2. International and Foreign Exchange Markets

Concerns about slowing growth in emerging market economies, particularly China, along with uncertainty about changes in monetary policy in the major economies have been the main influences on global financial markets in recent months. As concerns about China intensified in August, global equity prices fell, albeit from relatively high levels, there were further declines in commodity prices and the currencies of commodity-exporting nations, and spreads on corporate bonds widened. Subsequently, some of these price movements were reversed as expectations of further stimulus by some of the major central banks increased. Another factor having influenced global markets was sizable portfolio adjustments by large sovereign asset managers.

Central Bank Policy

The US Federal Open Market Committee (FOMC) maintained its target for the federal funds rate at both its September and October meetings. These decisions reflected its assessment that, while the FOMC's employment objective would soon be met, it could not be sufficiently confident that its inflation objective would be achieved. However, some FOMC members emphasised that the decision at the September meeting was a 'close call' and all but four projected at that time that the federal funds rate target should be increased this year, assuming economic data evolve as expected. Many members have reiterated this assessment subsequently, and the FOMC indicated in the statement accompanying its October meeting that it may well raise the federal funds rate target in December.

The market-implied expected path of the federal funds rate continues to be well below the projection of the median FOMC member (Graph 2.1). Market pricing implies a 60 per cent chance of an increase in the federal funds rate target this year, with the first increase fully priced in for the first quarter of 2016. The implied path for interest rates has flattened considerably since the start of the year, when markets had expected two increases in 2015 and a total of 75 basis points more tightening by mid 2017 than they now project.



The European Central Bank (ECB) signalled at its October meeting that there is a high probability it will increase the extent of stimulus it provides following its early December meeting, by increasing its asset purchases and/or lowering its policy rate. This announcement reflected concerns that the return of inflation to its target could be delayed by the impact of slowing growth prospects in emerging markets on oil prices and inflation expectations, and the appreciation of the euro. Under current policy, the ECB's balance sheet is likely to reach around \in 3.5 trillion by September 2016, the earliest date that its asset purchase programs will end, well above its earlier peak of \in 3.1 trillion (Graph 2.2).



The Bank of Japan's (BoJ) balance sheet has expanded by ¥75 trillion since the start of the year due to purchases of Japanese government bonds (JGBs). The BoJ continues to judge that both underlying inflation and inflation expectations are rising. However, it pushed back the date by which it expects to achieve its 2 per cent inflation target by 6 months to early 2017, due to further declines in oil prices over recent months. A number of observers expect it to expand its stimulus program further.

The People's Bank of China (PBC) eased monetary policy further in August and October in response to low inflation and slowing economic growth. In both instances this included a 25 basis point reduction in benchmark term deposit and lending rates, which are now 150–165 basis points lower than a year ago and at their lowest level on record (Graph 2.3). The PBC accompanied each easing with a system-wide 50 basis point reduction in reserve requirement ratios, which are now 250 basis points lower than a year ago. Much of the additional liquidity injected by these reductions offsets the contractionary effect of the PBC's foreign exchange reserve sales.



The lowering of Chinese benchmark interest rates in October was accompanied by the removal of the ceilings on permissible deposit rates, completing the formal deregulation of interest rates in China. However, banks do not appear to have used the additional flexibility so far, with most maintaining only a 25 basis point premium to the benchmark 1-year deposit rate (and pricing a little below the benchmark for at-call deposits).

The Reserve Bank of New Zealand eased policy further in September and signalled that further interest rate reductions may still be required (Graph 2.4; Table 2.1). The decision reflected the fact that the decline in dairy prices since March had dampened economic activity and that underlying inflation was expected to remain low for some time.



	Policy rate Per cent		Most recent change
Euro area	0.05	\downarrow	Sep 14
Japan ^(a)	na		na
United States ^(b)	0.125	\downarrow	Dec 08
Australia	2.00	\downarrow	May 15
Brazil	14.25	\uparrow	Jul 15
Canada	0.50	\downarrow	Jul 15
Chile	3.25	Ŷ	Oct 15
China ^(a)	na		na
India	7.00	\downarrow	Sep 15
Indonesia	7.50	\downarrow	Feb 15
Israel	0.10	\downarrow	Feb 15
Malaysia	3.25	\uparrow	Jul 14
Mexico	3.00	\downarrow	Jun 14
New Zealand	2.75	\downarrow	Sep 15
Norway	0.75	\downarrow	Sep 15
Russia	11.00	\downarrow	Jul 15
South Africa	6.00	\uparrow	Jul 15
South Korea	1.50	\downarrow	Jun 15
Sweden	-0.35	\downarrow	Jul 15
Switzerland ^(b)	-0.75	\downarrow	Jan 15
Thailand	1.50	\downarrow	Apr 15
Turkey	7.50	\downarrow	Feb 15
United Kingdom	0.50	\downarrow	Mar 09

Table 2.1: Monetary Policy

 (a) The Bank of Japan's main operating target is currently the money base; China does not have an official policy rate
 (b) Midpoint of target range
 Sources: Central banks: RBA: Thomson Reuters

The central bank of Norway also eased policy further in September in response to the impact of declining oil prices on domestic activity and signalled that further stimulus may be required. In Sweden, the Riksbank left its policy rate unchanged but expanded its government bond purchase program by 50 per cent in response to concerns that easier global monetary policy could cause the krona to appreciate and delay the return of inflation to target. The additional purchases will see the Riksbank own around one third of Swedish government bonds by mid next year.

The Reserve Bank of India continued to lower interest rates in response to a decline in inflationary

pressure and weakness in external demand. The Monetary Authority of Singapore also eased policy by slightly lowering the rate at which it will allow the nominal exchange rate to appreciate. In contrast, the central bank of Chile unwound 25 basis points of last year's monetary easing in October. This decision came despite continued economic weakness due to lower copper prices, with the central bank citing concerns about the impact of persistent exchange rate-induced inflation on inflation expectations.

Sovereign Debt Markets

Yields on 10-year US Treasuries have declined since mid year, reversing their rise over the first half of the year (Graph 2.5). The decline reflects a fall in inflation compensation for both medium- and longterm horizons as concerns about the disinflationary impact of slowing growth in China increased and oil prices fell. Yields on 10-year German Bunds and JGBs have moved in line with those on US Treasuries over recent months. Movements in shorter-term yields have been more divergent; 2-year US Treasury yields have drifted up this year, including a significant increase over the past two weeks, while 2-year German Bund yields fell further below the rate paid on deposits at the ECB following the ECB's indication that this rate could be lowered in December.

In the United States, yields at the very short end rose temporarily because of concerns that the Federal



Government would breach its 'debt ceiling'. Concerns were alleviated when Congress passed a two-year budget and a bill to suspend the debt ceiling.

Foreign holdings of US Treasuries have declined since the start of the year, with much of this seemingly due to sales of foreign exchange reserves by China (see 'Box B: Chinese Capital Outflows'). This has more than offset sizeable purchases of US Treasuries by Japanese residents due to both renewed foreign bond accumulation in recent months and an ongoing reallocation away from euro area bonds (Graph 2.6). Euro area residents' purchases of US bonds were sizeable in the first half of 2015, but their foreign bond purchases moderated somewhat in July and August.



Graph 2.6

Spreads between euro area periphery bonds and German Bunds have been broadly stable since European leaders reached an in-principle deal on additional financing for Greece in mid July. The Greek Parliament has since agreed to much of the legislation it was required to pass under the agreement, and there remains a commitment from Greece's official sector creditors to discuss possible debt relief in coming months. Strict controls on bank withdrawals have not been materially relaxed.

Foreign investor demand for emerging market bonds has diminished since mid year, resulting

in outflows from emerging market bond funds in late August and September. However, sovereign borrowing costs have risen materially for only a few countries since mid year and these increases were partially retraced over October. The largest rise in yields has been for Brazilian sovereign bonds, owing to concerns about a deteriorating fiscal position (in part due to lower commodity prices) that resulted in S&P downgrading the country's credit rating to below investment grade in September (Graph 2.7). Yields also rose in Turkey, owing to concerns about a fragile military and political environment, and in Indonesia, as commodity prices fell and the currency depreciated. Yields on sovereign bonds issued by other commodity exporters have generally been little changed since mid year while yields on bonds issued by commodity importing nations have fallen in line with those on US Treasuries.



Credit Markets

Spreads on bonds issued by corporations in the United States and euro area have risen since mid year, alongside a decline in these countries' sovereign bond yields (Graph 2.8). For investment grade borrowers, borrowing costs have increased only moderately as the rise in credit spreads (to around their historical average) has been largely offset by the decline in sovereign bond yields. Borrowing costs for non-investment grade borrowers outside of the



resource sector have also risen only modestly over that time, with credit spreads for such firms still lower than historical norms. However, borrowing costs for non-investment grade resource-sector corporations have risen substantially since mid 2014, with spreads having increased by 700 basis points since mid 2014 (of which 400 basis points occurred over the past few months).

Bond issuance by US corporations remained well ahead of the pace recorded in previous years (Graph 2.9). Issuance by investment grade borrowers was particularly robust, while that by non-investment grade borrowers declined a little. Nonetheless, noninvestment grade issuers still appear to be able to



Graph 2.9 Corporate Bond Issuance raise sizeable sums, as indicated by Dell's planned raising of up to US\$15 billion to fund an acquisition. Bond issuance by European financial and nonfinancial corporations remained subdued, in part reflecting the fact that the ECB's asset purchases and term funding programs have increased banks' other sources of funding.

Bond issuance by Chinese corporations has remained very strong. This is despite reduced offerings by local government financing vehicles (which count as corporate bond issuance) as local government borrowing moves away from these financing vehicles onto public sector balance sheets via the local government debt swap program. Local government bond issuance in 2015 to date amounts to CNY2.8 trillion, compared with only CNY0.4 trillion in 2014; the ceiling on the debt swap program was raised to CNY3.2 trillion in September. Sinosteel, a steel producer owned by the central government, delayed an interest payment on a CNY2 billion bond and extended the date when investors can call in these debts by one month. This constitutes the first ever missed bond payment by a central-government owned enterprise. Despite this, there has been no impact on the broader credit market where spreads continued to trend down.

In contrast, bond issuance by corporations in other emerging markets slowed notably in the September guarter and has yet to show clear signs of recovery (Graph 2.10). The decline in such issuance has been broad based across countries and industries. but more pronounced for US dollar-denominated bonds than for local currency-denominated ones. It occurred alongside a broad-based widening in spreads on US-dollar bonds, though this widening has been similar to that for non-investment grade borrowers in advanced economies and has been offset somewhat by a decline in US Treasury yields (Graph 2.11). There are few data on how the overall cost of borrowing in local currency (which accounts for over half of such corporations' bond issuance) has changed.





Source: J.P. Morgan

Equities

Global share prices fell by around 10 per cent in mid August and remained volatile during September, but have since recovered most of that fall as sentiment improved and expectations of additional central bank stimulus rose (Graph 2.12; Table 2.2). The fall over August was larger for European and Japanese shares that had outperformed other developed markets over the first half of the year, and their subsequent recovery has also been less pronounced than in the United States. The correction was triggered by increased concerns about the outlook for the Chinese economy following the Chinese authorities' decision to allow the renminbi (RMB)



Table 2.2: Changes in International Share Prices Per cent

Over

2015

	2014	to date
United States – S&P 500	11	2
Euro area – STOXX	2	12
United Kingdom – FTSE	-3	-2
Japan – Nikkei	7	8
Canada – TSE 300	7	-7
Australia – ASX 200	1	-3
China – MSCI All China	28	3
MSCI indices		
– Emerging Asia	5	-2
– Latin America	-4	-4
– Emerging Europe	-8	4
– World	7	2

Source: Bloomberg

to depreciate against the US dollar (see section on 'Foreign Exchange') and renewed falls in Chinese share prices, with relatively high valuations in global share markets probably a contributing factor. The decline also occurred alongside a rise in expected volatility (which has since eased). Movements in advanced economy and Chinese share prices have been unusually correlated since mid August, though the movements in China have continued to be more pronounced: Chinese share prices fell by a further 20 per cent in mid August and while they have recovered almost two thirds of that decline they are only slightly higher than at the start of the year. There has been little clear evidence of direct purchases of shares by the authorities over this time, in contrast to the June-July period. Outstanding borrowing against Chinese shares has fallen further over that time to be 55 per cent lower than in mid June.

Equity prices in many other emerging markets have been little changed since the start of the year, though in most cases are still a little lower than prior to the global sell-off in equity markets in mid August (Graph 2.13). Emerging equity markets have tended to move broadly in line with the performance of US equities since the start of the year, despite modest capital outflows from many of these economies; however, some Asian markets underperformed. Equity prices have been resilient in a number of countries whose exchange rates have fallen notably this year, possibly reflecting the stimulatory effect of a lower exchange rate on export earnings. that have reported September quarter profits to date have also mostly reported lower earnings than a year earlier, largely due to writedowns of goodwill but also as a result of lower income from investment banking activities.

Hedge Funds

Global hedge funds recorded an asset-weighted loss on investments of 3½ per cent over the September quarter 2015, broadly in line with a balanced portfolio of global bonds and equities, resulting in a loss of almost 2 per cent over the past year. The losses were largest among funds that invest in emerging markets, consistent with sharp falls in Chinese equities in particular over that time. Hedge funds continued to receive modest net inflows, but these were more than offset by losses on investments such that funds under management declined by 3 per cent over the quarter to US\$2.9 trillion (Graph 2.14).



Source: Bloomberg

Major US banks reported much higher profits for the September quarter than a year earlier, though this was more than accounted for by a decline in litigation expenses. In underlying terms, bank profits fell compared with a year earlier due to lower revenue from fixed income trading. European banks



Foreign Exchange

In recent months, foreign exchange markets have primarily been influenced by concerns about the outlook for global growth and uncertainty around the path of monetary policy in the major economies. Notwithstanding this, volatility in the main developed market currency pairs has been little changed over the year to date, at around its long-term average (Graph 2.15).



The US dollar appreciated by 7 per cent on a trade-weighted basis between mid May and late September, with the appreciation generally more pronounced against the currencies of commodity exporters (Graph 2.16; Table 2.3). However since then the pace of appreciation has stalled. Between late September and mid October the US dollar depreciated as market participants pushed back their expectations for the timing of the first interest rate increase by the US Federal Reserve, but the US dollar subsequently appreciated after the ECB signalled that it could announce further stimulus



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

Table 2.3: Changes in the US Dollar against Selected Currencies

Per cent

	Over 2014	2015 to date
Brazilian real	12	44
Malaysian ringgit	7	23
South African rand	10	21
New Zealand dollar	5	18
Australian dollar	9	14
Canadian dollar	9	13
Mexican peso	13	12
European euro	14	11
Swedish krona	21	11
Indonesian rupiah	2	9
Thai baht	1	8
Singapore dollar	5	6
Philippine peso	1	5
Indian rupee	2	4
South Korean won	4	4
New Taiwan dollar	6	3
Chinese renminbi	2	2
Japanese yen	14	2
UK pound sterling	6	1
Swiss franc	11	0
TWI	9	8

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

measures and the FOMC indicated that it may well raise the federal funds rate target in December. The US dollar is 18 per cent higher than in mid 2014.

In contrast to most other currencies, the euro appreciated by 5 per cent on a trade-weighted basis and by 7 per cent against the US dollar between mid July and late August, in part due to market participants unwinding carry trades that had been funded in euro (Graph 2.17). However, the euro has since depreciated by 4 per cent on a trade-weighted basis and by 7 per cent against the US dollar alongside market participants increasing their expectations of additional monetary policy stimulus and the ECB signalling this at its October meeting.



Similarly, the Japanese yen appreciated by around 5 per cent against the US dollar and on a tradeweighted basis in the second half of August, but has since been relatively stable at around 120 yen per US dollar (a level it has been around for a large part of 2015). The yen has depreciated by 2 per cent on a trade-weighted basis since early September as market participants increased their expectations that the BoJ will also announce additional stimulus measures in coming months.

On 11 August the PBC announced changes to the way it sets the daily fixing rate for the RMB against the US dollar to make it more market-determined. The fixing rate now takes into account: the previous day's spot market closing price; developments since the close (i.e. in the offshore RMB market and other foreign exchange markets); and market makers' quotes. Over a three-day period following the announcement, the RMB fixing rate against the US dollar depreciated by 41/2 per cent and the spot RMB exchange rate against the US dollar depreciated by 3 per cent, before stabilising on reported intervention and comments by PBC officials that there was no basis for further depreciation of the RMB (Graph 2.18). While the resulting depreciation of the RMB was the largest experienced in over two decades, it was small by the standards of most currencies and relative to the depreciation



of the RMB that occurred in 1994 following the unification of the official and market exchange rates (Graph 2.19). Since then, the spot RMB exchange rate against the US dollar has appreciated by 1 per cent. On a trade-weighted basis, the RMB has depreciated by 1 per cent since the change to the fixing rate, but is still 14 per cent higher since mid 2014.

Following the reforms to the fixing rate, the offshore RMB spot exchange rate against the US dollar has at times depreciated to be noticeably lower than the onshore rate, reflecting market expectations of further depreciation. The discount between the value of the onshore RMB and offshore RMB reversed in early September and late October on



reported intervention in the offshore market. The PBC was reported to have intervened in the onshore forwards market in late August, and announced that banks trading currency derivatives on behalf of clients would be required to hold foreign exchange reserves at the PBC against these positions.

The stock of Chinese foreign currency reserves fell by US\$180 billion (5 per cent) over the September quarter, with around half of this decline occurring in August (Graph 2.20). This decline in reserves occurred alongside an acceleration of net private capital outflows from China following the reforms to the fixing rate (see 'Box B: Chinese Capital Outflows'). Chinese foreign currency reserves have fallen by US\$480 billion (12 per cent) since the peak in June 2014.



Up until late September, most Asian and Latin American currencies continued to depreciate against the US dollar, alongside declining commodity prices, expectations of an increase in the federal funds rate, and uncertainty around the outlook for China. Currency depreciations were generally more pronounced for commodity exporters and those economies that have been facing persistent political uncertainty. However, since late September, most of these currencies have appreciated against the US dollar, some markedly so, alongside an improvement in global sentiment. Emerging market currencies in Europe have tended to move in line with the euro, with the exception of the Russian rouble and Turkish lira (Graph 2.21). Consistent with these movements, and in contrast to developed market currencies, volatility in emerging market currencies has increased over recent months to be well above its average since 2009.

Graph 2.21



The Indonesian rupiah has been little changed over recent months, although movements since mid July have been relatively pronounced. The rupiah depreciated by 9 per cent against the US dollar between mid July and late September, but has subsequently appreciated by 8 per cent. In addition to external factors, Bank Indonesia attributed the depreciation to strong demand for US dollars for debt servicing, and the subsequent appreciation to an increase in capital inflows amid an improved outlook for the domestic economy following a series of policy packages announced by the Indonesian government. Bank Indonesia also enacted a series of measures in September to stabilise the rupiah. Elsewhere in Asia, the Malaysian ringgit has depreciated further against the US dollar over recent months to be 19 per cent lower over 2015 to date, with Bank Negara Malaysia attributing the depreciation to both external and domestic factors.

In Latin America, the Brazilian real has depreciated further against the US dollar over recent months and is now 30 per cent lower over 2015 to date. Lower commodity prices and concerns about the outlook for the country's fiscal position and economic growth have contributed to the sustained depreciation. The Brazilian central bank has, in periods of heightened volatility, intervened via the currency swap market and provided US dollar liquidity via repo operations.

The gross foreign currency reserves of most emerging market economies have declined since the end of June, most notably in Malaysia, Mexico and Indonesia (Table 2.4). In contrast, Hong Kong's gross foreign currency reserves have increased slightly, as the Hong Kong Monetary Authority purchased US dollars during September and October when the Hong Kong dollar appreciated close to the upper limit of its trading band.

Australian Dollar

Since the previous *Statement*, the Australian dollar has depreciated by 3 per cent against the US dollar and by 2 per cent on a trade-weighted basis, to be around its lowest level since 2009 (Graph 2.22; Table 2.5). Over this period, changes



in the Australian dollar have reflected fluctuations in global sentiment and commodity prices, which have occurred alongside increased uncertainty about the outlook for China and market participants' ongoing assessment of the likely timing of the first rate increase by the US Federal Reserve. The Australian dollar is 16 per cent lower on a trade-weighted basis and 25 per cent lower against the US dollar than its mid 2014 level.

	Percentage change since:		Level
	End December 2014	End June 2015	US\$ equivalent (billions)
China	-9	-5	3 514
Taiwan ^(b)	2	1	426
South Korea	1	-2	360
Brazil	-1	-2	352
Hong Kong	5	1	331
India	11	-1	328
Russia	-5	3	312
Singapore	-2	-1	249
Mexico	-7	-7	172
Thailand	-1	-3	147
Turkey	-6	0	99
Indonesia	-9	-6	96
Malaysia	-19	-11	86

Table 2.4: Gross Foreign Currency Reserves^(a)

(a) Data to end September for China, Taiwan, South Korea, Hong Kong, Singapore, Mexico, Thailand and Indonesia; to 15 October for Malaysia; to 23 October for India, Russia and Turkey; to end October for Brazil

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

Sources: Bloomberg; CEIC Data; IMF; RBA

Table 2.5: Changes in the Australian Dollar against Selected Currencies

Per	cent

	Over 2014	2015 to date
Malaysian ringgit	-2	8
South African rand	1	6
New Zealand dollar	-4	4
Canadian dollar	0	-1
European euro	4	-3
Indonesian rupiah	-7	-4
Thai baht	-8	-5
Singapore dollar	-4	-7
Indian rupee	-6	-9
South Korean won	-5	-9
Chinese renminbi	-6	-11
Japanese yen	4	-11
UK pound sterling	-3	-11
US dollar	-8	-12
Swiss franc	2	-13
тwi	-3	-9

Sources: Bloomberg; RBA

Volatility in the Australian dollar has fallen slightly since the previous *Statement*, with the average intraday trading range for the AUD/USD exchange rate around its post 2000 average (Graph 2.23).



Capital Flows

Net capital inflows to the Australian economy were equivalent to 3.9 per cent of GDP in the June guarter, and were directed towards the private non-financial sector (Graph 2.24). In contrast to recent quarters, there was a small net outflow from the public sector (excluding the RBA) in the June guarter as a result of net inflows to the general government sector declining sharply. This is likely to have reflected the marked reduction in net issuance of Australian Government securities (AGS) in the guarter, as the foreign ownership share of AGS declined only slightly to 65 per cent. In contrast there was a modest net outflow from the state and local government sector, although the foreign ownership share of state and local government debt was little changed at 25 per cent, consistent with maturities in the quarter.





The net inflow to the private sector reflected net inflows to non-financial corporations, which more than offset net outflows from the financial sector. The net inflows to the non-financial sector were mostly directed to non-financial investment funds (which include funds that invest in non-financial assets, e.g. real estate). The net outflows from the private financial sector largely consisted of purchases of foreign equity by the banking sector and purchases of foreign debt by 'other financials' (which includes superannuation funds and other investment funds).

In the June quarter Balance of Payments and International Investment Position data release, the ABS reported revisions to the data from September 2011 to March 2015. Aggregate net capital inflows to Australia were revised up by around 0.3 percentage points of GDP per quarter on average over this period, primarily due to an increase in net debt inflows. Consistent with these revisions, Australia's net foreign liability position was revised a little higher over recent quarters but has been broadly stable at around at 56 per cent (Graph 2.25). The net income deficit was also revised higher and was 2.3 per cent of GDP in the June guarter; this was a slight increase from the March quarter and was due to an increase in the value of payments on Australia's debt and equity liabilities. 🛪

