

## 2. International and Foreign Exchange Markets

Diverging central bank policies and sharp falls in the price of oil have resulted in a number of large moves in international financial markets over recent months and an associated increase in volatility from the very low levels reached in mid 2014. Recent additional policy stimulus announced by both the European Central Bank (ECB) and the Bank of Japan (BoJ) has contributed to pronounced declines in bond yields in those economies – with German and Japanese government bond yields reaching historic lows – and sizeable depreciations of the euro and yen. In contrast, expectations that the US Federal Reserve will raise policy rates some time later this year have underpinned the broad-based appreciation of the US dollar. The widening divergence in the paths for central bank policy was also cited as a key reason for the Swiss National Bank's (SNB's) unexpected decision to abandon its policy of capping the franc-euro exchange rate, which resulted in a sharp appreciation of the Swiss franc. Despite the expectations for Federal Reserve policy tightening, long-term US Treasury yields have fallen to historically low levels alongside declines in oil prices. The decline in oil prices has also weighed heavily on the currencies of a range of oil exporters, with the depreciation of the Russian rouble most pronounced. The Australian dollar has also depreciated further since the previous *Statement* amid broader declines in commodity prices, most notably iron ore.

### Central Bank Policy

The ECB decided at its January meeting to significantly expand and broaden its existing asset purchase programs to include euro area sovereign

bonds. The decision followed its assessment that current policy measures would not be sufficient to adequately address the heightened risk of a prolonged period of below-target inflation.

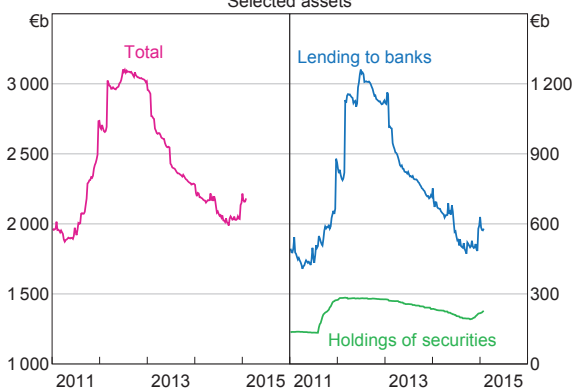
In March, ECB asset purchases will increase from the current pace of about €13 billion per month to €60 billion per month. Purchases will continue until the ECB assesses that inflation has increased in a sustainable manner, with the intention that this will persist until at least September 2016. Accordingly, the ECB will purchase at least €1.1 trillion in securities, such that its balance sheet will exceed its previous peak of €3.1 trillion. The scale of the ECB's monthly purchases is equivalent to around 80 per cent of the maximum rate of purchases undertaken by the Fed during 2013, but is equivalent to around 7½ per cent of euro area GDP. This compares with 6 per cent of US GDP for the Fed's purchases and 16 per cent of Japanese GDP for the BoJ's purchases.

The scope of ECB purchases was widened from covered bonds and asset-backed securities to include securities issued by euro area governments, agencies and European institutions. The ECB's asset purchases will be confined to investment-grade bonds but can also include securities issued by sovereigns rated below investment grade if the country is under a European Union/International Monetary Fund assistance program (subject to additional conditions). Purchases of eligible securities issued by euro area governments and agencies will be in proportion to their share in the ECB's capital, subject to holding limits of 25 per cent of any issue (and 33 per cent on issuers, which is relevant for Greece given existing holdings of Greek debt). The

ECB also departed from its standard practice of mutualising the risk among national central banks, deciding instead that gains or losses on securities will largely remain with each national central bank.

The ECB had started to reverse the contraction in its balance sheet prior to the announcement of sovereign bond purchases, with total assets currently almost €200 billion higher than the mid-September trough (Graph 2.1). Most of this increase is due to lending to banks, as the ECB extended €80 billion and €130 billion in new lending under its September and December targeted long-term refinancing operations (TLTROs), more than offsetting €175 billion in repayment of 3-year LTROs issued in late 2011 and early 2012. The 2011 offering of 3-year LTRO funds matured in late January, with around €45 billion still outstanding, and was largely replaced by new 3-month and shorter-term loans; a further €105 billion of 3-year LTROs will mature at the end of February. The ECB's holdings of securities have also increased by more than €30 billion due to covered bond purchases, while acquisitions of asset-backed securities have been minimal to date.

**Graph 2.1**  
**European Central Bank Balance Sheet**  
Selected assets



Source: European Central Bank

German and Italian banks appear to have been the main borrowers of funds extended as part of the September and December TLTROs. Outstanding ECB lending to these countries has increased by €50 billion and €30 billion, respectively, since

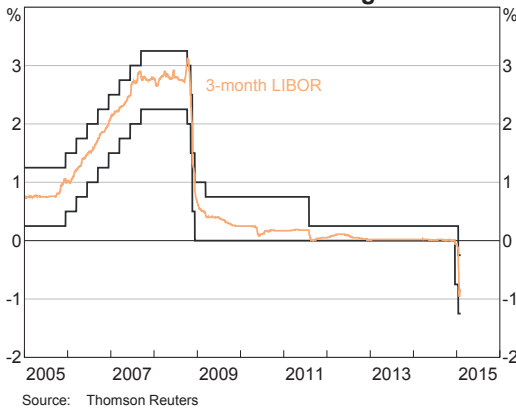
August. Italian and Spanish banks are still the largest borrowers from ECB facilities, with €195 billion and €145 billion in outstanding loans, respectively.

Short-term lending to Greek banks also increased by almost €10 billion over December, with total borrowing from the ECB rising to €56 billion, and is believed to have risen further in January as depositors withdrew funds on concerns about the implications of the recent change in government (see section on 'Sovereign Debt Markets'). However, the ECB subsequently announced that it will no longer accept Greek government debt as collateral, effective from 11 February. The decision followed its assessment that it is not possible to presume Greece will remain in an assistance program. Greek banks will now have to provide alternative collateral or borrow via the Emergency Liquidity Assistance facility, which has looser collateral requirements but requires ECB approval.

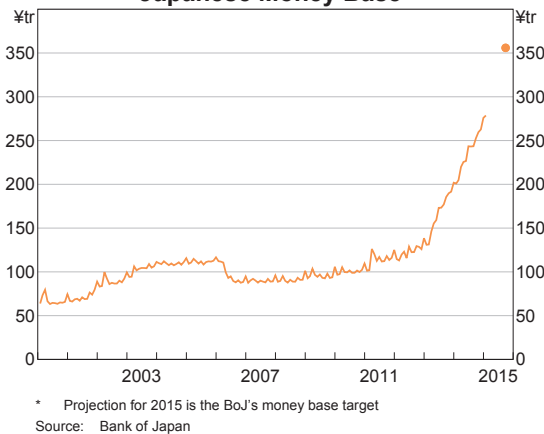
At an unscheduled January meeting, the SNB abandoned its commitment to ensure the Swiss franc did not appreciate beyond CHF1.20 per euro that had been in place since September 2011 (see section on 'Foreign Exchange'). To ameliorate the expected tightening in financial conditions, it simultaneously lowered the rate on most additional deposits held at the SNB (in excess of a threshold) by 50 basis points to -0.75 per cent, having previously lowered it from zero to -0.25 per cent in December. Interbank rates have fallen sharply in response, with the 3-month Swiss franc LIBOR now trading close to -1 per cent (Graph 2.2). The Danish central bank also lowered the rate it pays on deposits held at the central bank three times in January, in response to appreciation pressure on its exchange rate which is fixed to the euro. The cumulative reduction amounted to 45 basis points, leaving this rate at -0.50 per cent.

The BoJ's balance sheet expanded by ¥75 trillion over 2014, and the BoJ is targeting an increase of around ¥80 trillion in 2015 following its late October decision to increase the scale of its government bond purchases (Graph 2.3). The BoJ has lowered

**Graph 2.2**  
**Swiss 3-month LIBOR Target Band**



**Graph 2.3**  
**Japanese Money Base\***

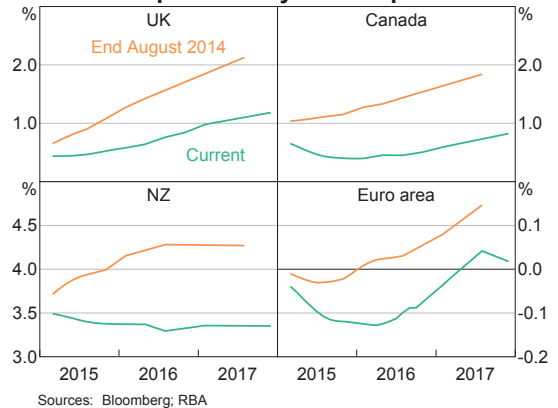


its near-term forecast for inflation, now expecting that it will remain around 1 per cent in the fiscal year beginning April, given the disinflationary impact of falling oil prices. However, it remains confident that it will achieve its 2 per cent inflation target during the fiscal year beginning April 2016.

Falling oil prices have contributed to policy rate reductions by central banks of both oil exporters and importers. The Bank of Canada lowered its policy rate by 25 basis points in January, noting that the fall in oil prices is expected to see investment in its oil industry fall by 30 per cent and the terms of trade decline, leading to a sizeable reduction in its forecasts for economic activity (Table 2.1). Market pricing implies a further reduction in its policy rate

(Graph 2.4). The Norwegian central bank similarly lowered its policy rate by 25 basis points in December, attributing its decision to expected weakness in the broad economy as a result of falling oil prices, and flagged that it may reduce its rate further if these trends continue. Among oil-importing nations, the Reserve Bank of India lowered its policy rate by 25 basis points in January, having previously raised it by 75 basis points between August 2013 and January 2014, as inflation slowed more rapidly than previously anticipated. The Turkish central bank also continued to unwind part of the sharp monetary tightening it implemented last January, in response to a more benign inflation outlook as oil prices have fallen, while the Monetary Authority of Singapore announced that, for the same reason, it will slow the pace of appreciation in the country's nominal effective exchange rate.

**Graph 2.4**  
**Market Implied Policy Rate Expectations**



Market-implied expectations for future interest rates in other advanced economies have declined materially over the past six months. Markets are no longer pricing in a rate rise by the Bank of England this year and expect it will increase its policy rate only twice over the subsequent two years, while the Reserve Bank of New Zealand is now expected to lower its policy rate over the next two years.

In contrast, the US Federal Reserve continues to signal that it expects to raise policy rates sometime around the middle of this year, and that the pace

**Table 2.1: Monetary Policy**

	Policy rate		Most recent change	Cumulative change in current phase <sup>(a)</sup>
	Per cent			Basis points
Euro area	0.05	↓	Sep 14	-145
Japan <sup>(b)</sup>	na		na	
United States <sup>(c)</sup>	0.125	↓	Dec 08	-512.5
Australia	2.25	↓	Feb 15	-250
Brazil	12.25	↑	Jan 15	500
Canada	0.75	↓	Jan 15	-25
Chile	3.00	↓	Oct 14	-225
China <sup>(b)</sup>	na		na	
India	7.75	↓	Jan 15	-25
Indonesia	7.75	↑	Nov 14	200
Israel	0.25	↓	Aug 14	-300
Malaysia	3.25	↑	Jul 14	125
Mexico	3.00	↓	Jun 14	-525
New Zealand	3.50	↑	Jul 14	100
Norway	1.25	↓	Dec 14	-100
Russia	15.00	↓	Jan 15	-200
South Africa	5.75	↑	Jul 14	75
South Korea	2.00	↓	Oct 14	-125
Sweden	0.00	↓	Oct 14	-200
Switzerland <sup>(c)</sup>	-0.75	↓	Jan 15	-350
Taiwan	1.875	↑	Jun 11	62.5
Thailand	2.00	↓	Mar 14	-150
Turkey	7.75	↓	Jan 15	-225
United Kingdom	0.50	↓	Mar 09	-525

(a) Current rate relative to most recent trough or peak

(b) The Bank of Japan's main operating target is currently the money base; China does not have an official policy rate

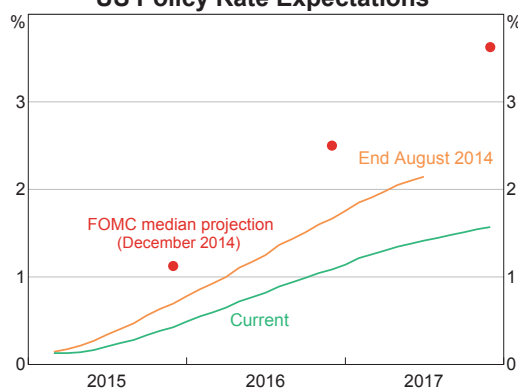
(c) Midpoint of target range

Sources: Central Banks; RBA; Thomson Reuters

at which rates rise thereafter will likely be gradual. Futures markets are pricing in both a later start to the tightening cycle and a more gradual increase than predicted by members of the Federal Open Markets Committee (FOMC; Graph 2.5). The market-implied path has flattened significantly over recent months as investors judged that subdued inflation – in large part due to declining oil prices – and risks to the global economy will cause the Fed to maintain low interest rates for longer than previously expected.

Several other central banks have tightened policy over recent months. The Russian central bank raised its policy rate by 750 basis points in December,

**Graph 2.5**  
**US Policy Rate Expectations**

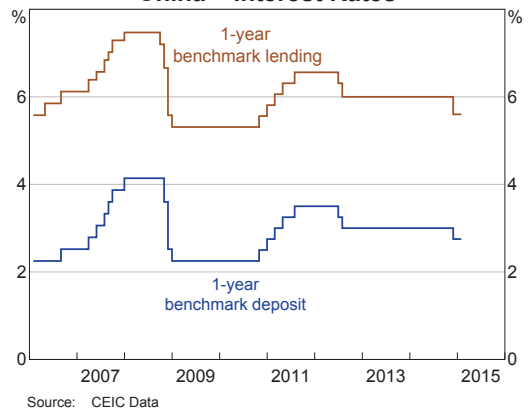


Sources: Bloomberg; Board of Governors of the Federal Reserve System

though unwound 200 basis points of this in January, leaving its rate at 15 per cent compared with 5.5 per cent at the start of last year. The increase occurred in an attempt to stem the sharp depreciation of the rouble (see section on 'Foreign Exchange'). The Ukrainian central bank raised rates by a further 150 basis points in November, following 600 basis points of tightening earlier in 2014, to stem deposit outflow and stabilise its currency. The Brazilian central bank has also continued to tighten policy in response to elevated inflation, raising its policy rate by a further 50 basis points in both December and January, while Bank Indonesia increased its policy rate by 25 basis points in November to counter upward pressure on inflation expectations from a cut in government subsidies for fuel.

In China, money market rates have, on average, been a little higher over recent months than those prevailing throughout most of 2014. This has occurred despite the People's Bank of China (PBC) reportedly undertaking a number of direct liquidity injections to specific banks over this time. The PBC injected liquidity via a 50 basis point cut to the reserve requirement ratio in February. One likely reason for these injections is to provide some offset to the net sale of foreign currency reserves (see section on 'Foreign Exchange'). The PBC also announced a reduction in most benchmark lending rates by 40 basis points from November (Graph 2.6). Benchmark lending rates are no longer binding on Chinese banks but still tend to guide their pricing; accordingly, average lending rates have fallen slightly. The PBC simultaneously lowered most benchmark deposit rates by 25 basis points. These rates are still binding on banks, but the reduction in benchmark rates was accompanied by a widening of the permissible margin that banks can utilise, from 10 per cent above the benchmark to 20 per cent, leaving the ceiling on deposit rates largely unchanged and allowing banks to maintain existing pricing. Authorities have continued to take steps towards deregulating deposit rates, including announcing a deposit insurance scheme expected to commence this year.

**Graph 2.6**  
**China – Interest Rates**

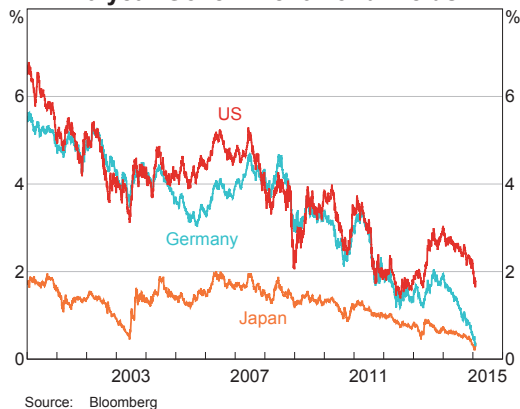


While these steps by themselves would contribute to a slight easing in the policy stance, regulatory decisions over 2014 may have more than offset these, leading to a tightening in overall financial conditions. In early 2015, the China Banking Regulatory Commission (CBRC) also proposed a draft regulation that could significantly constrain entrusted lending, which accounted for around 15 per cent of growth in total social financing last year. Entrusted lending typically involves lending by one company to another, with banks purportedly just acting as agents, but authorities have been concerned that a sizeable portion of such lending has been funded by bank credit and has been structured to evade regulatory constraints on direct bank lending. To prevent this, the regulations prohibit entrusted loans from being funded by debt (bank credit, bonds or wealth management products) or invested in most financial instruments, and banks will be prohibited from taking on any credit risk. Slightly offsetting this, the PBC announced regulatory reforms to the calculation of banks' loan-to-deposit ratios, which should relax constraints stemming from the 75 per cent cap a little. In particular, it expanded the definition of both loans and deposits included in this calculation to incorporate (among other things) interbank transactions with non-bank financial institutions, to which banks are net receivers of funds in aggregate.

## Sovereign Debt Markets

Yields on major market 10-year sovereign bonds declined significantly over 2014, with yields on US Treasuries down by 90 basis points, those on German Bunds down by 140 basis points and those on Japanese government bonds (JGBs) down by 40 basis points (Graph 2.7). Bond yields have continued to fall in 2015, particularly those on US Treasuries which are 40 basis points lower than at the end of last year. These declines have seen yields on Bunds and JGBs reach new record lows, while those on Treasuries are back around the levels recorded prior to the Fed first signalling its expectation of scaling back its asset purchases in mid 2013. Yields on Swiss government bonds have also fallen by more than 100 basis points since the start of 2014, with much of this occurring prior to the SNB's decision to abandon its exchange rate ceiling. Swiss 10-year bonds now yield less than zero per cent. This is the first time ever that a 10-year bond has traded with a negative yield.

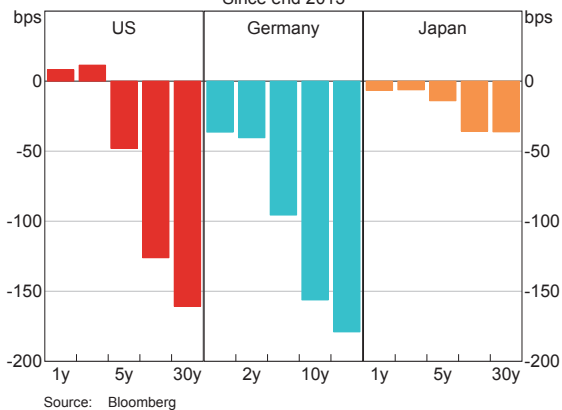
**Graph 2.7**  
10-year Government Bond Yields



Bond yields have generally fallen across the maturity spectrum over this period, and bonds with maturities of several years have recently traded with yields no more than zero per cent in several countries, including Japan, core euro area economies and several other European nations. However, declines in bond yields have been most pronounced at the long

end of the maturity spectrum, leading to a marked flattening of the yield curve in major markets and a sizeable decline in term premiums, which now provide investors with minimal or no compensation for holding longer-term bonds (Graph 2.8).

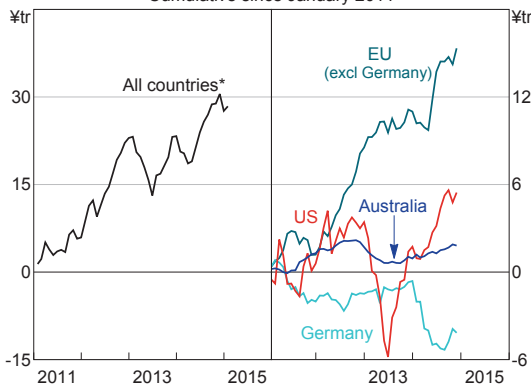
**Graph 2.8**  
Changes in Yield Curves  
Since end 2013



While the magnitude of these falls are hard to explain, a number of factors have contributed, including: heightened concerns about global growth and the possibility of deflation over the next few years as oil prices have fallen; expectations of the January announcement of sovereign bond purchases by the ECB; and ongoing purchases of JGBs by the BoJ. It also reflects a reduction in the supply of new bonds, tightening the demand/supply balance, as budget deficits have generally narrowed, resulting in lower net issuance. These factors have been associated with a larger fall in yields on nominal bonds than on inflation-indexed bonds, leading to a marked reduction in the compensation that owners of nominal bonds receive for inflation, as discussed in 'Box B: The Decline in Bond Yields and Inflation Expectations'.

Japanese residents have partially unwound their earlier accumulation of foreign bonds over recent months, but their holdings remain almost ¥10 trillion higher than in March (Graph 2.9). Japanese residents have been heavy buyers of US Treasuries and euro area bonds (other than Bunds) over this period. Japanese

**Graph 2.9**  
**Japanese Purchases of Foreign Bonds**  
 Cumulative since January 2011



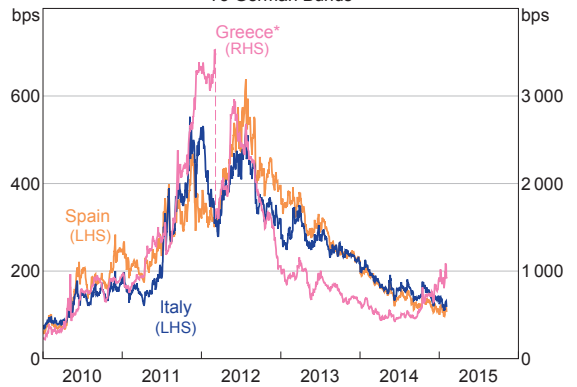
\* Balance of payments data to November 2014; provisional thereafter  
 Sources: Japanese Ministry of Finance; RBA

purchases of Australian dollar-denominated bonds amounted to around ¥1½ trillion (A\$15 billion) over this time.

Spreads on bonds issued by the Greek Government (over German Bunds) have widened markedly of late, to be more than 450 basis points higher since mid September, with the move particularly pronounced in December (Graph 2.10). The widening of spreads reflected mounting concerns about the potential for a default or restructuring of government debt by the newly elected SYRIZA party, which had signalled its intention to seek both a writedown of government debt and a moratorium on repayments, while also raising pension rates and the minimum wage by 40 per cent. Any rescheduling of debt repayments would need to be negotiated with European governments, who hold around two-thirds of Greek debt, mainly via the European Financial Stability Facility (EFSF). However, near-term repayments are to the International Monetary Fund and bondholders, since debt owed to the EFSF has very long maturities and no upcoming repayments.

Concerns about the possibility that the government will default on outstanding debt have seen foreigners refrain from buying bills recently issued by the government. The Greek Government currently has around €1–2 billion of cash on hand, and is due to receive a €2 billion instalment from the EFSF this

**Graph 2.10**  
**Euro Area 10-year Government Bond Spreads**  
 To German Bunds



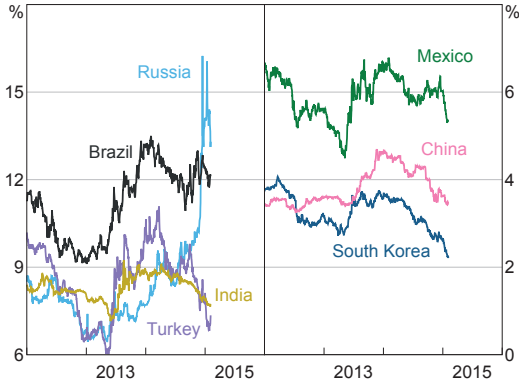
\* Data from 12 March 2012 are yields on Greek bonds post first private sector debt swap  
 Source: Bloomberg

month (subject to European Union agreement). It had also budgeted to post a primary budget surplus of €3.3 billion in 2015, though this could disappear if SYRIZA raises the minimum wage and pensions as planned. These funds should be sufficient to meet the €3½ billion of principal and interest payments due this month, but will not cover the additional €28 billion needed for such payments over the remainder of 2015.

In contrast to when Greek debt concerns were last prominent in 2010–12, there has so far been little effect on bonds issued by other euro area governments. Spreads on government bonds issued by Italy and Spain, in particular, continued to narrow in anticipation of the ECB's January decision to purchase these securities.

Yields on local currency bonds issued by emerging market governments have tended to decline over recent months, in line with those on US Treasuries. Yields have fallen in several countries where monetary policy has been eased, such as in India, Korea, China and Turkey, with the fall in Turkish yields particularly pronounced due to expectations that the decline in oil prices will reduce its current account deficit (Graph 2.11). The key exception has been yields on Russian bonds, which have risen by more than 350 basis points since September in response

**Graph 2.11**  
**10-year Government Bond Yields**  
 Local currency-denominated



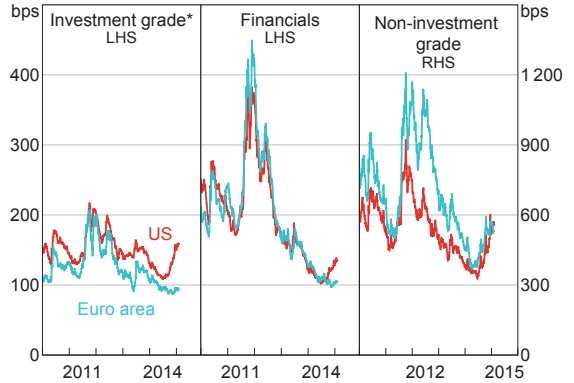
Sources: Bloomberg; Thomson Reuters

to the depreciation of the rouble and associated tightening of monetary policy. Yields on US dollar-denominated Ukrainian government bonds have also risen sharply as it became increasingly clear that the government will require additional fiscal support. Yields on US dollar bonds issued by some oil-exporting nations perceived to be vulnerable to default – such as Venezuela and Nigeria – have also increased sharply.

### Credit Markets

Spreads on bonds issued by US corporations have widened since the middle of last year, with a particularly large increase for non-investment grade bonds (Graph 2.12). Spreads on these bonds have increased by more than 200 basis points since late June, with around two-thirds of this attributable to a 400 basis point rise in spreads on energy and related bonds; much of the remainder followed midyear comments by Federal Reserve Chair Yellen that spreads on such bonds appeared unduly narrow (Graph 2.13). Around half of the 50 basis point widening in spreads on US investment grade bonds is also due to securities issued by energy producers, while spreads on financial bonds have widened only modestly. Despite these moves, yields on investment grade bonds remain well below their historical average, while non-investment grade bonds are back around historical norms.

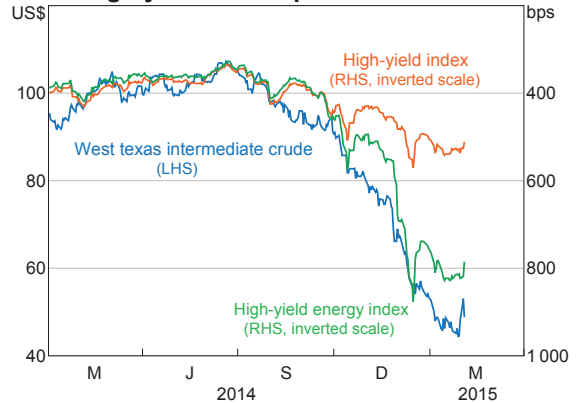
**Graph 2.12**  
**Corporate Bond Spreads**  
 To equivalent government bonds



\* Non-financial corporations

Sources: Bank of America Merrill Lynch; Bloomberg; RBA

**Graph 2.13**  
**US High-yield Bond Spreads and Oil Price**



Sources: Bank of America Merrill Lynch; Thomson Reuters

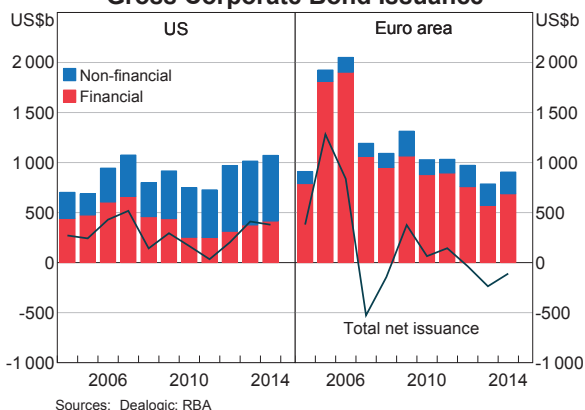
In contrast, spreads on investment grade bonds issued by European corporations, including financials, have been broadly stable over recent months. This, along with the marked fall in sovereign bond yields, has seen yields on medium-term bonds issued by some highly rated corporations trade with negative yields. Spreads on European non-investment grade bonds, however, have widened considerably since mid 2014, reflecting an expected increase in defaults as the European economy has weakened rather than concerns about oil producers' debt-servicing ability.

Gross bond issuance by advanced economy corporations increased modestly in 2014



(Graph 2.14). In the United States and euro area, the increase over 2014 came despite issuance by non-investment grade corporations slowing noticeably over the second half, alongside the widening in spreads on such bonds. Net bond issuance by US corporations was little changed in 2014, while net issuance by European corporations was less negative than in 2013 due to developments in bond issuance by corporations in the periphery economies. Both gross and net bond issuance by corporations in emerging markets was sharply higher in 2014, driven by new bond financing by Chinese corporations.

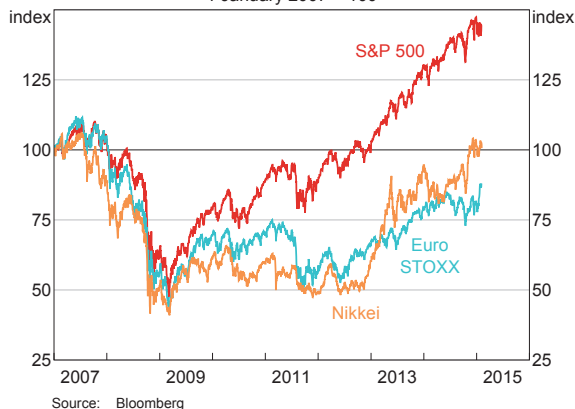
**Graph 2.14**  
**Gross Corporate Bond Issuance**



## Equities

Equity markets in advanced economies generally posted modest returns in 2014 (Graph 2.15; Table 2.2). Markets in the United States and Japan outperformed others, rising by 11 and 7 per cent, respectively, with much of this underpinned by higher company earnings. In contrast, European share prices rose only slightly, as earnings were little changed and banking stocks fell due to concerns about possible exposures to Greek and Russian debt. Advanced economy share prices have, overall, subsequently increased slightly in 2015. European share prices have outperformed amid the announcement by the ECB of its sovereign bond purchase program, notwithstanding a sharp fall in Greek share prices over January as banking stocks fell by almost 40 per cent. Share prices in

**Graph 2.15**  
**Major Share Price Indices**  
1 January 2007 = 100



**Table 2.2: Changes in International Share Prices**  
Per cent

	Over 2014	Year to date
United States – S&P 500	11	0
Euro area – STOXX	2	9
United Kingdom – FTSE	-3	4
Japan – Nikkei	7	1
Canada – TSE 300	7	2
Australia – ASX 200	1	7
China – MSCI All China	28	0
MSCI indices		
– Emerging Asia	5	3
– Latin America	-4	-2
– Emerging Europe	-8	7
<b>– World</b>	<b>7</b>	<b>1</b>

Source: Bloomberg

other advanced economies have generally been little changed, alongside an increase in volatility to historically average levels, with concerns about global growth, the possibility of a Greek debt default and, particularly for the United States, falling oil prices weighing on markets. The latter has seen the share prices of energy companies – which account for around 8 per cent of the S&P 500 – fall by more than 20 per cent since mid last year, more than

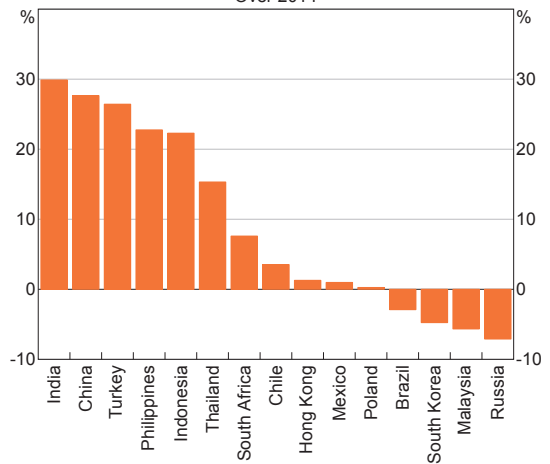
outweighing a modest rise in the prices of transport and consumer discretionary stocks that should benefit from lower oil prices. Swiss equity prices have also fallen sharply since the SNB's decision to abandon its exchange rate cap, with prices down by 9 per cent on the day.

Aggregate profits for the six largest US banks fell by around 6 per cent in 2014, reflecting US\$43 billion of fines imposed during the year and a decline in underlying profits in the December quarter, compared with both the prior quarter and a year earlier. The fall in December quarter underlying profits was driven by a fairly broad-based decline in revenue from trading activity. The largest US banks all reported supplementary leverage ratios that meet the 5 per cent requirement that will take effect in 2018.

Share prices in a number of emerging markets increased strongly over 2014, with prices rising by around 30 per cent in India, China and Turkey, and by around 20 per cent in a number of other Asian economies (Graph 2.16). However, share prices in several emerging markets have fallen since late November. The recent declines have been most pronounced in oil-producing nations such as Brazil, Malaysia and Mexico.

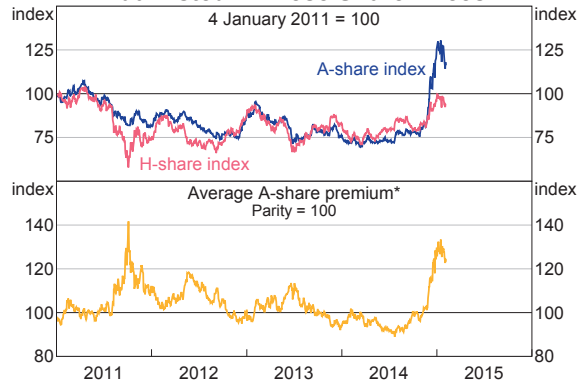
The rise in Chinese equities over 2014 was underpinned by a sharp rise in stocks listed on mainland exchanges, which have increased by almost 60 per cent since mid July. This rally has been underpinned by increased participation of retail investors and associated with a large rise in leverage, despite some softening in economic growth (see 'International Economic Developments' chapter). Furthermore, the rise in mainland stock prices (A shares) has not been matched by increased prices for the same companies' Hong Kong-listed stock (H shares), with the former now trading more than 20 per cent higher than the latter on average (Graph 2.17). The rise in prices has seen the price-earnings ratios for Chinese stocks increase toward historical norms.

**Graph 2.16**  
**Changes in Emerging Market Share Price Indices**  
Over 2014



Source: Bloomberg

**Graph 2.17**  
**Dual-listed Chinese Share Prices**



\* Relative to H shares  
Source: Bloomberg

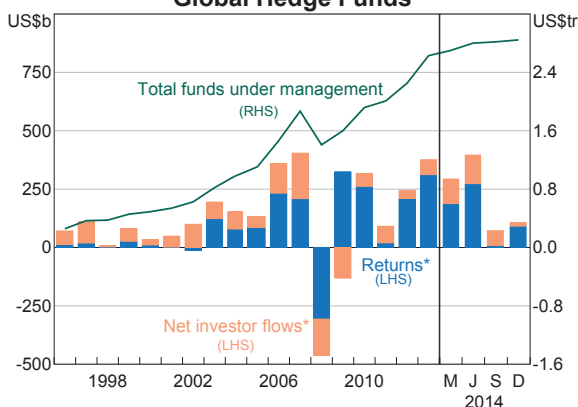
Trading links between Hong Kong and the mainland were strengthened in November with the opening of the Shanghai-Hong Kong Stock Connect. This scheme allows foreign investors to purchase Shanghai A shares and institutional and wealthy Chinese investors to buy shares listed in Hong Kong, subject to both daily caps on purchases and a quota on overall holdings. Foreign investors have used around 30 per cent of the 'northbound' quota to date and current trends suggest it will be fully

used by July, but Chinese investors have shown little interest in increasing their exposure to stocks listed in Hong Kong.

## Hedge Funds

Global hedge funds recorded an asset-weighted return on investments of around 5 per cent over 2014, underperforming the total return from a balanced portfolio of global bonds and equities. Hedge funds focused on Russia and eastern Europe weighed on overall performance, while macro funds, which trade according to views on broad economic developments, outperformed other categories. Data on the performance of hedge funds in January are as yet unavailable, but a number of funds are known to have suffered considerable losses from the sharp appreciation of the Swiss franc. Hedge funds continue to receive net investor inflows, despite decisions by some large institutional investors over recent months to reduce their allocation to or cease investing in such funds (Graph 2.18).

**Graph 2.18**  
**Global Hedge Funds**



\* Annualised for 2014 data  
Sources: Hedge Fund Research, Inc.; RBA

## Foreign Exchange

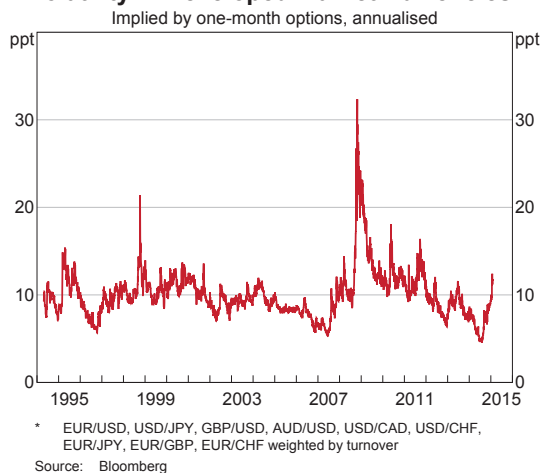
The increasingly divergent paths for monetary policy in the United States and other major advanced economies have led to some sizeable movements in exchange rates over recent months, with the sharp declines in global oil prices also contributing.

Accordingly, volatility in the main developed market currency pairs has continued to increase from the very low levels reached in mid 2014 (Graph 2.19).

The Swiss franc has appreciated by 14 per cent against the euro (and by 10 per cent against the US dollar) since the SNB surprised markets by ceasing its minimum exchange rate policy for the euro against the Swiss franc in mid January (Graph 2.20). The decision occurred alongside a reduction in the interest rate on sight deposit balances (discussed above).

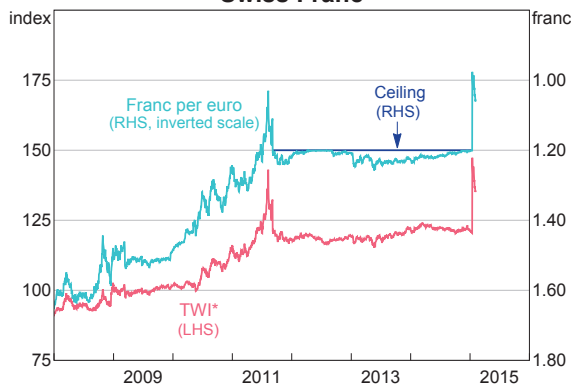
The decision to abandon the policy – which had imposed a ceiling of 1.20 francs per euro since September 2011 – led to significant volatility and

**Graph 2.19**  
**Volatility in Developed Market Currencies\***



\* EUR/USD, USD/JPY, GBP/USD, AUD/USD, USD/CAD, USD/CHF, EUR/JPY, EUR/GBP, EUR/CHF weighted by turnover  
Source: Bloomberg

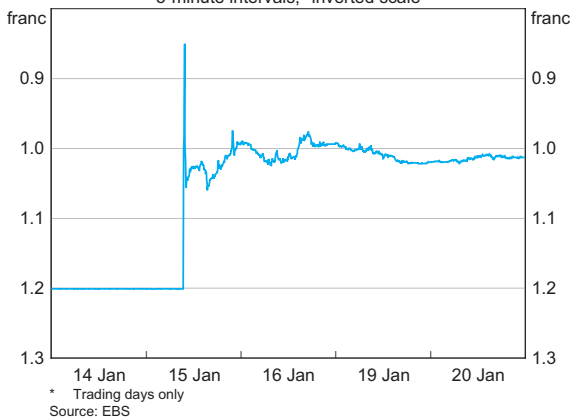
**Graph 2.20**  
**Swiss Franc**



\* 2009 average = 100  
Sources: BIS; Bloomberg; RBA

illiquid trading conditions for the franc, which appreciated by as much as 40 per cent against the euro on an intraday basis shortly after the announcement (Graph 2.21). The disorderly market conditions saw a number of retail foreign exchange trading firms sustain losses which, in some cases, has resulted in insolvencies. Many of the affected retail brokers had agreements in place to automatically close out their clients' positions at a pre-specified level of the exchange rate and/or as soon as their clients' margins had been eroded. However, the withdrawal of liquidity meant that some retail brokers were unable to execute these trades at – or even close to – the price needed to avoid losses. The losses were magnified by the high degree of leverage typically offered by these retail firms to their clients.

**Graph 2.21**  
**Swiss Franc per Euro**  
 5-minute intervals,\* inverted scale

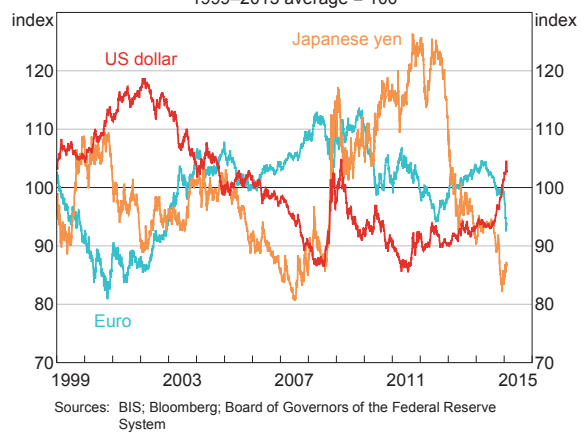


Prior to the announcement, the franc had been trading very close to its ceiling against the euro, with growing market expectations that the ECB would introduce further monetary stimulus and safe-haven demand related to ongoing geopolitical tensions in Russia creating appreciation pressure. In response, the SNB began purchasing additional foreign currency reserves in December in an effort to preserve the exchange rate ceiling, before ultimately concluding that the increasing 'divergences between the monetary policies of the major currency areas' meant that maintaining the franc's ceiling against

the euro was 'no longer justified'. Nevertheless, the SNB has stated that it will 'remain active' in the foreign exchange market to influence monetary conditions if necessary. Preliminary data suggest that the SNB has intervened in the foreign exchange market since the announcement.

The euro has depreciated further over recent months, to be 10 per cent lower on a trade-weighted basis and 18 per cent lower against the US dollar since early May 2014 (Graph 2.22). The depreciation has primarily reflected growing market expectations – subsequently realised – that the ECB would introduce additional monetary stimulus at its January meeting (discussed above). The euro is currently around its lowest level against the US dollar since late 2003 and on a real trade-weighted basis is a little below its average since the introduction of the single currency in 1999.

**Graph 2.22**  
**Nominal Trade-weighted Indices**  
 1999–2015 average = 100



The US dollar has continued to appreciate against most other currencies over recent months, to be 11 per cent higher on a trade-weighted basis since mid 2014 and around 20 per cent higher than its trough in July 2011 (Table 2.3). Notwithstanding its recent appreciation – and higher inflation in the United States relative to a number of its trading partners – the US dollar remains a little below its longer-term average on a real trade-weighted basis (Graph 2.23).

**Table 2.3: Changes in the US Dollar against Selected Currencies**  
Per cent

	Over 2014	Since end 2014
Russian rouble	76	17
Canadian dollar	9	8
European euro	14	6
Swedish krona	21	6
New Zealand dollar	5	5
Australian dollar	9	5
Brazilian real	12	4
Malaysian ringgit	7	2
UK pound sterling	6	2
Indonesian rupiah	2	2
Singapore dollar	5	2
Norwegian krone	23	2
Chinese renminbi	2	1
Mexican peso	13	0
South Korean won	4	-1
Thai baht	1	-1
South African rand	10	-1
Japanese yen	14	-2
Indian rupee	2	-2
Swiss franc	11	-7
<b>TWI</b>	<b>9</b>	<b>1</b>

Sources: Bloomberg; Board of Governors of the Federal Reserve System

**Graph 2.23**

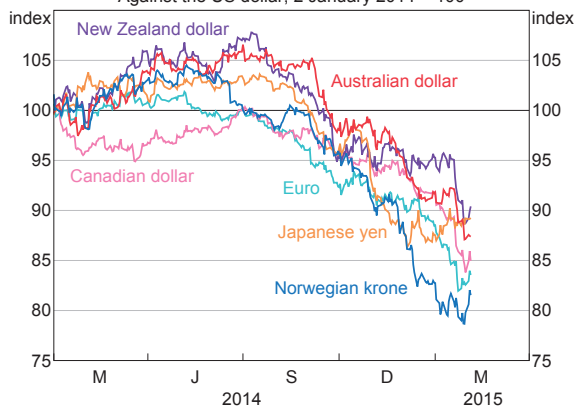
**US Dollar Real Trade-weighted Index**  
1980–2015 average = 100



Sources: Bloomberg; Board of Governors of the Federal Reserve System

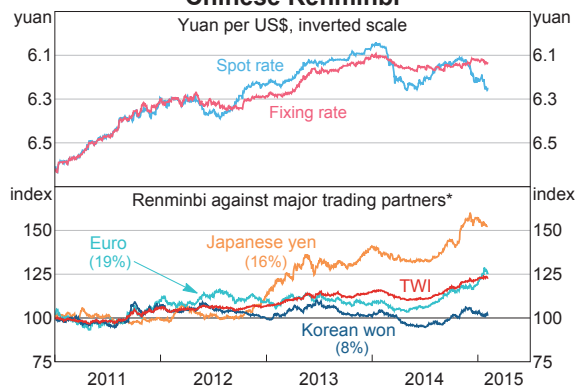
The Japanese yen has depreciated by 3 per cent on a trade-weighted basis and by 7 per cent against the US dollar since late October, when the Bank of Japan unexpectedly increased its monthly asset purchases. In real trade-weighted terms, the yen is around 25 per cent below its average over the past 20 years. A number of other developed market currencies have also experienced sizeable depreciations against the US dollar over recent months. In particular, the sharp declines in global oil prices have contributed to the Canadian dollar and Norwegian krone depreciating by 15 and 20 per cent, respectively, since late June (Graph 2.24).

**Graph 2.24**  
**Developed Market Currencies**  
Against the US dollar, 2 January 2014 = 100



Source: Bloomberg

The Chinese renminbi (RMB) has depreciated by around 2 per cent against the US dollar since late October, returning to the bottom of its +/-2 per cent trading band against the US dollar. More broadly, over the past year the RMB has exhibited greater two-way variation around its daily fixing rate against the US dollar, with the daily fixing rate remaining broadly unchanged since early 2014. On a nominal trade-weighted basis, the RMB has continued to appreciate over recent months to be around 7 per cent higher since the end of 2013, primarily reflecting appreciation against the Japanese yen and the euro (Graph 2.25).

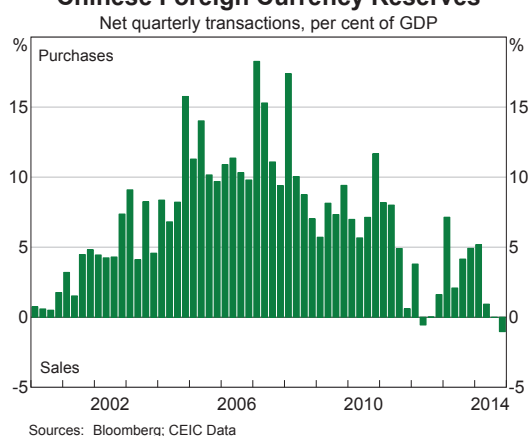
**Graph 2.25****Chinese Renminbi**

\* Indexed to 2011 average = 100; figures in parentheses represent currencies' weights in the trade-weighted index; the weight of the US dollar is 19 per cent

Sources: BIS; Bloomberg

The stock of Chinese foreign currency reserves decreased by US\$45 billion (or around 1 per cent) over the December quarter, to be US\$150 billion (around 4 per cent) lower than its peak at the end of June 2014. The decline in reserves over the second half of 2014 appears to have been due both to foreign exchange valuation effects and to sales of foreign currency by the PBC in the December quarter (Graph 2.26). The PBC's modest net sales of foreign currency over the latter half of 2014 indicate that net private capital outflows from China broadly offset China's current account surplus over this period.

The Chinese authorities have continued to take steps towards internationalising the RMB. In November, the Reserve Bank signed a Memorandum of Understanding (MoU) with the PBC to establish official RMB clearing arrangements in Australia. The arrangements are designed to facilitate RMB-denominated payments between Australian and Chinese entities by providing local banks with more direct access to China's domestic payments system than was previously available. The Chinese authorities also granted Australia an RMB 50 billion quota under the RMB Qualified Foreign Institutional Investor (RQFII) program, which allows approved Australian-domiciled financial institutions to invest in China's domestic bond and equity markets using RMB. The PBC also recently signed MoUs to establish

**Graph 2.26****Chinese Foreign Currency Reserves**

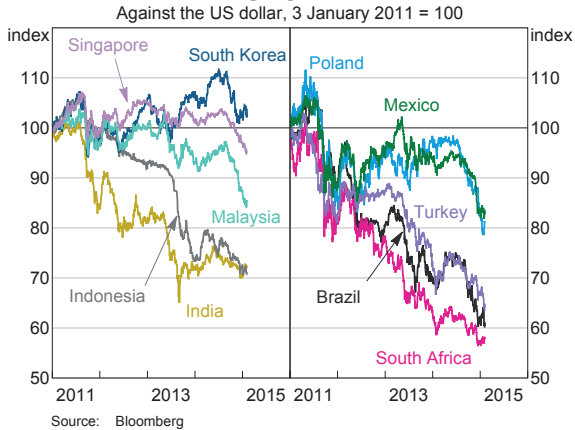
Sources: Bloomberg; CEIC Data

official RMB clearing arrangements in Canada, Malaysia, Switzerland and Thailand. In addition, Canada and Switzerland were both granted RQFII quotas of RMB 50 billion, and the PBC signed (new or renewed) bilateral local currency swap agreements with the Bank of Canada and the Bank of Thailand.

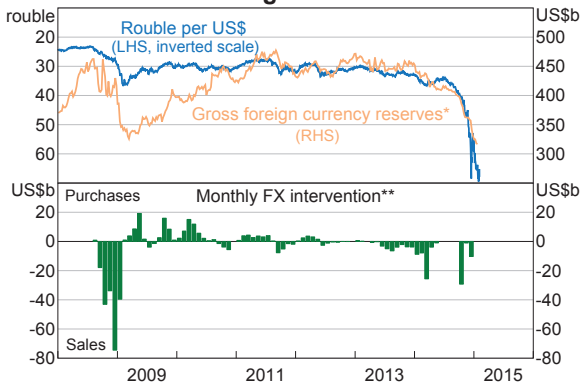
Most other Asian and emerging market currencies have depreciated further against the US dollar over recent months, continuing a trend that has been evident since mid 2014. The depreciations have tended to be more pronounced for Eastern European currencies, as well as for those of oil and other commodity exporters in Latin America and Asia (Graph 2.27). Volatility in emerging market currencies has generally increased, though remains around its post-2009 average.

The Russian rouble has depreciated by more than 40 per cent against the US dollar since the end of September, with the depreciation pressure particularly acute in early December (Graph 2.28). The main drivers of the depreciation have been the sharp declines in global oil prices and ongoing geopolitical tensions, with the latter related to sanctions which have limited Russian firms' access to international capital markets. In addition to the 750 basis point increase in its policy rate in December (which was partly unwound in January; discussed above) the Russian central bank has taken a number

**Graph 2.27**  
**Asian and Emerging Market Currencies**



**Graph 2.28**  
**Russian Exchange Rate and Reserves**



\* Weekly data to 23 January 2015

\*\* Intervention data are available from August 2008; excludes intervention conducted on behalf of the Russian Federal Treasury

Sources: Bloomberg; IMF; RBA; The Central Bank of the Russian Federation

of steps to counter the depreciation pressure. These include: sales of a further US\$10 billion worth of its foreign currency reserves in early December (taking cumulative foreign currency sales in 2014 to US\$88 billion); an increase in the frequency and size of foreign exchange repo auctions; and the introduction of a foreign currency loan facility for Russian financial institutions. The Russian central bank also sold US\$3 billion worth of foreign exchange on behalf of the Russian Treasury in January.

Russia's gross foreign currency reserves have declined by 20 per cent (US\$80 billion) since the

end of September – and by 30 per cent since the end of 2013 – to US\$317 billion (or 16 per cent of GDP). However, Russia's gross reserves include up to US\$170 billion worth of assets that are managed on behalf of Russia's two sovereign wealth funds, rather than by the central bank itself. Nevertheless, Russian authorities have announced that they will make a portion of the foreign exchange in these sovereign wealth funds available to the market via the central bank over coming months.

Other Eastern European currencies, including the Polish zloty and Hungarian forint, have depreciated by 9–10 per cent against the US dollar since the end of September, but have been little changed against the euro. The zloty and some other Eastern European currencies depreciated further against the US dollar following the SNB's decision to remove the Swiss franc's ceiling against the euro, amid some concerns about their banking sectors' exposures to Swiss franc-denominated mortgages.

The declines in global oil prices have continued to weigh on the currencies of oil exporters, with the Malaysian ringgit and Mexican peso depreciating by 11–12 per cent against the US dollar since mid 2014. In response to increased foreign exchange market volatility, the Mexican central bank reintroduced a foreign exchange market intervention program. Broader declines in commodity prices have also contributed to ongoing depreciation of the Brazilian real, which is almost 20 per cent lower against the US dollar since mid 2014.

More broadly, the gross foreign currency reserves of most Asian and other emerging market economies have declined modestly or been little changed since the end of September, with a few notable exceptions (Table 2.4). Aside from Russia, these include Ukraine – where reserve holdings were used to meet interest payments on government-guaranteed debt securities and to pay for natural gas imports – and Argentina, where gross reserve holdings increased largely as a result of the acquisition of foreign currency under an FX swap agreement with China.

**Table 2.4: Gross Foreign Currency Reserves<sup>(a)</sup>**

	Percentage change since:		Level US\$ equivalent (billions)
	End December 2013	End September 2014	
China	1	-1	3 843
Taiwan <sup>(b)</sup>	1	0	419
Brazil	4	0	363
South Korea	5	-1	352
Russia	-30	-20	317
Hong Kong	4	0	316
India	11	3	298
Mexico	9	2	184
Thailand	-6	-3	148
Turkey	0	-1	109
Indonesia	14	1	106
Malaysia	-18	-14	100
Argentina	3	15	26
Ukraine	-65	-55	7

(a) Data to end December for China, Hong Kong, Indonesia, Mexico, Taiwan, Thailand and Ukraine; to 15 January for Malaysia; to 23 January for India, Russia and Turkey; to end January for South Korea; and to 3 February for Argentina and Brazil

(b) Foreign exchange reserves (includes foreign currency and other reserve assets)

Sources: Bloomberg; CEIC Data; IMF; RBA

## Australian Dollar

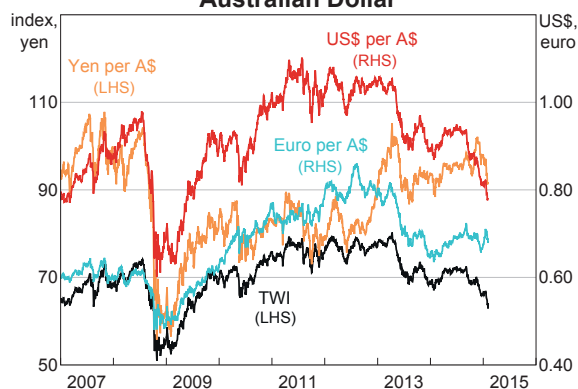
Since the previous *Statement*, the Australian dollar has depreciated by 7 per cent on a trade-weighted basis and by 9 per cent against the US dollar (Graph 2.29; Table 2.5). In addition to the broad-based appreciation of the US dollar and further declines in key commodity prices, changes in market

**Table 2.5: Changes in the Australian Dollar against Selected Currencies**  
Per cent

	Over 2014	Since end 2014
Canadian dollar	0	3
European euro	4	1
New Zealand dollar	-4	0
Malaysian ringgit	-2	-2
UK pound sterling	-3	-2
Indonesian rupiah	-7	-3
Singapore dollar	-4	-3
Chinese renminbi	-6	-4
US dollar	-8	-5
South Korean won	-5	-5
Thai baht	-8	-6
South African rand	1	-6
Japanese yen	4	-7
Indian rupee	-6	-7
Swiss franc	2	-12
<b>TWI</b>	<b>-3</b>	<b>-5</b>

Sources: Bloomberg; RBA

**Graph 2.29**  
**Australian Dollar**



Sources: Bloomberg; RBA



participants' expectations for the domestic cash rate also contributed to the depreciation (see the 'Domestic Financial Markets' chapter). On a trade-weighted basis, the Australian dollar is around 5 per cent below its early 2014 levels notwithstanding significant falls in commodity prices since then. Over 2014, depreciations against the US dollar and RMB were partly offset by appreciations against the yen and euro.

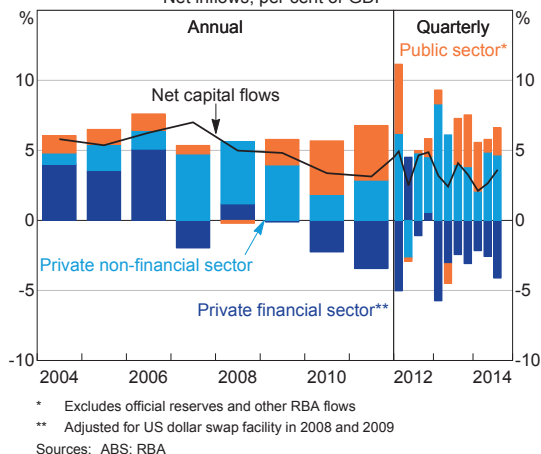
## Capital Flows

Net capital inflows to the Australian economy increased to 3.6 per cent of GDP in the September quarter, with net inflows directed primarily to the public sector. There was also a small net inflow to the private sector as a whole, with sizeable net inflows to the private non-financial sector offsetting continued net outflows from the financial sector (Graph 2.30).

The net inflow to the public sector in the September quarter was largely the result of continued foreign purchases of Commonwealth Government securities (CGS). However, the rate of CGS issuance outpaced foreign purchases such that the foreign ownership share of CGS declined by 2 percentage points over the quarter to 66 per cent. In contrast, there was a small net outflow from the state and local government sector, which saw the foreign ownership share of state government securities decline by a further 1 percentage point over the quarter to 27 per cent.

In the September quarter the net inflow to the private non-financial sector was primarily due to an increase in foreign investment in the mining sector. In contrast, there was a continued net outflow from the private financial sector, largely reflecting net debt outflows from the banking sector. There was also a net capital outflow from the 'other financials' sector (which includes superannuation and other types of investment funds) albeit noticeably smaller than in previous quarters as Australian funds reduced their net purchases of foreign assets in the quarter.

**Graph 2.30**  
**Australian Capital Flows**  
Net inflows, per cent of GDP



Notwithstanding the increase in net capital inflows, Australia's (seasonally adjusted) net income deficit narrowed further in the September quarter to 2 per cent of GDP – its lowest share of GDP since 1984 (Graph 2.31). The narrowing of the net income deficit was driven by portfolio equity income flows, which recorded a rare net inflow. This, in turn, reflected the fact that the income received on Australia's portfolio equity assets rose to exceed the income paid on Australia's portfolio equity liabilities. ✎

**Graph 2.31**  
**Net Income Deficit\***  
Per cent of GDP

