19 November 2013

United States Economic Update

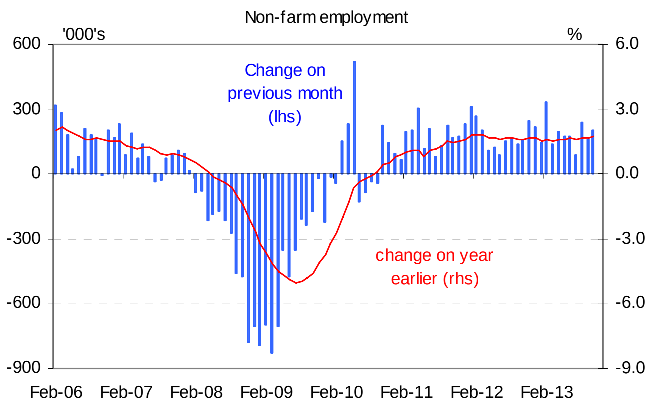
National Australia Bank

- **US GDP rose by 2.8% (annualized rate) in the September quarter, continuing the improvement experienced over the course of the past year. However, details a bit weaker as the stronger growth reflected a pick-up in inventories.**
- **Bernanke's replacement by Yellen as head of the Fed early next year will mean the evolution in Fed policy will continue, with additions to, or clarification of, existing forward guidance the most likely first steps.**
- **Still expect QE tapering to start in March 2014.**

US GDP in the September quarter grew by 0.7% qoq or at an annualised rate of 2.8%. Since the almost zero growth in the December quarter 2012, GDP growth has strengthened in each quarter.

However, the underlying details are a bit less positive. The stronger growth was due to a more rapid build up in inventories which are not a sustainable source of growth. While net exports strengthened and residential housing investment again grew strongly, business investment was quite weak. Consumption growth also softened to its lowest rate since the June quarter 2011, although excluding the weather sensitive electricity and gas utility category, growth has actually strengthened modestly over the last two quarters, consistent with a fading impact from the start-of-year tax increases. Further details on the September quarter GDP release are available at our website[1].

Non-farm employment growth remains solid



Source: Bureau of Labor Statistics, NAB

Since the GDP release, the major economic news has been October's employment report. Non-farm employment grew by a strong 204,000 persons, and the growth over the previous two months was revised up by 60,000. This was a strong result given some impact from the government shutdown was expected. With average employment growth averaging above 200,000 over the last three months, concerns over an employment slowdown suddenly became more muted. We have been saying for some time now that not too much should be made of month-to-month moves in employment numbers; the annual non-farm employment growth rate has been remarkably steady for a while and points to a solid employment growth trend.

The employment report was not all positive. The separate household survey measure of employment plunged by over 700,000, in-part driven by government workers sent home due to the shutdown and possibly spill-overs to private sector workers affected by the shutdown. At the same time the participation rate plunged so the unemployment rate only rose marginally from 7.2% to 7.3%. Clearly these data are distorted by the shutdown and, with a rebound expected next month, a clean read from the household survey won't be available until the December report.

There is little other 'hard' data available on activity in the December quarter, but we expect a softening in growth in the quarter due to the government shutdown, a more normal level of inventory accumulation and a slowdown in housing investment as suggested by recent partial indicators.

Looking at 2014, we expect the headwind from fiscal policy is expected to moderate as the pace of federal deficit reduction slows down. With household wealth continuing to trend up, employment growing, and banks gradually easing lending standards, consumption growth should strengthen. High and growing profits, coupled with banks continuing to ease their lending standards for business loans, will support business investment. Notwithstanding some recent softening in partial indicators, with the level of home construction and new home inventories low by historical standards, residential housing investment is expected to grow strongly over the next few years. Exports should be also be supported by improving global economic conditions, although we expect appreciation of the dollar to constrain net exports.

Developments in Washington continue to pose a risk to the outlook. Of immediate concern would be a repeat of last month's government shutdown and delay in increasing the debt limit early in 2014. At this stage we are cautiously optimistic that things won't get as bad as in October, if only because the politicians who received a lot of heat last time around may not be ready for another round just yet.

Overall, we expect that the drawn-out recovery will continue but with the pace of growth moving higher in 2014. We are forecasting GDP growth of 1.7% in 2013 and 2.6% in 2014.

Monetary Policy

It is almost certain that Ben Bernanke will be replaced by Janet Yellen as the head of the Federal Reserve early next year. Yellen testified to the Senate Committee on Banking, Housing, and Urban Affairs last week breaking a relatively

[1] http://business.nab.com.au/category/economic-commentary/

long period of silence. Her prepared remarks were regarded as 'dovish' as they focused on unemployment being too high and inflation below target while not addressing the issue of when the Fed will start to scale back its assets purchases (or 'QE'). In response to questions from Senators, Yellen gave a defence of Fed policy and pointed to continuity going forward. Of course it is normal for the Fed Chair (or prospective one) to avoid controversy at congressional hearings so this does not necessarily mean there won't be changes ahead.

A theme of reporting of the impending change to the Fed leadership is that Yellen may be more dovish than Bernanke. Such descriptions are so broad as to tell you very little. Yellen is considered to have taken 'hawkish' positions in the past.[2] In this note we have a look at her past speeches to gauge how policy might evolve under her leadership.

Fed goals

A logical place to start is the goals of the Fed - what is it trying to achieve? In January 2012, the Fed issued a statement regarding its longer-run goals and monetary policy strategy for the first time (since updated in January 2013). This included an inflation goal of 2% per year over the longer-run. On the other side of its so-called dual mandate, the Fed declined to nominate an employment target but noted that most members' estimates of the longer-run normal rate of unemployment lay between 5.2% and 6.0%. It also noted that it would take a balanced approach to achieving these objectives.

That Yellen has not demurred from these underlying goals should not surprise as, firstly, they represent the broad consensus view of the Fed and, secondly, she headed the communications committee charged with their development.

The statement on longer-run goals notes that in circumstances where the Fed's unemployment and inflation goals are in conflict that the Fed would take a 'balanced approach'. In a November 2012 speech[3], Yellen spelled out two implications of this:

- over a period of time both unemployment and inflation will be equally likely to fall on either side of the objectives – this means that the 2% inflation goal is not a cap; and
- at times this will mean that bringing one variable back towards the Fed's objective involves allowing the other variable to move away from target.

Of course right now the two objectives are not in conflict – unemployment is above target and inflation below, and the normal remedy for both is stimulatory monetary policy. Interestingly, in two speeches this year Yellen has drawn the conclusion that reducing unemployment should take centre stage in the conduct of monetary policy, even if doing so might result in inflation 'slightly and temporarily exceeding 2 per cent.'[4] The rationale for this view was that unemployment is further away from target. [5] It may also reflect her own policy bias and background as a labour market economist. Another factor may be concern that a long period of high unemployment could permanently damage the economy through a 'hysteresis' affect in which long-term unemployed lose skills and become unemployable.

This is potentially an important consideration for next question: given the aims of monetary policy how can they be achieved? In the current circumstances this is a question of how 'loose' policy should be.

Achieving the goals – how loose monetary policy?

Yellen has laid out her preferred version of the Taylor Rule.[6] She has clearly indicated a preference not for the original (1993) Taylor Rule - which applies an equal weight to the output gap and deviations from the inflation target and the output gap - but for a variant which has double the weighting on the output gap. In speeches in April 2012 and November 2012 she constructed a version which derived the output gap based on the unemployment rate[7]. Namely:

FFR = 2 + inflation + 0.5*(inflation – 2) + 1.0Y

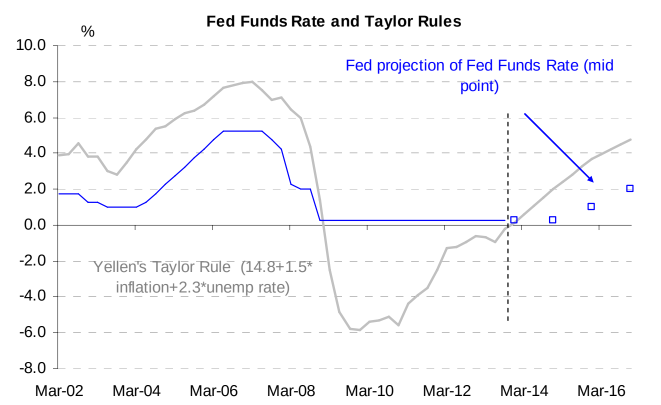
Where FFR is the fed funds rate and Y is the output gap and is equal to:

Y = 2.3*(6-UR)

Where UR is the unemployment rate and '6' is the value of the 'non-accelerating inflation rate of unemployment' which is akin to the Fed's unemployment target.

This fed funds rate suggested by this rule is shown below.

Yellen's preferred Taylor Rule and the fed funds rate



Source: NAB, Federal Reserve. Projections under 'Yellen's rule' based on mid-point of Fed central tendency forecasts.

Several things stand out in the above chart. Firstly, a rule which is 'dovish' (because of its emphasis on the output gap) currently can be 'hawkish' in other times (in the pre-recession period it calls for policy to be tighter than it actually was). Secondly, it suggests that the Fed Funds rate is about at the right level currently, but that is before allowing from the extra stimulus coming from QE and forward guidance. That said, the output gap measure is based around the unemployment rate and as this has been declining in-part due to declining workforce participation; whether Yellen would still use this as her measure of the output gap is an open question. Lastly, it suggests that the fed funds rate should start rising soon and

[2] http://www.economist.com/blogs/freeexchange/2013/10/response-our-post-janet-yellens-nomination notes a 'hawkish' position in the 1990s. Also RDQ Economics, Economics Matters, The Yellen Rule, 11 October 2013, infers from her mid-2000 speeches that she may have produced tighter policy if she had been running the Fed.

[3] Yellen J., Revolution and Evolution in Central Bank Communications, 13 November 2012,pp13-14

[4] Yellen J., Communication in Monetary Policy, 4 April 2013, p12 (also see Challenges Confronting Monetary Policy, 4 March 2013)

[5] Since these speeches the unemployment rate has declined (bringing it closer to target) as has inflation (taking it further away from target), so a more equal billing may now be seen as appropriate.

[6] Yellen J., The Economic Outlook and Monetary Policy, 11 April 2012 and Yellen (November 2012)

[7] Yellen (April 2012) and Yellen (November 2012). In her April 2012 speech a value of 5.6% was used in the output gap term but we have used the value from the more recent November 2012 speech.

that it should rise at a faster rate than the Fed currently expects to be case.

This is a rule that Yellen considers useful as one guide to policy when circumstances are 'normal'. However, she does not believe circumstances are 'normal'. One of the reasons for this can also be seen in the chart, which shows that for a long period of time the Taylor rule was calling for a negative fed funds rate, which is not possible. As Yellen puts it:

> *"...the actual setting of the targets funds rate has been persistently tighter than such rules would have recommended. The FOMC's unconventional policy actions – including our large-scale asset purchase programs – have surely helped fill this "policy gap" but...have not entirely compensated for the zero-bound constraint on conventional policy....*
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> *Analysis...suggests that monetary policy can produce better economic outcomes if it commits to making up for at least some portion of the cumulative shortfall created by the zero lower bound...by maintaining a highly accommodative monetary policy for longer than a simple rule would otherwise prescribe."*[8]

This view of the world, and the policy conclusion of keeping rates lower for longer, is nothing new. It was in fact the basis of the Fed's forward guidance both in its calendar format and its replacement by various macro thresholds.

Such a policy prescription is also the outcome suggested by optimal control exercises, another tool Yellen has shown a fondness for using. Under this approach a macroeconomic model is combined with a loss function (which typically places weights on deviations in output and inflation from target) to derive the optimal path of the fed funds rate. The conclusions of these models (or at least Fed macro models) is that the fed funds rate should be kept close to zero for longer than indicated by Taylor rules - in her April 2012 speech it was until late 2015, in her November 2012 speech it was early 2016 while in a recent paper by senior Fed economists (English et al[9]) it is early 2016 or 2017. These policy simulations also have the feature that as the fed funds rate starts to rise it does so fairly slowly, broadly consistent with what the Fed is currently indicating in its projections of the fed funds rate.

However, these sorts of exercises have their limitations. As Yellen has noted: "...such analyses hinge on the selection of a specific...model as well as a set of simplifying assumptions that may be quite unrealistic. I therefore consider it to imprudent to place too much weight on the policy prescriptions obtained from these methods..."[10] Indeed, it is the limitations of this approach – and the difficulty of communicating their results to the public - that led English et al to consider whether the use of thresholds (of the type currently adopted by the Fed) would give better outcomes than simple Taylor rules. There has been much discussion of the English et al paper and different people have drawn different conclusions from it, including: that the Fed could keep the fed funds rate at its current level until 2017, or that the unemployment threshold should be lowered to 5.5%, or that it should be kept at 6.5%. Our interpretation of the paper is that it suggests an unemployment threshold below 6.5% is on average likely to give you a better outcome, but at the same time the chance of a poorer outcome is higher.

We can't say for sure how Yellen would judge such a trade-off. However, at the very least the paper provides reassurance to the Fed that threshold based forward guidance works. It also suggests that if the Fed wanted to provide more stimulus in the future, or to change the mix of policy stimulus away from QE, then changing thresholds would be an option.

Limitations of current forward guidance

The English et al paper also highlights a limitation of the current forward guidance. Assuming that keeping rates low for longer is the optimal policy, if there is a perception that, once the funds rate starts to rise, it will rise rapidly, then this could negatively affect outcomes. The Fed has stated that when it starts to tighten policy it will do so in a "balanced" way. In a speech in March 2013[11] Yellen noted that the current guidance is not complete, and this was one of the areas cited. Moreover, in April 2013, Yellen stated that "as the time of the first increase in the fed funds rate moves closer, ...it will increasingly be important ....to clearly communicate about how the fed funds rate target will be adjusted."[12]

Yellen also indicated that the other way in which forward guidance is not complete is that, as the Fed has stated many times, the forward guidance thresholds are not triggers. That is, hitting one of the thresholds does not mean that a tightening of policy will automatically. Instead, when a threshold is reach the Fed will consider other indicators particularly in regard to the labour market and inflation. In her March 2013 speech she gave examples of when the Fed may delay any tightening of policy upon hitting a threshold[13]; this included a decline in the unemployment rate primarily due to discouraged job seekers exiting the labour force – one possible explanation of the decline in the participation rate that has been occurring.

A possible consequence of this scenario is that forward guidance is becoming unclear. The Fed is effectively saying that if the unemployment threshold is reached under such circumstances it will delay tightening, but it is not clear in this event when policy will move. Moreover, forward guidance is in a sense a form of commitment – the Fed is promising to keep the fed funds rate lower than it normally would. Once the threshold is reached there is no 'promise' and so the effectiveness of hints/suggestions in speeches in communicating that policy will not be tightened in such circumstances is uncertain.

Future of asset purchases

Communications has also been an issue for the Fed with regard to its large scale asset purchase program or quantitative easing (QE). Yellen's statements about the asset purchase program have been broadly consistent with the current chairman and many other Fed members. Asset purchases are seen as effective tool – in one speech she referenced 'uncertain' but 'plausible' model results suggesting $500b of asset purchases reduces the unemployment rate by 0.25 percentage points.[14] She acknowledges there are potential costs – and considers the possible implications for

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8 Yellen (April 2012), p17

9 Yellen (April 2012), pp13-14.

10 English W.B., Lopez-Salido J.D., Tetlow R.J., The Federal Reserve's Framework for Monetary Policy – Recent Changes and New Questions, October 2013.

11 Yellen, Challenges Confronting Monetary Policy, 4 March 2013, p8

12 Yellen (4 April 2013), p16

13 Yellen (March 2013), pp8-9

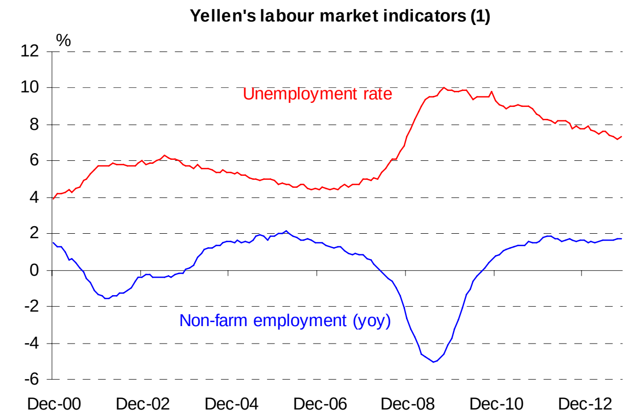
14 Yellen (March 2013), p13

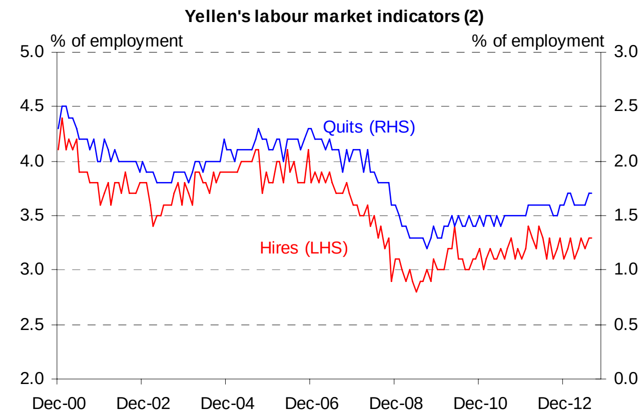
financial stability the most important concern – but does not think there is any need to curtail QE for these reasons yet.

One point of departure is her interpretation of the qualitative guidance the Fed has given on when it might stop further QE. She has highlighted that the criterion is about the *outlook* for the labour market[15]. Other Fed speakers have been more backwards looking, focussing on how the labour market has improved since the current round of QE started.

In considering the labour market, Yellen considers that the unemployment rate is the single most important measure. However, as it has limitations in March 2013 she specified other labour market indicators she would also want to look at: the pace of payroll employment growth, and measures of gross job flows, including the rate of hiring and the quit rate.[16]

Yellen's labour market indicators





Source: Bureau of Labor Statistics

While the unemployment rate is clearly trending down and non-farm employment growth reasonably solid, and quits picking up (indicating that people are more confident of finding another job) the hiring rate is not showing any sign of improvement.

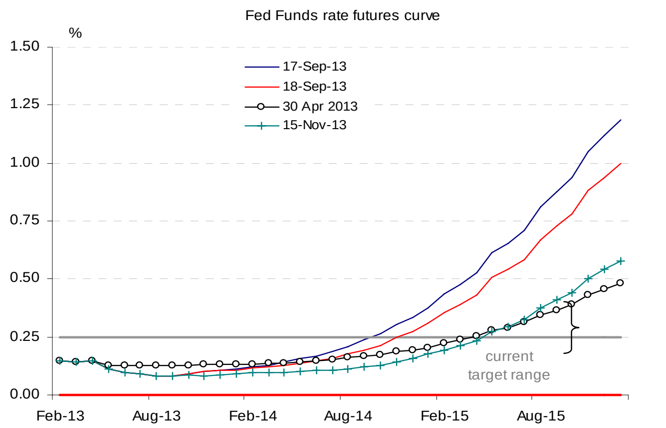
In addition to these labour market indicators, Yellen also had indicated that she would want to be seeing a sufficiently strong outlook for overall economic growth and spending, as this is a pre-condition for a sustained and substantial improvement in the labour market. This is entirely consistent with statements made by Bernanke. As we noted earlier, absent the inventory cycle, there is little sign of strengthening in the GDP growth rate as yet once allowance is made for inventories. Interestingly, other than restating that QE will be considered in the context of price stability (the formal wording of the Fed's meeting statements), the current below target inflation rate has not been a factor listed by Yellen in relation to when QE might end. This is in contrast to some other Fed members (such as Bullard) for whom it has been a reason to keep the program going. Bernanke has indicated that the Fed is looking for signs inflation is returning to target.

Yellen has also noted that the effectiveness of the asset purchase program is dependent on how long markets expect the Fed to hold the assets. Putting aside the recent uncertainty about when QE tapering will start, the exit principles formulated by the Fed in June 2011, which included a discussion of how it would run down its asset holdings once policy normalisation started, are a bit dated. The May 2013 minutes included a discussion of this matter but no decisions were made.

QE, Fed Funds Rate and the future of forward guidance

Yellen has often talked about the importance of communications in monetary policy. One area where the Fed has had trouble is in convincing markets that a decision to taper QE does not signal anything new about the outlook for the fed funds rate. When discussion of tapering took off in May this year, the fed fund futures curve changed noticeably signalling that the market expected an earlier (and more rapid) increase in the fed funds rate (see move between April and 17 September lines in chart). When the Fed surprised markets by not tapering on 18 September the curve moved down, again suggesting that QE and the fed funds path are connected. Of course both programs are linked to economic developments so there should be a link – but a surprise decision not to taper (i.e. a looser policy) should, other things being equal, suggest economic conditions will improve faster than expected which would bring forward the date the fed funds rate would rise, not delay it as suggested by the move in the futures curve between 17 and 18 September.

Fed Funds Rate Futures curve



Source: Bloomberg

However, the moves in the futures curve should not have been a surprise. While many studies have found that QE tends to reduce long-term interest rates, there have been different views about why. Some see it operating through a 'portfolio-balance' channel (which relates to bond supply and demand) and others see a 'signalling' channel by which QE signals a looser monetary policy stance. Of course, there is no reason that such a signalling channel will be consistent or stable over time. Indeed more recently, the move down in the futures curve (it is almost back to its pre-May path), has led to

[15] See Yellen (March 2013), p10
[16] Yellen (March 2013), pp11-12

discussion whether the market has got the message and now regards QE and the fed funds rate as separate instruments.

Given this, what are the prospects of a change in the mix of Fed monetary policy in form of a start to QE tapering while at the same time lowering the unemployment threshold on when the Fed will start considering raising the fed funds rate?

Clearly, such a change in the near future is possible and has already been discussed at Fed meetings and by Fed speakers. However, we think that it is unlikely, at least in the near term. The July meeting minutes indicated that most members supported the current thresholds. As noted before, a decision to start tapering can influence expectations of the fed funds rate although the strength of the signal seems to vary from time-to-time; in that environment how do you re-calibrate the mix of monetary policy with any certainty?

This suggests that the Fed will taper QE when it thinks labour market and economic outlook have improved enough, broadly in line with its current criteria. At that stage it might try to clarify how it will proceed when the 6.5% unemployment rate threshold is reached or add a floor condition on inflation a possibility flagged by Bernanke in September[17], addressing some of the limitations of current forward guidance noted earlier. This would then leave the bigger step of lowering the unemployment rate threshold as a fall-back option in the event that long-term rates rise to levels the Fed is uncomfortable with (or if economic conditions deteriorate in the future and the Fed wants more stimulus but does not want to go back to QE).

One reason for the speculation around a lower threshold is that the reduction in the unemployment rate seen to date in part reflects declining workforce participation rather than a fundamental improvement. If a move in the unemployment rate to the 6.5% threshold was driven by declining workforce participation then the Fed would be very likely to hold-off any policy tightening. Alternatively, if the participation rate stabilises for a period of time, consistent with a return of discouraged workers to the workforce, then the delay in policy tightening on hitting the threshold would be shorter. Implicitly the Fed's forecasts (and ours) are based around this latter scenario. Moving to a 6% unemployment rate threshold now may lock-in the Fed to an extent it would feel uncomfortable with in the event the second scenario unfolds. This is another reason for the Fed to delay any change to the threshold for the time being.

As to when QE tapering will start, at this stage we are sticking to our call for March 2014, although acknowledging that it could easily be earlier or later. Given our forecasts by then the outlook for the economy should be more positive, one of the factors important to Yellen in determining the labour market outlook. All going well, the outlook for fiscal policy should also be clearer (or at least the tail risks of another shutdown or breach of debt limit will have been avoided) and inflation should be trending up (albeit slowly) back towards the Fed's target.

Conclusions

Yellen has been Bernanke's deputy for three years and, not surprisingly, has flagged her support of the current policy path.

This suggests than an evolution in current setting is more likely than major, risky, changes in policy mix. Current policies are called 'unconventional' for a reason and the Fed under Bernanke has changed their application and design over-time as economic circumstances have changed and as they have learnt from experience. Such evolution can be expected to continue under Yellen. This could include in the short-term some additions to, or clarification of, existing forward guidance and the start of tapering when the economic outlook is seen to have improved sufficiently. Also possible is more concrete guidance on how the Fed will adjust the fed funds rate once the process of policy tightening starts as well as an update of the Fed's plans for it will eventually return its asset holdings to more normal levels.

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[17] The current threshold on inflation effectively states that (forecast) inflation moving above 2.5% would mean that the Fed would start considering increasing the Fed funds rate. An inflation floor of 1.5%, for example, would mean that even if the unemployment threshold of 6.5% was crossed, no increase in the fed funds rate would occur unless inflation was above 1.5% (currently it is below this level).

US Economic & Financial Forecasts

	Year Average Chng %					Quarterly Chng %							
						2013				2014			
	2011	2012	2013	2014	2015	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
US GDP and Components													
Household Consumption	2.5	2.2	1.9	2.4	2.6	0.6	0.5	0.4	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
Private fixed investment	6.2	8.3	4.6	7.9	7.6	-0.4	1.6	1.0	**2.0**	**2.1**	**2.1**	**2.1**	**2.0**
Government Spending	-3.2	-1.0	-2.1	-0.4	0.3	-1.1	-0.1	0.1	**-0.7**	**0.2**	**-0.1**	**-0.1**	**0.0**
Inventories*	-0.2	0.2	0.0	0.0	0.0	0.2	0.1	0.2	**-0.2**	**0.0**	**0.0**	**0.0**	**0.0**
Net Exports*	0.1	0.1	0.1	-0.1	-0.1	-0.1	0.0	0.1	**0.0**	**-0.1**	**0.0**	**0.0**	**0.0**
Real GDP	**1.8**	**2.8**	**1.7**	**2.6**	**2.9**	**0.3**	**0.6**	**0.7**	**0.4**	**0.7**	**0.7**	**0.7**	**0.7**
US Other Key Indicators (end of period)													
PCE deflator-headline		(yoy%)											
Headline	2.6	1.7	1.0	1.6	1.9	0.3	0.0	0.5	**0.3**	**0.4**	**0.4**	**0.4**	**0.4**
Core	1.8	1.7	1.2	1.7	1.9	0.3	0.16	0.35	**0.4**	**0.4**	**0.4**	**0.4**	**0.5**
Unemployment Rate (%)	8.7	7.8	7.2	6.7	6.2	7.7	7.6	7.3	**7.2**	**7.0**	**6.9**	**6.8**	**6.7**
US Key Interest Rates (end of period)													
Fed Funds Rate	0.25	0.25	0.25	0.25	1.00	0.25	0.25	0.25	**0.25**	**0.25**	**0.25**	**0.25**	**0.25**
10-year Bond Rate	1.88	1.76	2.85	2.90	4.25	1.85	2.49	2.61	**2.85**	**3.00**	**2.75**	**2.75**	**2.90**

Source: NAB Group Economics

*Contribution to real GDP

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