economy has transited to a more sustainable growth path of around 2–4%, consistent with estimates in the Staff Report, alongside a narrowing of the positive output gap. CPI-All Items inflation has also retreated from above-trend rates in 2010–13. At the same time, credit growth and property prices have moderated.

3.2 In January 2015, MAS reduced the slope of the S$NEER policy band but kept it on a modest and gradual appreciation path. The balance of risks had tilted towards lower inflation for the year as a whole, as global oil prices fell sharply, while wage growth and cost pass-through had been moderate. Nevertheless, an appreciating bias was maintained as underlying cost and price pressures were expected to reassert themselves, albeit modestly, once the effects of the oil price shock and budgetary measures fade.

3.3 MAS subsequently kept the policy stance unchanged in April, as economic growth and inflation had evolved as envisaged in the January Monetary Policy Statement. This policy stance is consistent with medium-term price stability and a level of economic activity that is close to its potential.

3.4 The economy has faced low global interest rates for an extended period. The risks of market volatility associated with the normalisation of rates would be mitigated by the depth and breadth of Singapore's financial markets, while the exchange rate policy band would absorb the accompanying fluctuations in international currencies.

4 Addressing Medium-term Challenges

4.1 The Singapore economy has been undergoing important structural changes towards productivity-driven growth. Since restructuring initiatives began in 2010 following the Economic Strategies Committee (ESC) report, broad incentive structures have been put in place to help firms reduce their reliance on labour in favour of more skill, technology and capital-intensive techniques. Budget 2015 recalibrated some of the

incentives and support measures to help firms cope with the short-term costs of restructuring while sustaining efforts to improve productivity.

4.2 In addition, Budget 2015 marked a shift in the government's approach towards restructuring, by explicitly focusing on enhancing the stock of human capital and ensuring that workforce capabilities are progressively raised and attuned to future needs of employers in each industry. The SkillsFuture initiative is a national movement to develop the skills of the future, and help every Singaporean maximise his or her potential through working life. To encourage lifelong learning, there will be new initiatives such as credits for work-skills related courses, awards and fellowships to deepen skills and develop mastery in niche areas, enhanced training support for mid-career workers and stronger industry collaboration. These initiatives are being developed in collaboration with industry, unions and training institutes for all key sectors.

4.3 Even as the economy faces transitional headwinds in the restructuring journey, the authorities have continued to strengthen social safety nets and enhance support for lower and middle-income citizens. The Silver Support Scheme was introduced in the recent Budget to provide an income supplement for the bottom 30% of elderly Singaporeans based on their lifetime income, extent of family support and housing type. It complements Workfare, housing grants and other government schemes[1] which provide transfers to lower- and middle-income earners and retirees. Outside of Silver Support, an individual retiree in the bottom 30% receives on average about $640 a month today from the government in subsidies and transfers.

4.4 The initiatives that were implemented over the past five years, taken together with the further steps in this year's Budget, amount to a major programme to support lower- and middle-income Singaporeans. Moreover, the tight labour market has benefited lower-income households, who have seen a significant lift in incomes in recent years. Real household incomes from work have also gone up significantly, with the lowest 30% of households enjoying real income growth in the range of 3.2–3.9% per annum in 2009–14, as compared to 0.6–2.6% in 2004–09, per household member.

4.5 At the same time, the government strives to ensure the sustainability of its Budget commitments. The government plans ahead and prepares for future rising expenditures. For instance, monies were set aside last year to fully fund the projected long-term cost of the Pioneer Generation Package, so as to allow subsequent Budgets to focus on the needs and challenges of the future. The government's sources of revenue also remain well-diversified. The Net Investment Returns (NIR) framework, while providing a steady and sustainable stream of revenue, ensures that our investment returns on reserves are spent in a sustainable manner to benefit both current and future generations.

4.6 Singapore's fiscal balances are presented in line with the rules enshrined in the Constitution and decided upon by the Parliament—the fiscal rules allow the government

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[1] These include Workfare, housing grants, GST Vouchers, Community Health Assist Scheme (CHAS), ComCare, and other government subsidies in healthcare and other areas.

to spend only the revenue it earns during its current term. However, the detailed revenue and expenditure components are available in published Budget documents, and the general government finance data that follows the GFSM format is made available in the Yearbook of Statistics published by the Department of Statistics. The Ministry of Finance has also been publishing the fiscal impulse as part of the Budget documents to indicate the macro-economic impact of the Budget, based on a commonly accepted methodology. A major source of difference between the fiscal balances that follow the Constitutional rules and the GFSM is the treatment of proceeds from land sales. The Overall Budget Balance excludes proceeds derived from the sale of land, as these are not available for spending during the current term of Government. Under Singapore's Constitution, state land is protected as reserves accumulated before the current term of Government ("Past Reserves") and the sale of land is but a transformation of a land asset into a financial asset.

4.7 In the Singapore case, the Public Sector Debt Sustainability Analysis (Appendix VII of the Staff Report) would need to be interpreted in the context of its overall net asset position. The Singapore government does not have any net debt. It also does not have any external debt. Any primary deficit is financed by Net Investment Return Contributions and not debt. Singapore Government Securities (SGS) are issued for the purpose of developing Singapore's debt markets, while non-tradable Special Singapore Government Securities (SSGS) are issued solely to the CPF Board, to provide a fully-guaranteed investment class for its funds. All proceeds of securities issued by the government are invested. The Constitution and the Government Securities Act prohibit the government from spending the monies raised from SGS and SSGS.

4.8 Recent changes to the CPF such as the raising of the salary ceiling for CPF contributions, higher CPF contribution rates for older workers, and an additional 1% extra interest on the first $30,000 of CPF balances for those aged 55 and above, will help lower and middle-income Singaporeans to build their retirement savings.[2] With these measures in place, the balances of each successive cohort of CPF members are expected to improve further. Among the cohort of active CPF members turning 55 in 2020, about 7 in 10 are expected to be able to accumulate enough CPF savings to meet their Basic Retirement Sum. The CPF scheme, together with various housing grants, also facilitates the accumulation of housing assets. Retirees save on rental costs and can monetise their housing assets to supplement retirement income if necessary. There has been good

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[2] The monthly salary ceiling for CPF contributions will be increased from $5,000 to $6,000 for all workers, while the contribution rates will also be raised for older workers aged 50–65. Workers aged 50−55 will enjoy the same level of contribution rates as their younger counterparts. Furthermore, an additional 1% extra interest will be paid on the first $30,000 of CPF balances from the age of 55, allowing elderly members to enjoy up to 6% per year on their Special, Medisave, and Retirement Accounts (SMRA) savings. These changes will take effect from 1 January 2016.

progress in promoting the adoption of various monetisation options, with the latest enhancements to the Lease Buyback Scheme (LBS)[3] being particularly well received.

4.9 The CPF Advisory Panel's recommendations to provide CPF members with choices of different payout levels and retirement sums, flexibility to defer the payout start age to enjoy higher payouts, and to allow a lump sum withdrawal of part of a member's CPF savings at retirement, were announced in February 2015 and have been accepted by the Government. To recognise the family as an important pillar of support for spouses, the Government also lowered the sum which CPF members need to set aside before transferring their savings to their spouses' CPF Special/Retirement account. The CPF Board will also introduce a guided one-to-one retirement planning service to help CPF members make informed choices on their CPF savings. Further recommendations are expected to be released later this year, focused on provisions enabling CPF members more flexibility to seek higher returns by taking higher investment risks through private investment plans and an option for members who prefer CPF payouts that are initially lower but rise with time to help with increases in the cost of living. The measures described above will introduce more flexibility to the CPF system to meet the diverse needs of CPF members while ensuring that the state of retirement adequacy continues to improve for all Singaporeans.

5 Financial Sector Developments

5.1 The authorities welcome the Staff's acknowledgement of Singapore's strong regulatory and supervisory standards. Singapore's financial system remains resilient amidst volatility in global financial markets. Foreign currency liquidity risk in the banking system has declined. Macro-prudential policies have contributed to the moderation in credit growth, and modest and gradual price adjustments in the property market. While debt levels in the corporate and household sectors remain elevated, their balance sheets are strong and MAS stress tests indicate that debt servicing remains manageable in the event of external shocks. In addition, enhanced rules on unsecured credit and credit cards have been implemented to help individuals avoid falling deep into debt. The authorities will continue to maintain prudent lending standards, monitor developments in credit and asset markets, and adjust macro-prudential tools as necessary.

6 Final Remarks

6.1 The external economic environment is expected to be generally supportive of modest growth in the Singapore economy for the rest of the year. The authorities will continue to carefully assess external and domestic developments and their impact on the

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[3] On 1 April 2015, the LBS was extended to four-room Housing and Development Board (HDB) flats, covering 75% of elderly HDB households. The qualifying income ceiling was also increased from $3,000 to $10,000 and the households were given more flexibility in varying the length of lease to retain. Over April–May 2015, 450 new households applied for the LBS, almost half of the 965 households that participated in the scheme since it was launched in 2009.

economy and inflation. While Singapore's macroeconomic fundamentals place it in a good position to weather bouts of volatility, the authorities will remain vigilant to risks.

6.2 The Singapore authorities would like to thank the IMF team for the 2015 Article IV Consultation, which was useful and constructive. The Staff Report, including the detailed appendices, as well as the relevant Selected Issues paper, were testament to the extensive work put in by the team.

6.3 The Singapore authorities are pleased to inform the Board that they are agreeable to the publication of the Staff Report associated with the 2015 Article IV Consultation and will be releasing the Buff Statement at the same time.