U.S. Economic Update – Impact of Fed lift-off

by NAB Group Economics 11 December 2015

National Australia Bank

- A Fed hike would be no surprise to financial markets. This should mean the impact of rate hike itself is limited, given the forward looking nature of financial markets.
- However, what the Fed signals about the future direction of monetary policy could have an impact. We expect the Fed tightening cycle to be very gradual and rates to peak at a much lower level than in previous cycles.
- The widespread expectation of Fed tightening means that U.S. financial conditions have already tightened. This is most clearly reflected in the strong USD. As a result the economy is already experiencing the impact of tighter monetary policy ahead of the formal announcement.
- Our view is that the U.S. economy is solid enough to accommodate monetary tightening.
- The major risk is that this assessment is not correct, and that tightening represents a policy mistake by the Fed. There are also implementation risks and the risk of disruptions to vulnerable emerging market economies.

Expectations are high that the Federal Reserve will lift the federal funds rate in its next FOMC meeting, which ends on 16 December 2015.

If the Fed does indeed announce a rate increase, this would mark the end of an unprecedented seven years of a near zero policy rate. It would also be the first rate hike by the Fed in over nine years. In this note we examine some of the possible implications of the Fed moving starting to lift rates for the U.S. as well as the global economy.

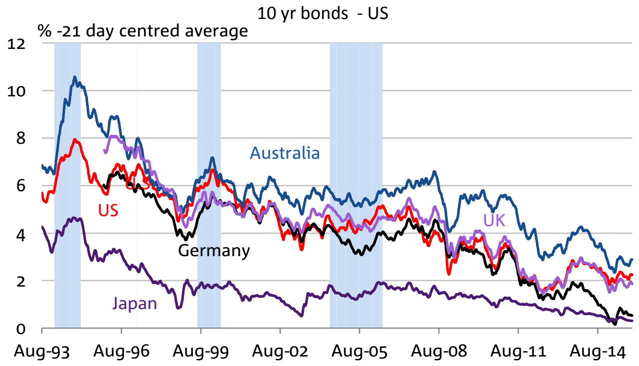
Past experience

The most immediate impact of any change in Fed monetary policy is likely to be first felt in financial markets. The charts opposite show long-term government bond yields, the US dollar, equities, and market volatility (as measured by the VIX) since August 1993. The blue shading indicates periods where the Fed was raising the fed funds rate. The last three tightening cycles occurred between February 1994 to February 1995, June 1999 to May 2000 and June 2004 to June 2006 (there was also a one-off hike in March 1997).

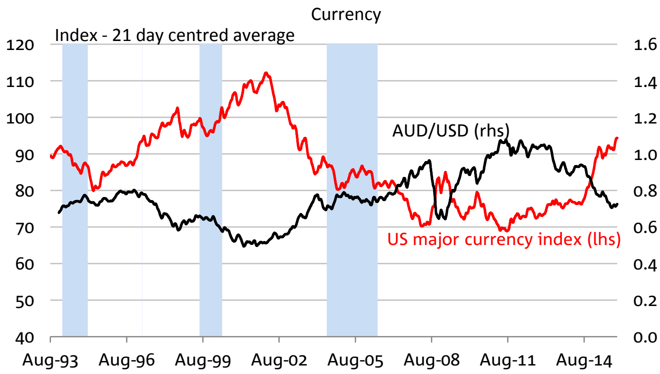
The main observations from examining these charts are:

- US long-term interest rates rose steadily in two of the three rate tightening cycles, but were broadly flat for much of the time in the most recent cycle. Yields across countries are highly correlated, so if U.S. rates do rise, this will likely increase rates elsewhere.

Impact of past rate tightening cycles



Sources: ThomsonReuters Datastream, NAB. Bars indicate Fed tightening periods.



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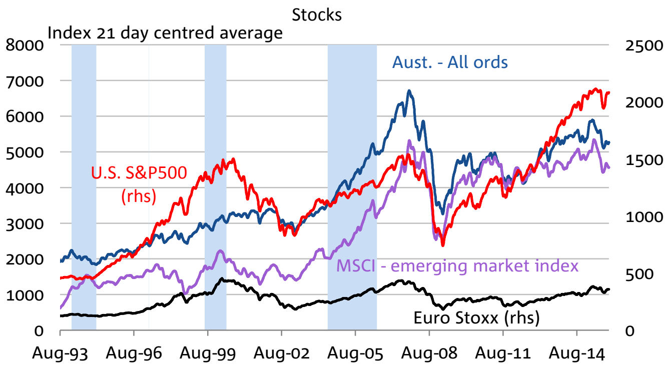

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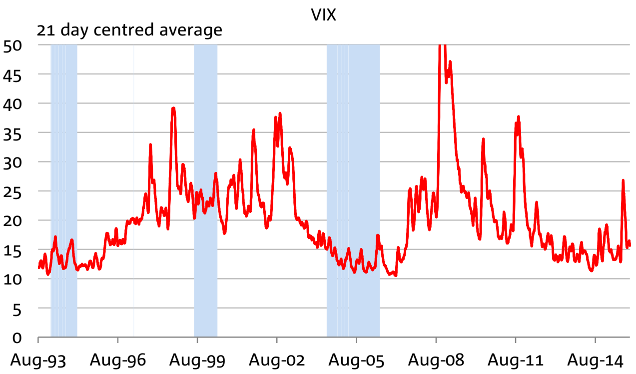


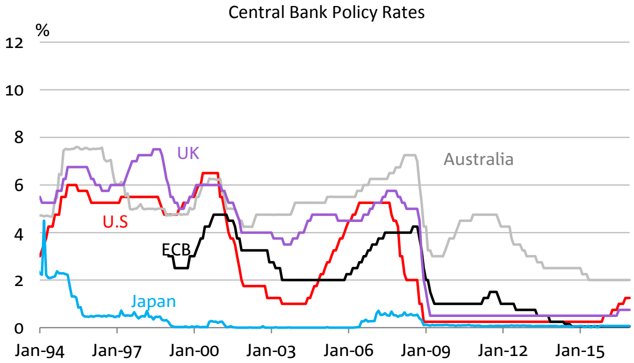
Sources: ThomsonReuters Datastream, NAB. Bars indicate Fed tightening periods.

- The USD major currency index (a basket of seven currencies) fell, at least initially, in each cycle but for the AUD/USD there is no clear pattern.
- Equities in the U.S. – and in other markets – were flat or weakened early on in the cycle but in the last two cycles this was temporary.
- Market volatility did not necessarily increase at the start of the tightening cycle. In fact rate hike cycles often occur in periods of relatively low volatility. This is not entirely surprising as the Fed is less likely to hike when markets (and the economy) are troubled.

Clearly there are other factors at work which help to explain the changes in financial markets through these past cycles. While in a technical sense changes to interest rates may be a 'negative' for stock prices (as they represent an increase in the discount factor in certain asset valuation models) over time the strength of the economy is likely to be more important. For example, the world economy – fuelled by strong growth in emerging Asia (and particularly China) – was growing very strongly in the mid-2000s. Consistent with this, emerging market stock markets were particularly strong (as was Australia's which benefited from its ties to Asia and commodity sector exposure).

In the case of currencies, this is even more evident. An exchange rate is by definition the price of one currency against another, so conditions outside of the U.S. are also crucial. So while in the past the USD hasn't continued rising through a U.S. monetary tightening, this time we expect it will due to the divergence in monetary policy settings with other key central banks, reflecting the different economic environments across countries and regions. The European Central Bank recently announced further monetary easing, the Bank of Japan is currently in the midst of its own QE programme and China has also been cutting rates. In contrast, in previous cycles, other central banks were also tightening policy at around the same time as (and in some cases ahead of) as the US.

Monetary policy settings diverging



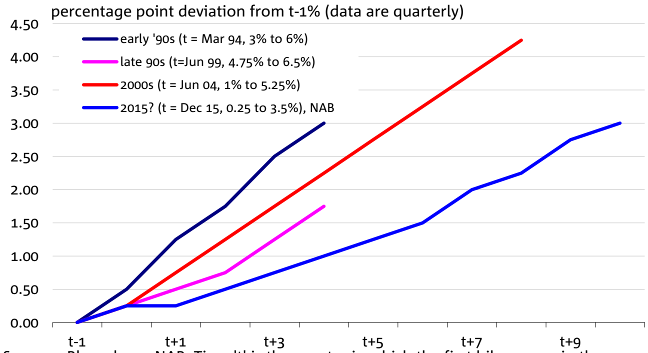
Sources: Bloomberg, NAB. Forecasts shown to end 2016

Moreover, the lack of clear indications from history of how markets might react reflects the fact that financial markets are forward looking. So a rate hike which is expected is likely to have less announcement impact than one which is unexpected. This has two important implications:

- While the Fed may not yet have formally tightened monetary policy, it has effectively already done so. This can most clearly be seen in the rapid appreciation of the USD since mid-2014.
- With a Fed rate rise widely expected, a decision to not hike in the December meeting will probably be more disruptive than a decision to do so. Moreover, in the event they do hike, potentially more important would be changes in expectations of future Fed actions.

The chart below shows the cumulative increase in the fed funds rate over each of the last three tightening cycles, as well as our expectation for what will happen this time around. Consistent with indications from the Federal Reserve, this tightening cycle is likely to be gradual by past standards, and the peak for the fed funds rate (not shown in chart) is likely to be considerably lower. The question is how gradual? With an update of Fed member projections for the economy and interest rates to be released following this month's Fed meeting, changes in perceptions on this issue could be more likely to cause disruptions to financial markets than a rate hike per se.

Fed funds rate – only gradual tightening expected



Sources: Bloomberg, NAB. Time 't' is the quarter in which the first hike occurs in the cycle. 2015 cycle projection is for the top of the target range.

The future path of the federal funds rate is not the only issue. Following the 2007-09 recession, and with the federal funds rate near zero, the Fed undertook several asset (securities) purchases programmes – commonly known as 'QE' (quantitative easing). While the Fed is no longer increasing the size of its securities holdings, it continues to reinvest principal repayments to keep the level of holdings unchanged. It has indicated that at some point it will reduce its securities holdings, but has not been clear on when this will happen, other than it will be after the time when it starts raising the federal funds rate. However, the Fed's October 2015 meeting minutes revealed some participants saw the need for additional policy tools (other than the fed funds rate) so the use of asset purchases and the appropriate size of the balance sheet is probably still up for debate. That said, it is unlikely the Fed will address this issue when it first increases the fed funds rate as it will not want to muddy the waters.

Economic impact

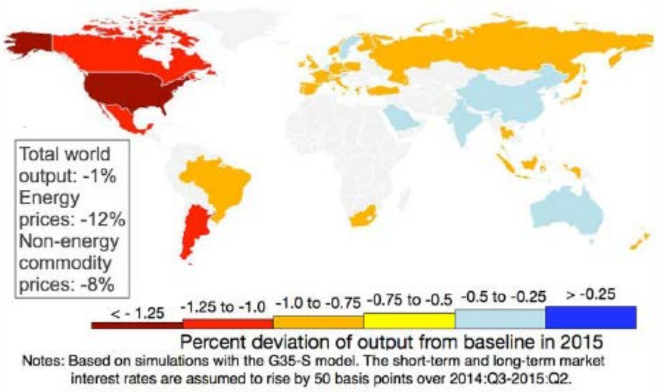
Looking beyond financial markets, the concern is how any increases in the U.S. federal funds rate will affect the U.S. economy and, in turn, the global economy.

It is a relatively simple exercise to plug into a macro model a 25 bp rate rise and see what the impact is. Our modelling suggests that it lowers U.S. GDP growth by around 0.25ppt, and world GDP growth by a bit over 0.1ppts.

However, monetary policy is not changed in isolation to what is going on in the economy. A tightening of policy when the economy has moved to a sounder footing can have a significantly different impact to a scenario where the economy is fundamentally weaker than policy makers expect. As the Fed Chair indicated in a recent speech, there have been various headwinds (e.g. fiscal policy, deleveraging, strong dollar) holding down the so called 'neutral rate' – the rate at which monetary policy is neither expansionary or contractionary – but as these recede the neutral rate will rise. If this occurs then the fed funds rate can also rise without exerting any real downward pressure on the economy.

In a similar vein IMF research finds that a stronger U.S. economy causing a tightening of monetary policy is overall a net positive. However, the opposite scenario – essentially a policy mistake by the Fed – would cause a slowdown in the U.S. economy, as depicted in the chart below, with significant spill overs to other economies particularly in the rest of North America, South America and Europe. However, while still a negative, in this scenario the IMF's modelling suggests the impact on China, India and Australia is not as severe.

Downside risk: Impact of US monetary policy change without higher growth



Source: IMF Multilateral Policy Issues Report, 2013 Spillover Report

This is also true for capital flows. The IMF's 2015 Spillover report suggests that tightening due to stronger growth can be positive for capital inflows into emerging economies. In contrast, an unanticipated tightening in monetary policy (akin to a 'policy mistake' scenario) would cause capital outflows from emerging markets.

As noted previously, the expected tightening by the Fed has already affected monetary conditions and so is already influencing global growth and capital flows. There will undoubtedly be many reports of the 'impact' of a U.S. fed funds rate hike but you cannot simply add that to current growth rates to see where we will end up. Moreover, as already noted, other central banks have been easing providing an offset to U.S. monetary policy. Consistent with this, U.S. 10 year bond yields are currently around 2.2%; while this is well up on the lows reached early this year, it is still lower than the average yield in 2013 and 2014.

Our view, as has been reflected in our forecasts for some time, is that the U.S. economy is solid enough to cope with a gradual path of increases in the fed funds rate.

There have been marked differences in the strength of activity between individual advanced economies. The US, Canada and UK made the strongest recoveries from the deep recession of 2008/9. By contrast, the economies of Japan and the Euro-zone have struggled to even get back to the level they were in early 2008. The divergence in monetary policy settings between the U.S. and other economies – and the resulting shifts in currencies, is helping to support the recovery in those advanced economies that have been lagging. This should help reduce the chances of some of the extreme tail risks in these economies (e.g. break up euro-zone) occurring.

Other risks

Apart from the risk that a Fed rate hike is a policy mistake – with negative consequences for global growth – there are a number of other risks that need to be watched:

- Implementation risk: with the Fed having an expanded balance sheet due to its QE programmes, it cannot raise the federal funds rate in the same way it has in the past. Rather, it has indicated at the same time as increasing the target range for the federal funds rate, it will also raise the interest rate on excess reserves at the top of the target rage, and set the rate for its overnight reverse repurchase agreement facility at the bottom of the range.

  While in theory this should work - and the Fed has other tools up its sleeve - it has yet to be proved in practice. The risk is that the Fed does not have control of the effective federal funds rate (as opposed to the target) causing volatility. There has also been discussion within the Fed as to whether the overnight repurchase agreement facility may give rise to other, financial stability, problems.

- Risk of sudden changes in financial conditions, particularly in emerging economies. While a Fed move is expected and so should not come as a surprise, Fed meetings which make no policy changes can move markets so we cannot rule out a large reaction, especially as it would be the first hike in nine years.

  The concern is centred on emerging market economies - particularly for Latin American and south east Asian economies already hit by weaker commodity prices - and the risk of further capital outflows. Of course, capital outflows which lower exchange rates improve a country's competitiveness, a potential upside; but risks arise if the changes are large and destabilizing (either because there is corporate stress due to high foreign currency debt exposures, or the depreciation is so large it threatens inflation, causing central banks to tighten monetary policy).

- Liquidity affects may magnify such disruptions. Analysis by the IMF has found that heightened volatility can lower market liquidity and some markets (particularly in high yield and emerging market bond markets) have already seen a worsening in liquidity. That said, the IMF also found that the search for yield has recently been adversely affecting liquidity in some markets, so the impact of fed rate hikes on liquidity across different markets is not clear cut.

Risks are, however, not just to the downside. Insurers and pension funds who have been forced to take risks in the search for yield may benefit. The Deputy Chief Executive, Hong Kong Monetary Authority in October welcomed the normalisation of monetary policy in the US as in his view it would facilitate adjustments of macroeconomic imbalances and help deflate asset bubbles in emerging markets caused by excessive global liquidity since 2008.

The Vice Chair of the Fed, Stanley Fischer, has noted that several emerging market (and other) central bankers have been telling the Fed to "just do it", presumably in the belief that market volatility might actually decline following Fed action.

Implications for Australia

For Australia, any immediate impact is likely to come through financial markets. As noted before, a Fed move is widely expected, so major changes in financial markets would be a surprise.

Nevertheless, we expect the divergence between US monetary policy settings and those of other economies to continue putting upwards pressure on the dollar. A stronger USD in general would put downward pressure on the AUD/USD (which we expect to move down to the high 60s next year). However, other factors are also important – the AUD is sensitive to market volatility, commodity prices and the general state of the economy. In isolation, a stronger USD also has some implications for commodity prices (due to the pricing of commodities in USD terms), which could also be affected if investors switch out of commodities. Long-term bond yields across advanced economies are correlated, and we expect term yields will drift slowly higher, including in Australia, as the Federal Reserve begins tightening.

NAB forecasts: FX and bond yields

		30/11/2015	Dec-15	Mar-16	Jun-16	Sep-16	Dec-16
FX							
Australian Dollar	AUD/USD	0.72	0.70	0.68	0.69	0.70	0.70
Japanese yen	USD/JPY	123.02	121	122	123	124	125
Euro	EUR/USD	1.06	1.06	1.05	1.05	1.06	1.07
British Pound	GBP/USD	1.50	1.52	1.51	1.48	1.45	1.44
Chinese Yuan	USD/CNY	6.40	6.40	6.50	6.60	6.65	6.70
10 Year Benchmark Bond Yields							
Australia		2.86	3.1	3.1	3.3	3.3	3.4
United States		2.21	2.5	2.5	2.8	2.8	2.8
Europe/Germany		0.47	0.8	0.9	1.0	1.2	1.2
UK		1.83	2.1	2.2	2.3	2.4	2.4
Japan		0.30	0.4	0.4	0.5	0.5	0.5

Sources: Bloomberg, NAB

If Fed tightening were to cause financial market volatility, particularly in equity markets, this could also have a damaging effect on consumer and business confidence, potentially weighing on consumer spending and business investment.

While this is a risk, high frequency indicators suggest a degree of resilience in the gradual recovery in the non-mining recovery economy, with business conditions and employment outcomes solid.

Notwithstanding the imminent tightening in U.S. monetary policy, we continue to anticipate a gradual recovery in Australian economic activity, as the non-mining economy gradually gathers momentum in response to stimulatory financial conditions (low interest rates and further AUD depreciation). Further details on the outlook for the Australian economy can be found here.

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US Economic & Financial Forecasts

	Year Average Chng %				Quarterly Chng %							
					2015		2016				2017	
	2014	2015	2016	2017	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
US GDP and Components												
Household consumption	2.7	3.1	2.8	2.4	0.8	**0.7**	**0.7**	**0.7**	**0.6**	**0.6**	**0.6**	**0.6**
Private fixed investment	5.3	4.4	5.8	4.8	0.8	**1.6**	**1.6**	**1.5**	**1.5**	**1.3**	**1.2**	**1.0**
Government spending	-0.6	0.8	1.5	1.4	0.4	**0.3**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**
Inventories*	0.0	0.2	-0.3	0.0	-0.1	**-0.2**	**-0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Net exports*	-0.2	-0.6	-0.3	-0.3	-0.1	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**	**-0.1**
Real GDP	**2.4**	**2.5**	**2.4**	**2.3**	**0.5**	**0.5**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
Note: GDP (annualised rate)					*2.1*	*2.2*	*2.3*	*2.6*	*2.5*	*2.4*	*2.4*	*2.2*
US Other Key Indicators (end of period)												
PCE deflator-headline												
Headline	1.1	0.4	2.1	2.4	0.3	**0.0**	**0.4**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
Core	1.4	1.3	1.8	2.1	0.3	**0.3**	**0.4**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**
Unemployment rate - qtly average (%)	5.7	5.0	4.6	4.4	5.1	**5.0**	**4.8**	**4.7**	**4.7**	**4.6**	**4.5**	**4.5**
US Key Interest Rates (end of period)												
Fed funds rate (top of target range)	0.25	0.50	1.25	2.50	0.25	**0.50**	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**	**1.75**
10-year bond rate	2.17	2.50	2.75	3.00	2.04	**2.50**	**2.50**	**2.75**	**2.75**	**2.75**	**3.00**	**3.00**

Source: NAB Group Economics

*Contribution to real GDP

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