2. International and Foreign Exchange Markets

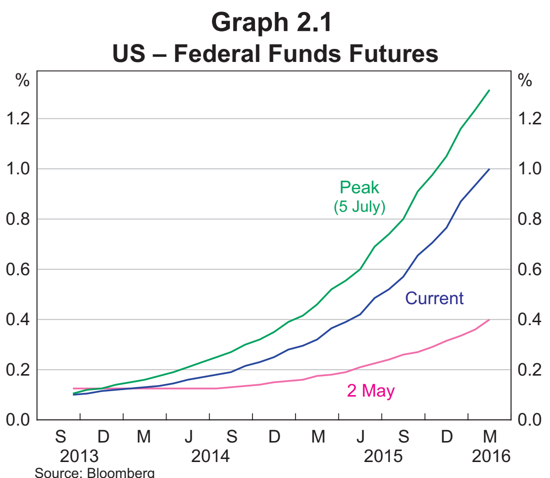
The future path for monetary policy in the United States has been the focal point for markets since late May, when the Federal Reserve signalled that it may begin to wind down its asset purchase program later this year. Expectations that this would see the Federal Reserve tighten monetary policy earlier than previously anticipated saw bond yields rise sharply, equity prices decline and capital flow out of several emerging markets in late May and June, before conditions stabilised in July. These capital outflows from some emerging markets prompted their central banks to tighten monetary policy and/or intervene in foreign exchange markets in an attempt to counter the resulting depreciation pressures. The Australian dollar also depreciated significantly from its recent peak in early April.

Central Bank Policy

In a series of communications since late May, the US Federal Reserve has outlined its expectation for a gradual reduction in the pace at which it purchases assets, given the improvement in US economic conditions. The Federal Reserve anticipates reducing purchases, which currently amount to US$85 billion per month, in 'measured steps' between late 2013 and mid 2014, at which point it expects the unemployment rate to be around 7 per cent. Chairman Bernanke has stressed that this policy path is dependent on economic conditions improving in line with current expectations, and that it could adjust the size of its asset purchase program higher or lower if conditions deviate from current projections.

While announcing its expectations for a reduced pace of asset purchases, the Federal Reserve reiterated that it does not expect to raise interest rates for a considerable period thereafter. It repeated its commitment to retain the current policy rate for at least as long as the unemployment rate is above 6½ per cent, provided inflation is projected to be no more than 2½ per cent one to two years ahead and inflation expectations remain contained. Nonetheless, pricing in futures markets moved sharply in late May and June, before reversing somewhat as the Fed emphasised the distinction between the decision to moderate asset purchase from that related to raising rates. Markets now fully price in a 25 basis point rate rise by June 2015 – almost a year earlier than previously implied (Graph 2.1). This is similar to the expectations expressed by the majority of members of the Federal Open Markets Committee for the first rise to occur sometime in 2015.

Both the European Central Bank (ECB) and the Bank of England (BoE) noted that the resulting rise in euro area and UK bond yields was inconsistent with changes in their own economic fundamentals. In response, the ECB made an explicit statement at its July meeting



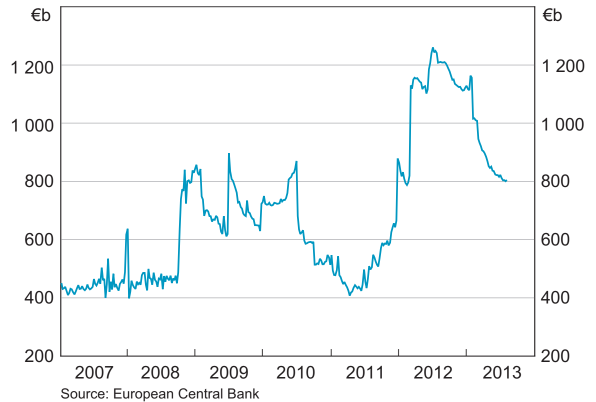
that it would keep interest rates at current or lower levels for an extended period. In addition to being prepared to lower rates further, the ECB reiterated that it remains open to supporting the economy in other ways if warranted. The Bank of England also introduced 'forward guidance' regarding the outlook for interest rates alongside its August *Inflation Report*. It stated its intention not to raise its policy interest rate or reduce its stock of asset purchases for at least as long as the unemployment rate remains above 7 per cent, unless it judges that inflation is more likely than not to exceed 2.5 per cent 18–24 months ahead, inflation expectations cease being 'sufficiently well anchored', or the stance of monetary policy poses a threat to financial stability.

ECB lending to banks for monetary policy purposes has continued to decline over recent months, falling by €42 billion since early May to be around €455 billion less than its mid 2012 peak (Graph 2.2). Greek and Italian banks have continued to repay funds borrowed under the ECB's three-year lending operations in December 2011 and February 2012, though Italian banks still have a large amount outstanding, while repayments by Spanish banks have largely stopped in recent months.

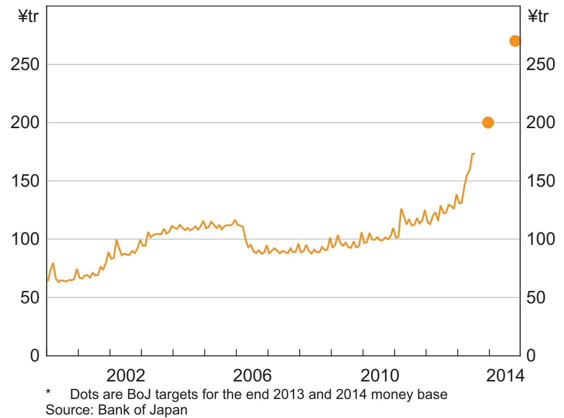
The money base in Japan has continued to grow rapidly in recent months, in line with the Bank of Japan's (BoJ) target of a near doubling of the money base over the next two years (Graph 2.3). The BoJ has noted that the economy is starting to recover and that it has 'taken enough measures' to achieve its 2 per cent inflation target.

The People's Bank of China (PBC) allowed liquidity conditions to tighten significantly in June, which saw interbank rates (such as the overnight SHIBOR) move sharply higher (Graph 2.4). The initial impulse for the tightening had come from some seasonal demand for additional cash, a reduction in capital inflows and concerns about some banks' exposures to potentially risky lending funded via wealth management products. The PBC's decision not to provide additional liquidity via open market operations reflected its concerns about some banks' liquidity management practices and an excessive build-up of credit outside

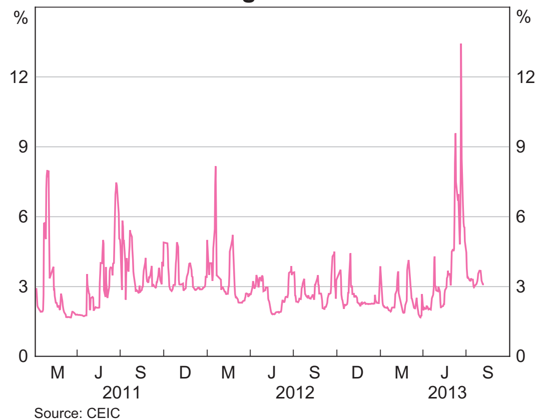
Graph 2.2
ECB Lending for Monetary Policy Operations



Graph 2.3
Japanese Money Base*



Graph 2.4
Overnight SHIBOR



the formal banking sector. Interbank rates have subsequently returned towards their previous levels in July, as the PBC instructed large state-owned banks to supply more funds to the market.

The PBC removed some interest rate controls for financial institutions in China in mid July. This included, most notably, the floor on non-mortgage lending rates. While the changes have little near-term implication, given that the lending floor was rarely binding, they are being interpreted as a signal of the authorities' willingness to liberalise lending markets. The authorities refrained from relaxing the cap on deposit rates, currently set at 1.1 times the benchmark deposit rate, which would have more significant implications for households' savings decisions and bank profitability.

A number of central banks lowered interest rates in May, generally citing subdued economic growth and a weaker outlook for inflation (Table 2.1). More recently, however, several central banks have raised

Table 2.1: Monetary Policy

	Policy Rate Per cent		Most recent change	Cumulative change in current cycle[(a)] Basis points
Euro area	0.5	↓	May 13	–100
Japan[(b)]	na		na	
United States	0.125	↓	Dec 08	–512.5
Australia	2.50	↓	Aug 13	–225
Brazil	8.50	↑	Jul 13	125
Canada	1.00	↑	Sep 10	75
China	6.00	↓	Jul 12	–56
India[(c)]	7.25	↓	May 13	–125
Indonesia	6.50	↑	Jul 13	75
Israel	1.25	↓	May 13	–200
Malaysia	3.00	↑	May 11	100
Mexico	4.00	↓	Mar 13	–425
New Zealand	2.50	↓	Mar 11	–50
Norway	1.50	↓	Mar 12	–75
Russia	8.25	↑	Sep 12	25
South Africa	5.00	↓	Jul 12	–700
South Korea	2.50	↓	May 13	–75
Sweden	1.00	↓	Dec 12	–100
Switzerland	0.00	↓	Aug 11	–275
Taiwan	1.875	↑	Jun 11	62.5
Thailand	2.50	↓	May 13	–100
United Kingdom	0.50	↓	Mar 09	–525

	Current monthly asset purchases	Most recent change	Assets on balance sheet Per cent of GDP
United States	$85 billion	Sep 12	21.5
Japan	¥6 trillion	Apr 13	41.4
United Kingdom	0	Jul 12	25.4

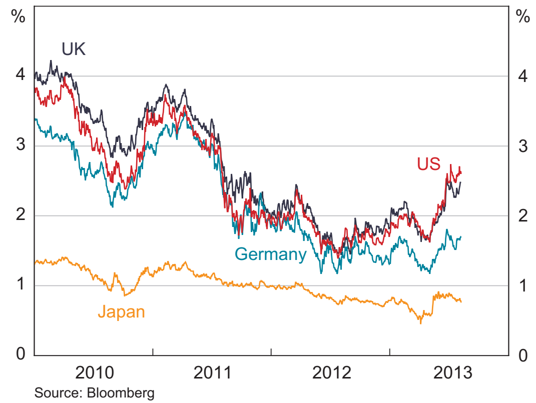
(a) Current rate relative to most recent trough or peak
(b) Since April 2013, the Bank of Japan's main operating target has been the money base
(c) The Reserve Bank of India cut its main policy rate in May, but raised the rate on its marginal lending facility in July
Sources: RBA; Thomson Reuters; central banks

rates in response to concerns about capital outflow, depreciating exchange rates and the implications of this for inflation, while simultaneously intervening in foreign exchange markets (as discussed below). Concerns about the inflationary impact of recent currency depreciations were cited as important factors in decisions by the central banks of Indonesia and Brazil to raise their main policy rates, and by the central banks of India and Turkey to increase other policy rates over the past two months. The South African Reserve Bank noted that its scope to ease policy had been diminished by the depreciation of the rand.

Sovereign Debt Markets

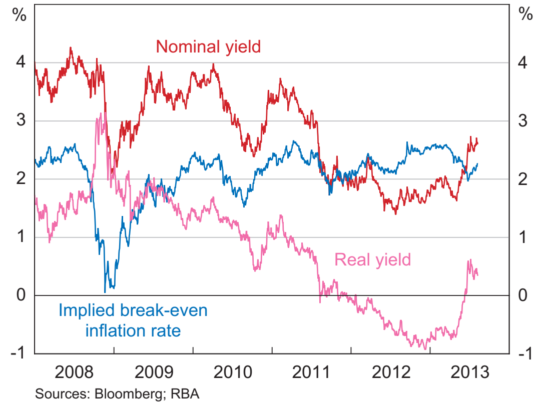
Government bond yields in major markets have risen sharply since the previous *Statement*, following a reassessment of the likelihood that the US Federal Reserve will begin to scale back its asset purchases sometime later this year. Yields on 10-year US government bonds rose by 110 basis points over May and June, reaching their highest level in two years in early July, before subsequently retracing some of that rise (Graph 2.5). Real yields, as measured by 10-year Treasury inflation-protected securities, have risen in line with nominal Treasury yields over the past few months, to be positive for the first time since late 2011 (Graph 2.6). The recent rise in real and nominal yields brings them closer in line with what would be expected based on economic fundamentals, after an extended period of unusually low interest rates.

Graph 2.5
10-year Government Bond Yields



Source: Bloomberg

Graph 2.6
US Real and Nominal 10-year Yields



Sources: Bloomberg; RBA

The increase in euro area and UK yields has been less marked due to statements by the ECB and BoE highlighting the different outlook for policy rates in each region. Yields on 10-year German government bonds have increased by 50 basis points since early May, while yields on 10-year UK government bonds have risen by 85 basis points. The smaller rise in German yields also partly reflected a rise in political tensions within the euro area in recent months.

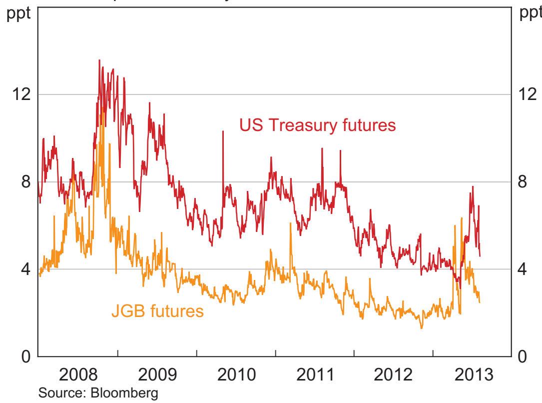
Japanese 10-year government bond yields rose by 30 basis points in May, more than retracing the decline recorded in February and March. The rise came as investors focused on the possibility that the BoJ's monetary easing would result in higher inflation that could offset the direct downward pressure on yields from BoJ purchases; market-implied measures of inflation expectations (at 1¼ per cent for five years) are currently around 0.8 percentage points higher than their 2012 average. More recently, yields on Japanese government bonds (JGBs) have been largely unaffected by moves in US yields, and have drifted down gradually. Japanese investors became net purchasers of foreign bonds in July, having reduced their holdings in prior months despite the announcement of the 'quantitative and qualitative' easing program.

Volatility in major market bond yields increased from April to June, as uncertainty about the future path of interest rates rose (Graph 2.7). This was most pronounced for JGBs, as investors weighed the

Graph 2.7

10-year Government Bond Volatility

Expected volatility over next month, annualised

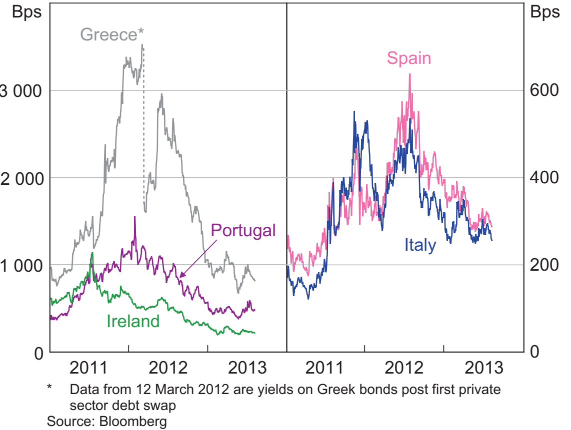


Source: Bloomberg

Graph 2.8

Euro Area Government 10-year Bond Spreads

To German Bunds



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

Source: Bloomberg

relative importance of increased BoJ demand with the competing influence of expectations for higher inflation, and for US Treasuries, reflecting uncertainty about the outlook for US monetary policy. However, volatility in bond market pricing has eased in the past month. For Japan, this partly owes to greater flexibility by the BoJ in implementing its open market operations, alongside increased communication with the market.

Spreads between yields on long-term bonds issued by euro area periphery governments and German Bunds widened modestly in June and early July, but have since retraced much of this and remain well below earlier levels (Graph 2.8). The recent increase had been most pronounced for Portugal and Greece. In Portugal, this reflected concerns about political commitment to the austerity program following the resignation of the leader of the minor coalition party as foreign minister, along with a growing realisation that it will need to raise €16 billion from bond markets next year when its European Union/International Monetary Fund (EU/IMF) assistance program ceases. In Greece, the widening of spreads followed concerns about progress on its privatisation program and adherence to public sector employment reduction commitments, along with speculation of gaps in its funding for next year. However, its near-term funding needs have been addressed following the Troika's agreement to disburse a further €6.8 billion between July and October.

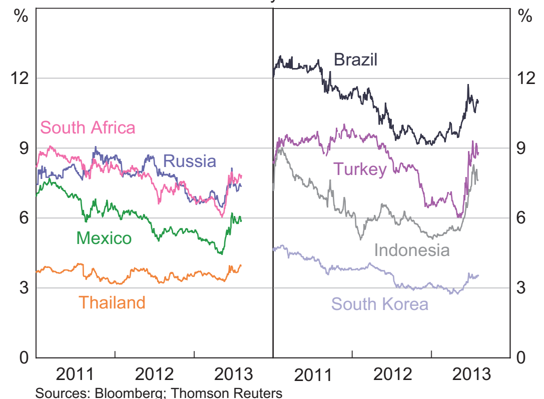
More generally, there have been continued signs of improved market functioning in the euro area in recent months. Portugal issued its first new government bond in May since requesting an EU/IMF assistance package, while the Bank of Ireland also raised €500 million in May without the support of a government guarantee.

Discussion about an anticipated reduction in Federal Reserve asset purchases saw capital flow out of a number of emerging markets in May and June and yields on their sovereign debt rise significantly. The rise in yields was notably pronounced for Brazil, South Africa, Turkey and Indonesia (Graph 2.9). In response to these outflows, central banks in these countries have raised policy rates and/or intervened in foreign exchange markets.

Graph 2.9

10-year Government Bond Yields

Local-currency denominated

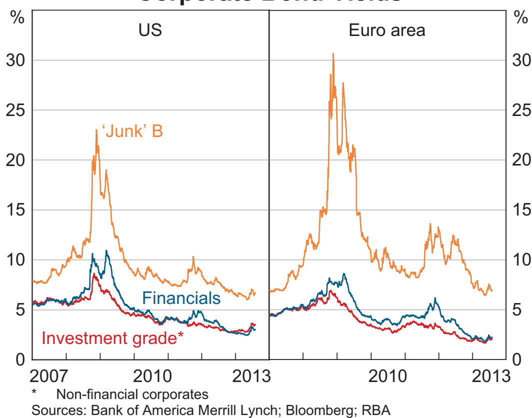


Sources: Bloomberg; Thomson Reuters

Credit Markets

Conditions for non-financial corporate bond issuance were very favourable in late 2012 and early 2013, but have deteriorated a little in recent months as investors reassessed the outlook for US monetary policy. Yields on all types of corporate bonds have risen notably since late May, notwithstanding a decline in the past month, with those on sub-investment grade bonds most volatile over this period (Graph 2.10).

Graph 2.10
Corporate Bond Yields

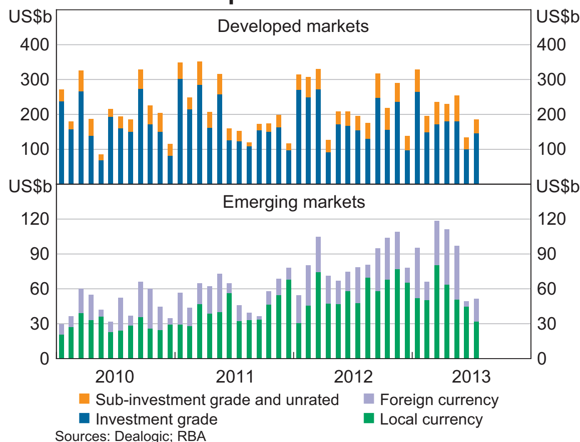


Corporate bonds in emerging markets sold off sharply in June, with particularly large rises in yields on bonds issued by Turkish, Indonesian and Brazilian corporations. Much of this rise reflected the general reassessment of risks associated with lending to these markets and the sharp rises in yields on their sovereign bonds.

Global issuance of corporate bonds declined somewhat in the past two months (Graph 2.11). The decline has been more pronounced for sub-investment grade and emerging market debt, consistent with greater volatility in the yields on these securities.

Yields on US mortgage-backed securities (MBS) have increased since the previous *Statement*, despite Chairman Bernanke noting that most members of the Federal Open Market Committee no longer anticipate selling the Federal Reserve's MBS holdings until well

Graph 2.11
Global Corporate Bond Issuance



after policy rates have risen, if at all. Yields on 30-year MBS are now 110 basis points higher than their early May level. Mortgage interest rates have risen in tandem.

Equities

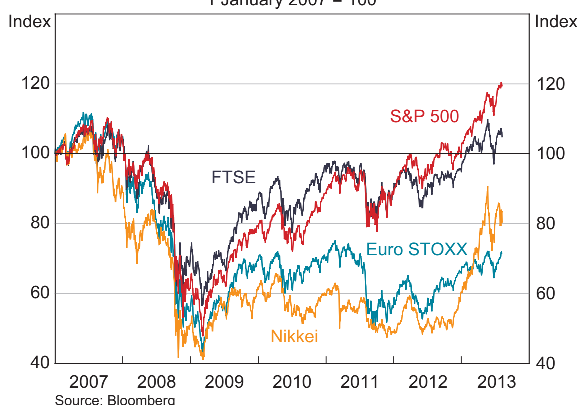
Equity prices in major markets have fluctuated significantly since the previous *Statement*, falling by around 8½ per cent in late May and June before almost fully recouping this, to be back around their highest level since 2008 (Table 2.2). These movements have largely reflected changes in expectations about the outlook for US monetary policy.

Equity prices have been most resilient in the United States, with the S&P 500 surpassing its previous historical peak as economic data improved and the outlook for corporate profits strengthened (Graph 2.12). Financial stocks have outperformed other shares over recent months, as second quarter profit results generally exceeded expectations on the back of strong growth in trading and investment banking income and reduced loan-loss provisions, notwithstanding weak income from mortgage lending. The announcement of stricter capital regulations on US financial institutions in July had minimal impact on bank share prices, with analysts noting that most institutions will be able to meet the new regulations (which will be phased in from 2014 to 2018) without needing to raise extra capital from investors.

Table 2.2: Changes in International Share Prices
Per cent

	Since end 2012	Since last *Statement*
United States		
– S&P 500	19	4
Euro area		
– STOXX	8	1
United Kingdom		
– FTSE	10	–1
Japan		
– Nikkei	33	–3
Canada		
– TSE 300	0	–1
Australia		
– ASX 200	8	–4
China		
– China A	–10	–9
MSCI indices		
– Emerging Asia	–3	–5
– Latin America	–11	–8
– Emerging Europe	–6	–7
– World	**13**	**0**

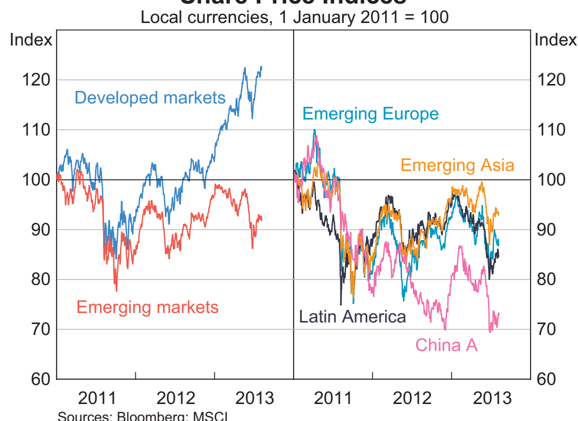
Source: Bloomberg



Japanese share prices fell by 20 per cent from late May to early June, following the 80 per cent run-up in equity prices from November 2012. Measures of volatility in Japanese share prices also increased significantly during this time. The sharp decline in equity prices occurred alongside falls in global share prices, though additionally reflected disappointment with the lack of detail in the government's structural reform plans. Nonetheless, Japanese share prices have since recovered over 40 per cent of this decline, to be one-third higher than at the start of the year. The recent rise has occurred alongside a continued upward revision to earnings expectations and a resumption of equity purchases by foreigners.

European equities have been little changed since the previous *Statement*, weighed down by continued weak economic data and ongoing concerns about peripheral euro area economies. Financials have performed in line with the broader index, with significant divergence in banks' second quarter profit results across institutions, in part reflecting the need for a number of banks to raise their provisions for litigation expenses. The share prices of some banks were also adversely affected by initiatives to decrease leverage through capital raisings and/or reduced risk-weighted asset holdings.

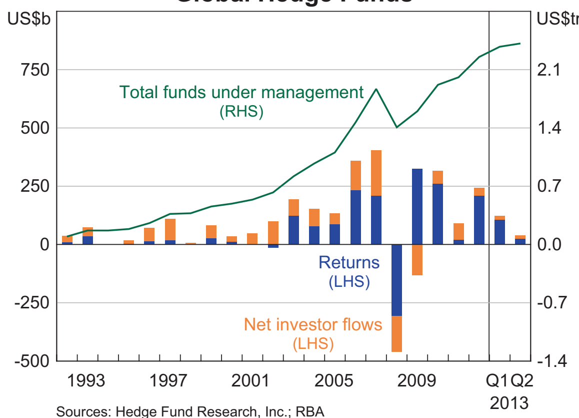
Emerging market equities have continued to underperform those in developed economies, falling by 7 per cent since the previous *Statement* (Graph 2.13). Falls have been broad based across



emerging markets, as investors withdrew capital on concerns about the possibility that reduced global liquidity would diminish demand for more risky assets. Nonetheless, the falls in share prices have been particularly sharp for Brazil, where economic growth appears to have softened, and China, where weaker-than-expected data and concerns about the PBC's initial reluctance to alleviate the liquidity shortage in interbank markets weighed on investor sentiment. Concerns about the outlook for Chinese growth also weighed on Asian markets more broadly.

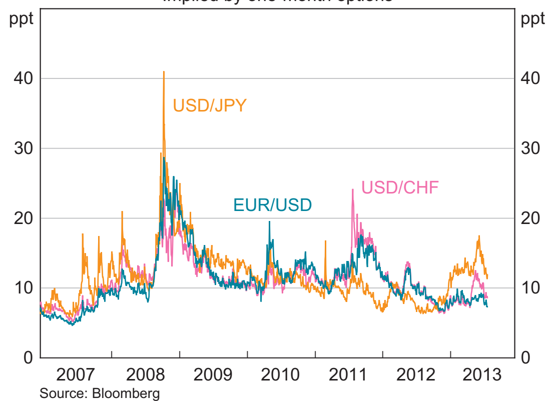
Hedge Funds

Global hedge funds recorded an average return on investments of 8.3 per cent over the year to June, which was moderately less than the total return from a balanced portfolio of global bonds and equities (including dividends) over the period. Funds under management increased by 1.7 per cent over the June quarter to US$2.4 trillion, reflecting a modest injection of new capital and a small positive average investment return (Graph 2.14). Funds investing in emerging markets underperformed over the quarter.



Foreign Exchange

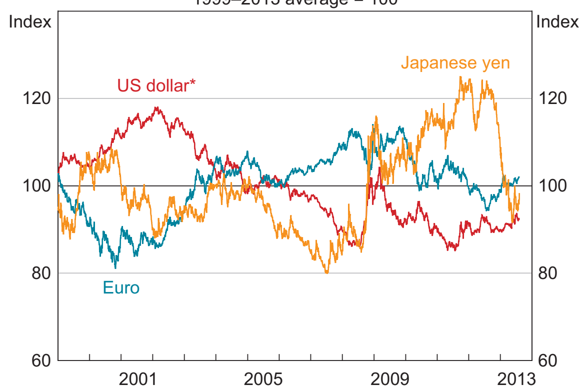
Foreign exchange markets have continued to be influenced by developments in central bank policy in the major advanced economies, although the focus has shifted from the easing of Japanese monetary policy in April to the possible scaling back of US monetary policy measures later in the year. Similar to debt and equity markets, market participants' reassessments of the outlook for US monetary policy led to an increase in foreign exchange market volatility in May and June; however, conditions have since stabilised somewhat (Graph 2.15).



The US dollar has appreciated slightly on a trade-weighted basis since end April to be 6 per cent higher than its September 2012 low, but nevertheless remains at a historically low level (Graph 2.16, Table 2.3). Notwithstanding the continued political tensions in Europe and the ECB's commitment to keep interest rates low 'for an extended period' in response to ongoing economic weakness, the euro has appreciated by nearly 2 per cent on a trade-weighted basis since end April. It remains around its average since the introduction of the single currency in 1999. The Japanese yen has depreciated by around 3 per cent on a trade-weighted basis since the BoJ's policy announcement in early April to be 21 per cent below its June 2012 peak.

The Chinese renminbi (RMB) has been little changed against the US dollar since late May and is around 2 per cent higher since the beginning of the year (Graph 2.17). After trading close to the upper bound of its +/–1 per cent daily trading band against the US dollar since September 2012, the RMB has been below the upper limit in recent months. The

Graph 2.16
Nominal Trade Weighted Indices
1999–2013 average = 100



* Against other major currencies

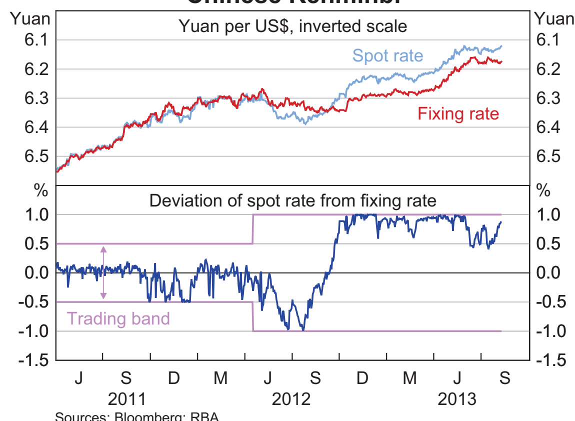
Sources: BIS; Bloomberg; Board of Governors of the Federal Reserve System; RBA

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

	Over the past year	Since end April
Brazilian real	14	16
Australian dollar	17	15
Indian rupee	11	14
South African rand	22	11
New Zealand dollar	2	7
Thai baht	0	7
Malaysian ringgit	5	7
Philippine peso	5	6
Indonesian rupiah	9	6
Mexican peso	–4	5
Canadian dollar	5	3
Singapore dollar	2	3
New Taiwan dollar	0	2
South Korean won	–1	2
Swedish krona	–3	0
UK pound sterling	1	0
Chinese renminbi	–4	–1
Swiss franc	–5	–1
Japanese yen	23	–1
European euro	–7	–1
Majors TWI	**2**	**1**
Broad TWI	**1**	**2**

Source: Bloomberg

Graph 2.17
Chinese Renminbi

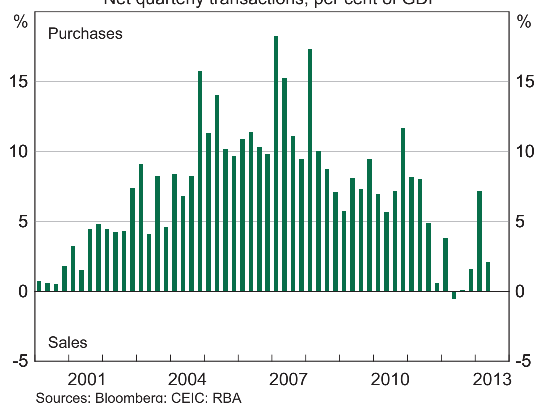


Sources: Bloomberg; RBA

apparent easing in appreciation pressures on the RMB is consistent with uncertainty about the outlook for the Chinese economy and reduced capital inflows to China, but stands in contrast to the more pronounced depreciation pressures experienced by other Asian and emerging market currencies over recent months. Consistent with this, the RMB has continued to appreciate on both a nominal and real trade-weighted basis to be 8–9 per cent higher than its recent low point in September 2012.

Chinese foreign exchange reserves increased by US$54 billion (around 2 per cent) over the June quarter, reflecting net purchases of foreign exchange reserves of US$47 billion and relatively modest valuation effects (Graph 2.18). The pace of reserve

Graph 2.18
Chinese Foreign Exchange Reserves
Net quarterly transactions, per cent of GDP



Sources: Bloomberg; CEIC; RBA

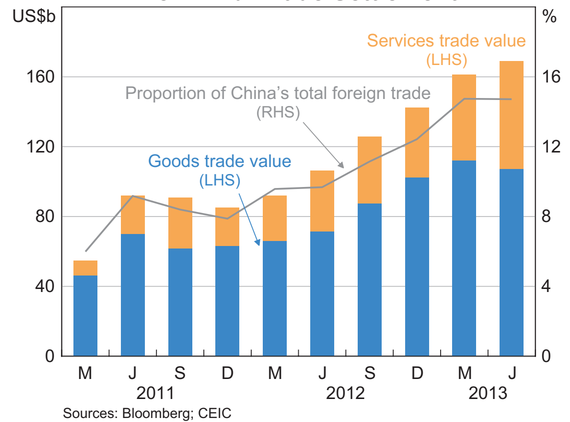
accumulation was noticeably slower than that seen over the March quarter, but consistent with reduced capital inflows. Reflecting the more pronounced downward pressures on exchange rates outside of China, most other Asian and emerging market central banks' foreign currency reserves have declined over recent months (Table 2.4, discussed below).

Chinese authorities have continued to take steps towards internationalising the RMB. These include expanding the Qualified Foreign Institutional Investor (QFII) and RMB QFII (RQFII) schemes – which allow approved foreign institutions to invest in Chinese financial markets – and allowing Chinese non-financial firms to lend RMB to their offshore affiliates. In addition, the PBC signed a bilateral local currency swap agreement with the BoE (worth up to RMB200 billion or the equivalent of around US$33 billion). The official estimate of the value of China's RMB-denominated foreign trade continued to increase in the June quarter, but was unchanged as a proportion of total foreign trade at 15 per cent (Graph 2.19). The Chinese authorities have recently simplified the process for RMB cross-border trade settlement in an effort to further promote its use.

Most other Asian and emerging market currencies have depreciated against the US dollar since end April, with the pace of depreciation and degree of volatility typically picking up in late May and June as market participants began to reassess their views on the outlook for US monetary policy (Graph 2.20). Although foreign exchange markets have since stabilised somewhat, emerging market currency volatility generally remains above the low levels recorded at the beginning of the year and most of these currencies remain well below their 2013 peaks against the US dollar (Graph 2.21).

In contrast to the concerns expressed by some policymakers earlier in the year about appreciation pressures on their currencies, authorities in a number of countries have more recently taken steps to counter depreciation pressures and/or mitigate currency volatility. In addition to monetary policy tightening (discussed above), this includes reported

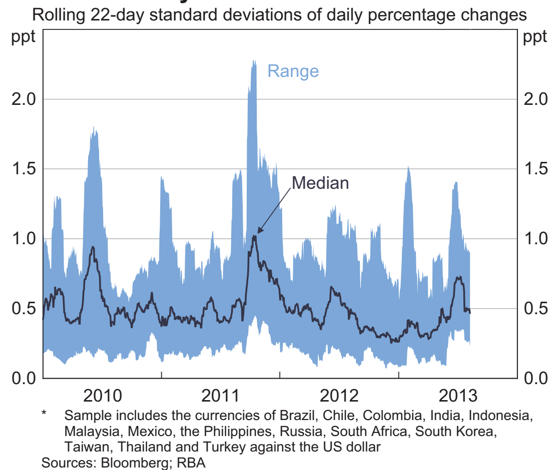
Graph 2.19
Renminbi Trade Settlement



Sources: Bloomberg; CEIC

Graph 2.20
Volatility of Selected Currencies*

Rolling 22-day standard deviations of daily percentage changes

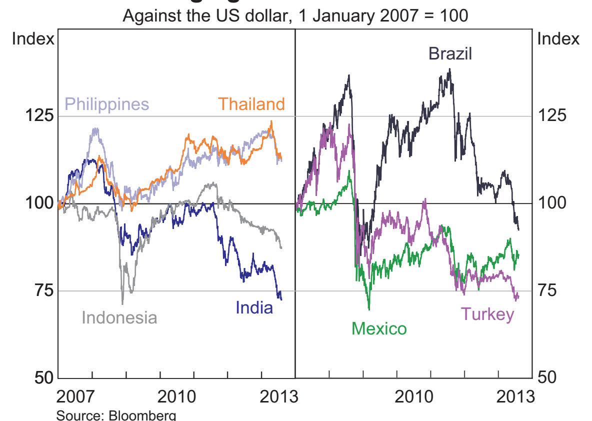


* Sample includes the currencies of Brazil, Chile, Colombia, India, Indonesia, Malaysia, Mexico, the Philippines, Russia, South Africa, South Korea, Taiwan, Thailand and Turkey against the US dollar

Sources: Bloomberg; RBA

Graph 2.21
Emerging Market Currencies

Against the US dollar, 1 January 2007 = 100



Source: Bloomberg

sales of foreign currency reserves, consistent with declines in a number of countries' reserves over recent months (Table 2.4). In addition, the authorities in Brazil and India – whose currencies have both experienced relatively pronounced depreciations against the US dollar – announced policy measures designed to directly encourage capital inflows.

Table 2.4: Foreign Currency Reserves
As at end July 2013

	Three-month-ended change		Level
	US$ equivalent (billions)	Per cent	US$ equivalent (billions)
China[(a),(b)]	54	2	3 497
Russia	–12	–3	447
Taiwan[(a)]	4	1	409
Brazil	–4	–1	364
South Korea	1	0	320
India[(c)]	–11	–4	252
Thailand[(b)]	–5	–3	162
Malaysia	–2	–1	126
Turkey[(c)]	–9	–8	103
Indonesia[(b)]	–6	–6	92
Philippines	0	0	70

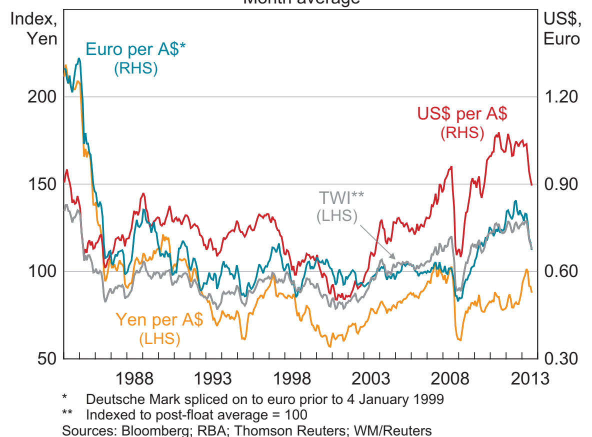
(a) Foreign exchange reserves (includes foreign currency and other reserve assets)
(b) End June
(c) Based on data to 26 July
Sources: Bloomberg; CEIC; IMF; RBA

Australian Dollar

After briefly reaching its highest level since 1985 on a trade-weighted basis in early April, the Australian dollar has depreciated against most currencies to be around 15 per cent below its April peak (Graph 2.22, Table 2.5). In trade-weighted terms, the Australian dollar is now around its lowest level since August 2010, though it remains at a high level by longer-term standards. In addition to the market's reassessment of the future path of US monetary policy – which has affected a range of other currencies – lower commodity prices and declines in domestic interest rates have also contributed to the depreciation of the Australian dollar.

Consistent with developments in other currency markets, intraday volatility in the Australian dollar has increased over recent months to be noticeably higher than the low levels seen at the beginning of the year (Graph 2.23).

Graph 2.22
Australian Dollar
Month average



* Deutsche Mark spliced on to euro prior to 4 January 1999
** Indexed to post-float average = 100
Sources: Bloomberg; RBA; Thomson Reuters; WM/Reuters

Table 2.5: Changes in the Australian Dollar against Selected Currencies

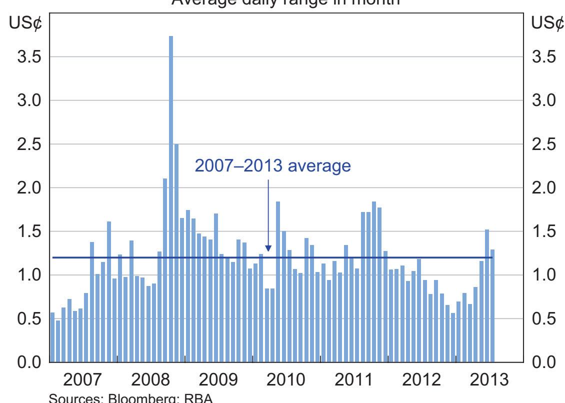
Per cent

	Over the past year	Since April peak in TWI[(a)]
Indian rupee	–5	–4
South African rand	4	–4
Thai baht	–15	–8
New Zealand dollar	–13	–8
Malaysian ringgit	–11	–8
Indonesian rupiah	–7	–9
Canadian dollar	–11	–12
Singapore dollar	–13	–13
US dollar	–15	–15
UK pound sterling	–14	–15
Swiss franc	–19	–16
Chinese renminbi	–18	–16
South Korean won	–15	–16
European euro	–21	–16
Japanese yen	5	–18
TWI	**–13**	**–14**

(a) 11 April 2013

Sources: Bloomberg; Thomson Reuters; WM/Reuters

Graph 2.23
Intraday Range in AUD/USD

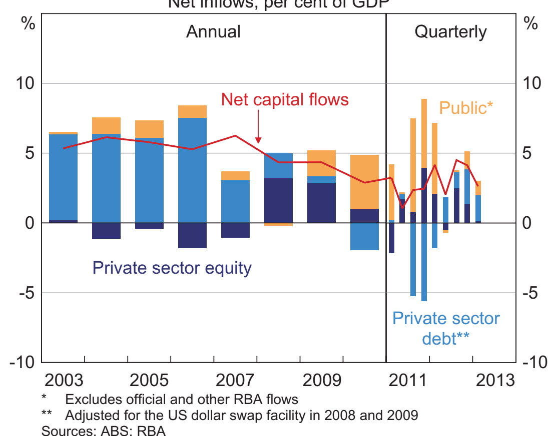


Sources: Bloomberg; RBA

Capital Flows

As occurred in the previous three quarters, net capital inflows to the Australian economy were largely directed to the private sector in the March quarter (Graph 2.24). The net private inflow primarily reflected net inflows of debt, with debt inflows to non-financial firms more than offsetting a small net debt outflow from the banking sector. There was a negligible net equity inflow to the private sector as a whole, with net foreign investment in non-financial firms and the banking sector offset by increased foreign investment by Australian superannuation funds. There was a small net inflow of capital to the public sector, though it remained well below the levels seen throughout most of 2009–2011 and was again less than new issuance. Accordingly, the foreign ownership share of Commonwealth Government securities declined slightly, to around 68 per cent in the March quarter from 70 per cent in the December quarter. ✠

Graph 2.24
Australian Capital Flows



* Excludes official and other RBA flows

** Adjusted for the US dollar swap facility in 2008 and 2009

Sources: ABS; RBA