

As we look out over the next year, one financial event that is almost certain to occur is the beginning of a tightening cycle by the Federal Reserve. As unemployment, and possibly inflation, move towards the Fed's target, they will try to normalize policy. After all, they have held the fed funds rate at zero since December 2008. There is a lot of misinformation about what rate hikes mean for the economy and the markets, and we try to address these by answering the following questions:

- 1) What can history tell us about market performance leading up to and during a tightening cycle?
- 2) How high will rates go during this next cycle? Is there anything different this cycle versus prior ones?
- 3) What are the likely implications for the economy and markets as well as the risks?

Looking Back at Prior Cycles

There have been a number of tightening cycles throughout the decades, and depending on which period you choose, you can come up with some vastly different conclusions. Looking at tightening cycles during the high inflation periods of the 1970's, for example, isn't very instructive today when deflationary risks abound. The last three tightening cycles in 1994, 1999, and 2004 most closely mirror today's environment, but even here there are differences:

- a) In each of the last three instances the Fed was still cutting rates in the year leading up to the tightening. Today rates have been at zero for over five years.
- b) The absolute level of rates at the start of all three previous cycles was much higher than today. In 1994 the fed funds rate was 3.25%, while in 1999 it was 4.75%, and in 2004 it was 1%.

With that said, Goldman Sachs analyzed the last three tightening cycles and found the following (see table above):

- The magnitude of rate hikes varies across the three examples, but the average is a little over 2% (216 basis points or bps).
- Equity performance was strong leading up to the first rate hike, and was positive (but muted) in the twelve months following the first hike.
- Bond performance is a mixed bag. In 1994 bond yields rose significantly after rate hikes started. In 1999 there was little change. Yields fell in 2004.

A Look Back in History						
	12-Months			12-Month		
	Preceding First Hike			Following First Hike		
	Feb	June	June	Feb	June	June
	1994	1999	2004	1994	1999	2004
S&P 500	11%	21%	18%	3%	9%	7%
Fed Funds Rate						
Start				3.1%	4.9%	1.1%
End				5.9%	6.5%	3.2%
10-Year Treasury						
Start	6.8%	5.6%	3.8%	6.0%	6.2%	5.0%
End	6.0%	6.2%	5.0%	7.5%	6.3%	4.1%

Source: Goldman Sachs

Many pundits make the case that this cycle will be different simply because the economy has become addicted to 0% interest rates. As Warren Buffett famously quipped, when the tide goes out we'll finally find out who has been swimming naked. While there may be some truth to this, we should remember that the Fed will only be tightening because they view the economy as strong enough to warrant such moves. Certainly margin debt levels are high and lending standards have eased, particularly for marginal credits, which can be cause for concern. But these are not reason enough to change an investment strategy. And given developments over the last few years, we suspect this tightening cycle could prove to be somewhat different than in the past.

Preconditions for Tightening

We have characterized this economy as taking two steps forward and one step back ever since the financial crisis ended. This year has been no exception. In the first quarter GDP fell at an annual rate of -2.1%, the worst showing since the great recession. While weather almost certainly played a large role in the contraction, the rebound in the second quarter of +4.2% will only put the economy on track to grow at roughly 2% for the full year, a mediocre number. Furthermore, inflation is well below the Fed's stated goal of 2%. Finally, while the unemployment rate has fallen from 10% to 6.2% over the last few years, the job market is much weaker than the headlines suggest. The quality of job creation has been weak, the participation rate has fallen to lows not seen since 1978, and a broader measure of unemployment, the U-6 rate (which includes discouraged workers and part-time workers who want a full time job), stands at 12.2%. This is above the 10.7%

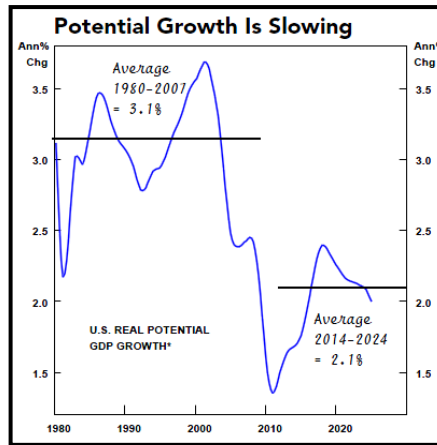
average for the last twenty years and above the 8.9% average from 1994 to 2006. Another way to look at the job situation is that the number of full-time workers is still more than three million below its pre-crisis peak. It could take over a year to reach full employment levels even from today's starting point, assuming the participation rate rises modestly.

For the Fed to tighten we think we'll need to see further declines in unemployment and, critically, further wage inflation. They will need to be convinced that the economy is experiencing self sustaining growth before taking away the crutch of 0% interest rates. We think this will take another six-to-nine months of 2.5% to 3.0% GDP growth to get us to this point. So while rate hikes are coming, they are still a 2015 issue. We also suspect that the upcoming tightening cycle will differ from history in another important way. The Fed is likely to end the tightening cycle far sooner than many think

The Debate about Secular Stagnation

In the past three tightening cycles the Fed didn't stop tightening until the fed funds rate hit a range of 3.2% to 6.5%. While a broad range, even 3.2% is a long way from today's 0%. Given the state of the economy in the U.S., we suspect we won't see such high rates any time soon. To explain why, let's step back for a minute. Over the long run a country's potential growth rate depends on supply: how many workers it has and how productive they are. In the 1990s America boasted one of the developed world's highest potential growth rates of more than 3% (see chart above). Today things look very different. By 2007 the Congressional Budget Office had trimmed its estimate of potential growth to a still respectable 2.6%. It now thinks it may be just 2.1%. Others are even less optimistic. JPMorgan reckons America's potential growth is just 1.75% - about half the rate it enjoyed from 1947 to 2007.

At the heart of this decline are the two supply factors we noted earlier: labor growth and productivity growth. The labor story is very easy to understand. The American population is growing older, and in the next few years it will increasingly resemble the ageing slow-growth economies of Europe and Japan. For example, the number of working age Americans rose by an average of 1.2% a year in the 1990s, but by a mere 0.4% in 2013 (chart to the right). The proportion of them actually in the



workforce has also fallen from over 67% to less than 63% over the same period. The ongoing slowdown in population growth in general and the working age population in particular, will have a number of effects. From a simple demand point of view, anyone selling goods and services will face slower growth. The ageing of the population will also have a marked impact on government finances. The demand for pensions and health care will rise, but there will be relatively fewer taxpayers to cover the bill.

The fall in productivity is a thornier issue. We read every day about technological innovation, but this isn't translating into rapid productivity growth (chart below). In part innovation isn't accelerating. The dotcom boom was a unique period in history, and this will be tough to repeat. Furthermore, the benefits of innovation are weakening. Moving from trains to aircraft produced huge benefits, but moving from a 747 to the new 787 is less revolutionary. Finally, productivity gains in the 90s and 00s were driven in part by massive credit growth and the opening up of the global economy. Neither is likely to be repeated this decade.

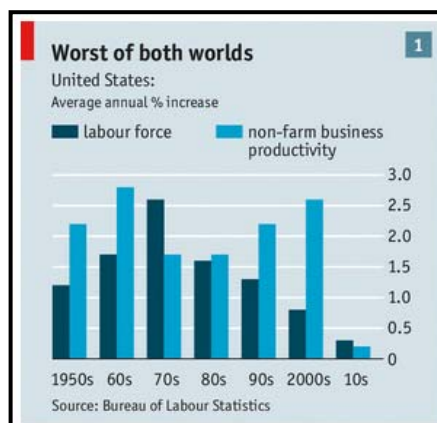
This debate gets to the heart of what is called the Secular Stagnation thesis. Adherents of this view (Larry Summers first floated the idea in November 2013) believe today's slow growth is due to a unique set of factors:

1. Structural headwinds from aging populations, poor infrastructure, heavy debt burdens, slow productivity growth and inequality.
2. Demand that is poorly distributed around the world and consumers that are focused on paying down debt instead of spending.
3. A 'sclerosis' effect in the labor market as persistent unemployment erodes skills and youth joblessness threatens to create a lost generation.

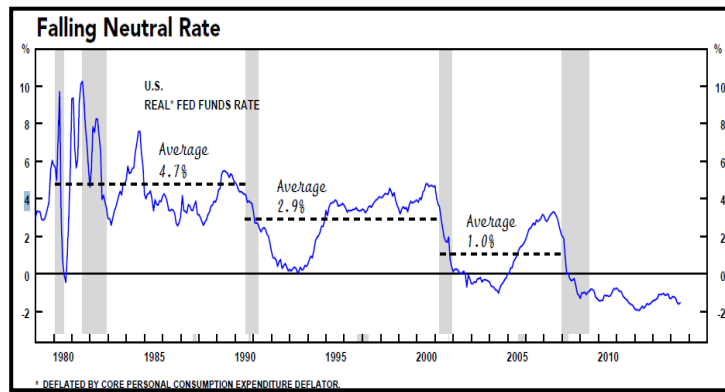
While we do not necessarily buy into all the tenants of the thesis, the general theme strikes us as a reasonable characterization of today's economy. Note that this is by no means a doomsday argument. Potential growth rates are still over 2%, but we are unlikely to experience sustained bouts of much higher growth.

Policy Implications of Slower Growth

If this thesis is close to the mark, future policy is likely to be much more accommodative than it has been in the



past. This captures the debate about the neutral fed funds rate. This is generally defined as the rate that is neither expansionary nor contractionary when the economy is at full employment and inflation is running at 2%. More accommodative does not mean that interest rates will stay at 0%, only that future hikes will be muted by the secular headwinds and that tight policy is a distant threat. It likely will take historically low real interest rates to keep growth at the levels of the last few years. As you can see above, the real fed funds rate (after adjusting for inflation), has been trending lower for quite some time. Even during the 2001 to 2007 period the real rate averaged just 1%, and this was during a massive housing/credit bubble. Many analysts suspect that the real rate is unlikely to get above 0% (say 2% nominal) over the next few years.



has reached a more advanced stage of development where the demand for capex has softened. Fewer entities are willing to take advantage of lower interest rates to borrow and spend. This means some of the excess savings will continue to find their way

into the fixed income markets.

Investment Implications

Fixed Income - The neutral rate debate is critical for bond investors because a lower neutral rate will act as an anchor for long-term rates. For example, the average spread between the 10-year U.S. Treasury and the fed funds rate has been 161bps over the last 30 years. If 4% is the neutral fed funds rate we could conceivably see long-term rates of 5.6% at some point in the coming years (today's 10-year rate is roughly 2.4%). If 2% is neutral (0% real plus 2% inflation), the prospective rise in long rates is far less painful for a bond investor. Of course the shape of the yield curve depends on expectations about the economy, but in general, a lower neutral rate implies lower long-term rates than we have seen in the past.

Other factors will weigh on bond yields as well:

- 1) The euro zone continues to struggle with slow growth and deflation. German 10-year yields recently fell below 1% while Spanish yields are closing in on 2%. A 2.4% yield on a U.S. Treasury will continue to look attractive to foreign investors, particularly if the dollar continues to rally.
- 2) We suspect the ECB will try outright bond purchases or quantitative easing (QE) in the coming months. This will be bullish for the dollar, and a stronger dollar will keep a lid on inflation and bond yields.
- 3) The global savings surplus should persist. Last decade U.S. consumption and Chinese investment were the two major spending powers propping up the world economy. Today, U.S. households are preoccupied with deleveraging and China's economy

Equities - The outlook for equities is trickier. Lower growth prospects and the heightened risks of deflation means corporate profits could suffer in the years to come, certainly not a positive for the equity markets (think of Japan the last twenty years). We suspect this is too bearish a view, though, particularly for the U.S. Our baseline view is that the economy will eventually reach full employment, but as we noted, it will take a much lower real funds rate than in the past to keep it there. This would be a supportive scenario for stocks: the economy will be operating at its potential, but the cash flows that firms pay their shareholders will still need to be discounted at a lower rate, implying a higher fair value for the market P/E.

In some respects there is a risk the market over the next couple years could resemble those from the 1990s.

- A strengthening dollar, especially versus the euro, as the Fed starts to tighten policy while the ECB remains very accommodative.
- Bond market conundrum 2.0, i.e. Treasury bond yields fail to rise materially despite an improving U.S. economy and rising short-term rates.
- Profits continue to grow given the large slack in the labor market constraining wage pressures.

It is quite possible that Fed Chair Janet Yellen could face a similar policy dilemma as Greenspan did 18 years ago, namely a booming stock market at the time of extremely low inflation, soggy global growth and lingering concerns of financial instability. The only difference this time around is that the U.S. domestic economy is much weaker than it was back in the 1990s, further limiting the Fed's ability to raise rates. And this get's to the heart of the risks over the next few years.

Risks

If the scenario we paint above is reasonably close to being accurate, two problems jump out, one relatively straight forward, and another a little more nuanced.

First, a 0% real rate could cause problems in the broad financial markets. The Fed has been blamed, with some justification, for fueling both the tech bubble and the recent housing/credit bubble by keeping rates too low for too long. If we see 0% real rates for another three-to-five years we wouldn't be surprised to see some large distortions build up. No one can know where the next bubble will emerge, but valuations in everything from high-yield bonds to prime real estate (see table to the right) could reach dangerous levels.

Home Price Over/Undervaluation vs. History (% above/below historical average)			
Country	(1) Price/Income	(2) Price/Rent	Average (1) & (2)
Canada	33	86	60
New Zealand	32	81	57
Australia	35	58	46
UK	21	41	31
France	28	34	31
Spain	13	17	15
USA	-13	3	-5
Germany	-16	-13	-15
Japan	-42	-38	-40

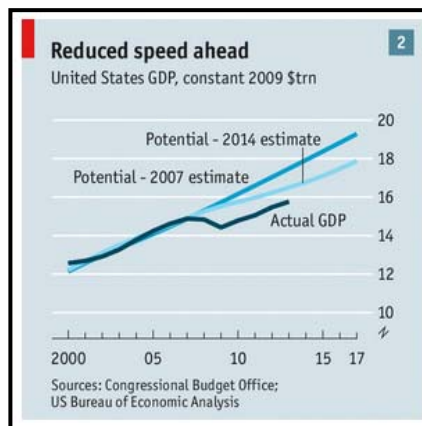
Source: Deutsche Bank Research – September 2014

To quote a recent piece from Mohamed El-Erian:

“One disturbing finding is that policy measures such as central bank stimulus may be ineffective in simultaneously delivering high growth, robust job creation, price stability and financial soundness...if macroeconomic goals are attained there is likely to be a price paid in terms of financial stability.”

On the one hand, the Fed could choose to achieve full employment, but risk creating another bubble. On the other hand, they can raise rates to proactively prevent a bubble, but the price paid will be higher unemployment. This is a dilemma for which there are no easy answers.

The more nuanced risk is that inflation returns before the Fed achieves their economic goals. If potential growth in the U.S. is on a lower trajectory than in the past, it implies there isn't as much spare capacity as many think. The chart below illustrates this point. The gap between today's actual GDP and the 2007 estimate is relatively wide. This implies a lot of spare capacity and few inflationary pressures. If we are now on the 2014 path, there is less spare capacity and inflation could return in a couple years even before unemployment is back to normal. This would put the Fed in an awfully tough spot of



choosing which of their mandates is most important – employment or inflation.

Summary

It is highly likely that this topic is going to be with us for a while. If you think back to 2004, Greenspan started raising rates in June 2004 and we suffered through numerous quarter point hikes until June 2006. And that was with GDP growth averaging 3.3% between 2004 and 2006. This cycle could be even longer. Shorter-

term, the debate going into the first hike next year is going to grow louder. There is a lot of anxiety in the investor community about how the markets will react to higher rates, and this means the risks of a decent correction increase as we near this date. Ultimately, though, we believe the Fed will take a very gradual approach to rate normalization and this should not be disruptive to either the equity or fixed income markets. Furthermore, if the Fed ends their tightening cycle earlier than expected, investors will probably be rewarded by sticking with whatever investment strategy they are employing today. And this should be the message investors take away from this piece. While traders might try to play the ‘tightening trade,’ long-term investors should not significantly adjust their strategy just because the Fed is going to change policy. Certainly the further we get into 2015 the better sense we will get as to how the economy will deal with higher rates. Furthermore, we will have a better appreciation for how real the risks are that we noted above. But ultimately we doubt we will see the U.S. economy hit the limits of non-inflationary growth over the next couple years. This should allow the Fed to tighten only modestly and not risk killing the current growth cycle.

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