

## MAKENA STRATEGY INSIGHTS – March 31, 2015

Rates “Lift-Off”: How to Invest When History is No Longer a Guide

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PERIOD ENDING  
March 31, 2015

### *Portfolio Strategy & Macroeconomic Outlook*

With all eyes on the Fed and the potential for a near-term “lift-off” from the zero interest rate policy, we believe it is imperative to discuss the important nuances around inflation rates, interest rates, and their longer-term outlook. The impact of a rate hike could certainly be a catalyst for an equity sell-off so we will also spend time assessing the consequences on equity fundamentals from a series of rate hikes.

We have spent a significant amount of time over the past two years discussing “lower growth for longer.” As we have addressed in detail, a permanent downshift in *potential* growth rates, i.e. what the long-term average growth rate will look like going forward, has profound implications across asset classes. The most important implication is, of course, that with lower growth there is less need for capital. With less need for capital in the global economy, not surprisingly, the rate of return on capital should decline relative to previous experience. Said differently, interest rates should not revert back to previous highs, and the *forward-looking long-term* averages for interest rates will most likely be lower than the *backward-looking long-term* averages that we have historically experienced<sup>1</sup>. A direct consequence of such a lower interest rate path is that price/earnings multiples on equity indices must be higher on a forward looking long-term basis, relative to a backward-looking long-term basis, simply because the present value of future earnings is higher in a lower rate environment.

In general, analysts are trained to look back at history to glean an understanding of how the future might evolve. The issue with regime shifts, such as “lower growth for longer,” is that they are hard to detect; it can take a decade or more of data to convince one that such a shift has happened. What is even more distressing with regime shifts is that history is no longer as useful in helping to predict the future. We use the shorthand *history is not a guide* to describe this situation. Without history as a guide we are left with only deductive reasoning, which typically only provides relatively vague forecast ranges. Deductive reasoning is therefore much less satisfying than the more familiar inductive reasoning where one simply assumes that history will repeat itself in the future and in so doing enables one to obtain specific numeric forecasts.

The Fed, understanding that history is no longer a guide, sought to help market participants with “forward guidance,” i.e. soothing market participants’ nerves by promising a steady and predictable policy path. Over the past few years, most economic data releases were roundly ignored unless they were extreme outliers. Unfortunately, those days are now behind us as the Fed has gone to “full data dependency”. They will react to economic data as it comes out and will not give much forewarning, if any, of impending policy action. An immediate result of this shift in philosophy has been the heightened volatility observed in markets of late. Today, very noisy data releases, such as employment or productivity statistics, provoke significant market reactions as every participant attempts to guess what the Fed will do based on that sliver of new information.

Our goal is to help the long-term investor navigate these more volatile times. To that end, we now turn to inflation trends and their implications.

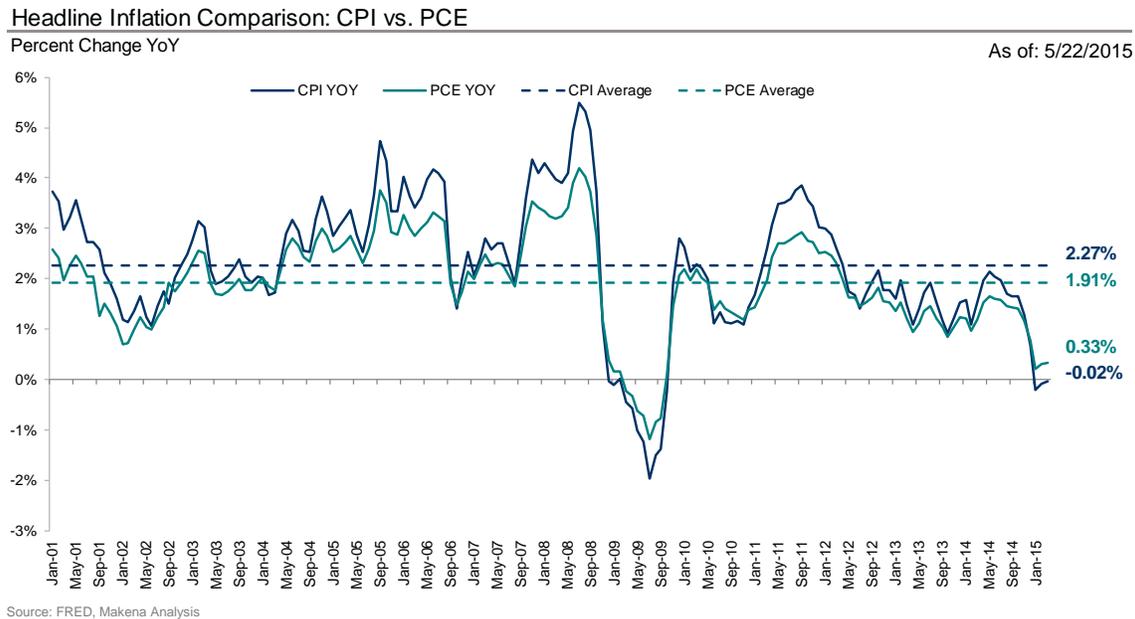
### *Flavors of Inflation*

It is important to understand the Fed’s various inflation measures to be clear when we hear Yellen utter “we are confident that inflation will revert to its target.” Figure 1 below shows the Consumer Price Index (CPI) and the Personal Consumption Expenditure Price Index (PCE). Note that the long-term averages of both CPI and PCE are almost 2%. The CPI is calculated using a static basket of items that is updated sporadically and tracks the inflation of each of these items over time. The CPI was created during World War I to help workers and employers negotiate wage increases in an attempt to ensure a stable standard of living for workers. Due to rapidly changing consumption habits driven by technological change, the very feature of the CPI that was attractive – that it could track prices of goods over long horizons – became a handicap. For instance, by the time the CPI included mobile phone costs in its calculations in 1998, there were already approximately 70 million cell phone users in

<sup>1</sup> Assumes the supply of capital has not changed even amidst QE. Given that the supply of capital has most likely increased over the past decade, the effect on weakening interest rates should be even stronger.

the US. On the other hand, the PCE price index is a more “real-time” price index, and it is calculated in a consistent way with GDP making it the Fed’s preferred inflation measure. So when you hear the Fed talking about inflation, they are talking about PCE inflation.

Figure 1 below highlights an important feature of the PCE index – it has consistently been lower than the CPI, around 40 basis points lower over the last 15 years. This is in part because the PCE allows for substitution effects which are an important feature of how people buy items. If an item a consumer wants to buy is more expensive than a very similar item (e.g. beef vs. chicken), they may switch to the cheaper one, thereby lessening the impact of inflation on total spending. In contrast, the CPI assumes that one will continue to consume the same quantity of each item, no matter how high its price becomes.



**Figure 1: PCE is consistently lower than CPI due to incorporation of substitution effects**

### *Core vs. Headline*

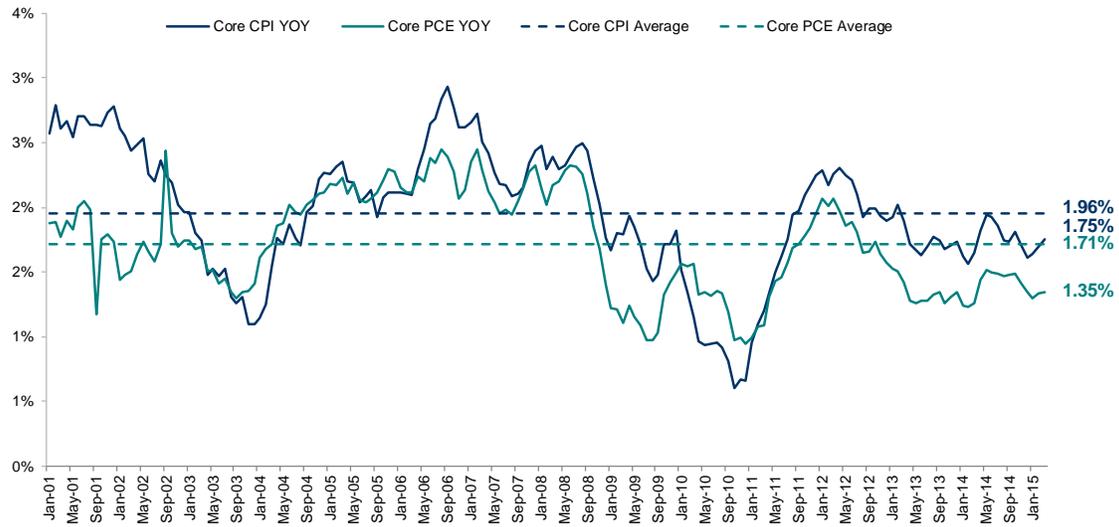
Another important nuance to understand is the difference between core inflation and headline inflation. Because commodities are highly volatile, globally priced in most cases, and their price movements are often driven by factors outside the Fed’s control – e.g. food prices jump because of bad weather or oil prices jump because of strife in the Middle East – the Fed focuses on “core” inflation, which is inflation excluding food and energy commodities. We pass over the longer discussion as to whether dropping commodities is reasonable in measuring inflation and living standards. We simply note that it is not unreasonable to believe that the Fed is unlikely to affect the prices of commodities by simply lowering interest rates. Figure 2 below shows core CPI and PCE over the last 15 years. Note that core CPI has averaged almost exactly 2% over that time period and that PCE has again been consistently lower, by approximately 30 basis points on average<sup>2</sup>. Furthermore, note that outside of recessions (2002-03 and 2009-10), we have not seen inflation as low as it has been since late 2012 (be it core or headline). This begs the question, is this new trend of low inflation in the midst of an expansion something to ignore, or is this a new and more permanent trend?

<sup>2</sup> Based on year over year inflation statistics.

Core Inflation Comparison: CPI vs. PCE

Percent Change YoY

As of: 5/22/2015



Source: FRED, Makena Analysis

Figure 2: Core inflation measures at levels typically seen during recession – new growth dynamic?

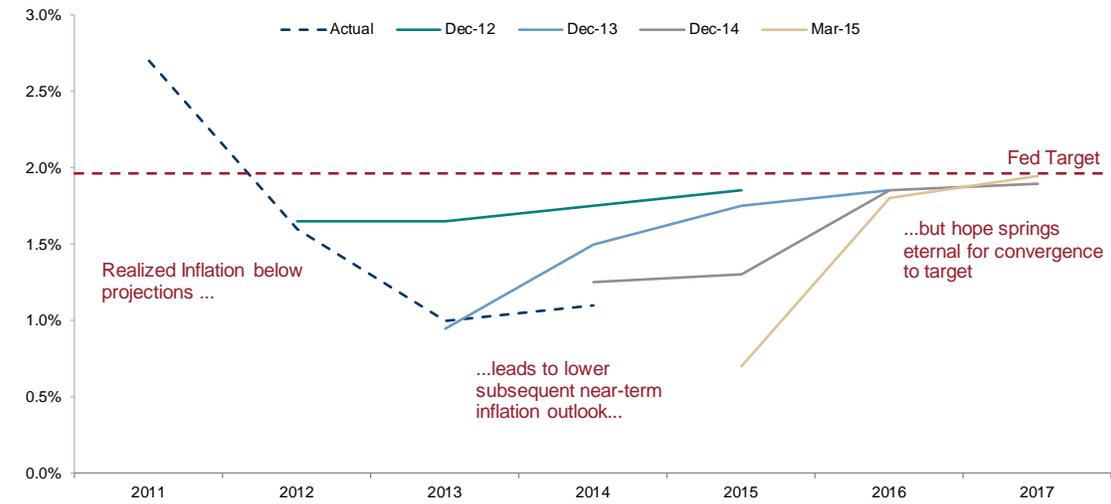
*Fed Seems Undaunted*

Despite having lowered its internal estimate of the potential growth rate of the economy, down to approximately 2.25% (~50 bps drop), the Fed has not dropped its estimates of the inflation rate at all. Figure 3 below shows the Fed’s three-year inflation forecasts at different points in time. Is this a subtle signal that we can expect more stimulative policy forever? Certainly, given the demographics in the US (and to a stronger degree in Europe and Japan), this is not an unreasonable expectation. We explored this topic in our Q4 2014 letter and showed that both demographics and leverage are deflationary headwinds that imply a much “shallower” rate tightening cycle, with rates peaking lower than they did during the 2004 tightening cycle. This is tantamount to a permanent stimulus of sorts, if comparing to historic standards and historic peak rates. Since policymakers are, like the rest of us, navigating a newly shifted economic regime where history is not a guide, *it is unlikely that the Fed will be able to properly “time” this tightening cycle.* If they tighten too aggressively and too soon, we could rapidly fall back into a recession; if they stay on hold too long, some inflation may manifest itself (though as we argue below it is unlikely to lead to out-of-control inflation). We believe that it is for precisely this reason that the Fed has avoided forward guidance, since the Fed itself does not clearly know how the economy will react to rate hikes in this new world. Expect the Fed to move very gingerly. If it does not, expect significant market volatility.

FOMC Inflation Projections\*

Q4/Q4 Core PCE Inflation (%)

As of: 4/13/15



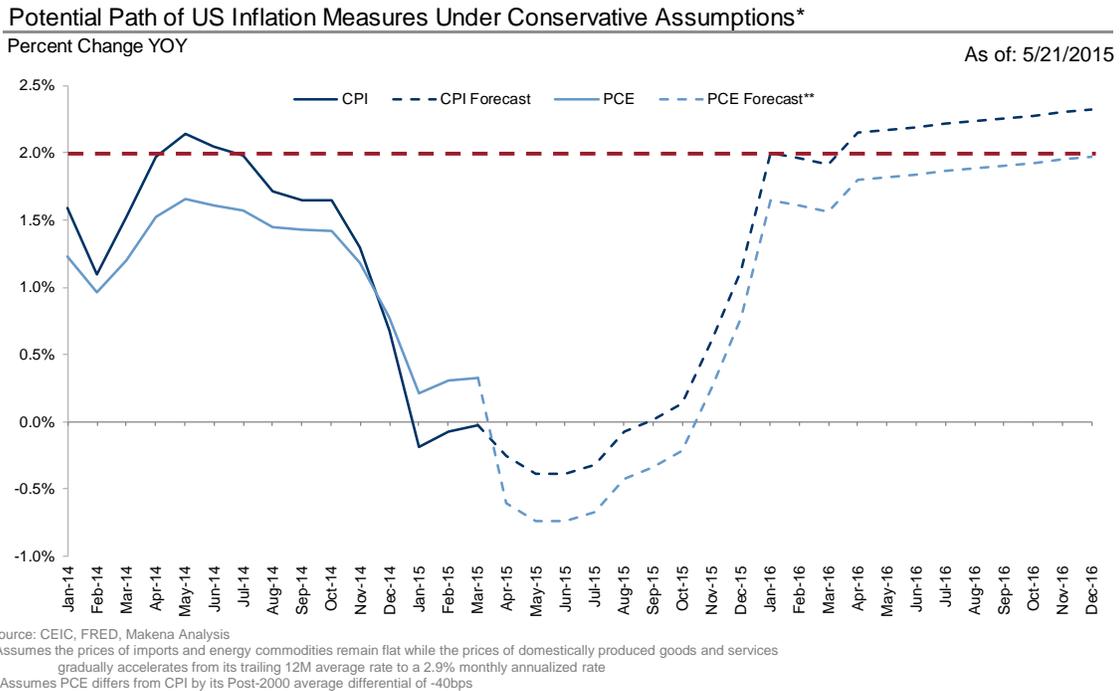
Source: FRB SEP, Makena Analysis  
 \*Median of central tendency projections

Figure 3: Fed confident inflation will converge to target despite lower potential growth

*Base Effects Can't Be Ignored*

We must be clear that lower growth for longer does not mean that inflation will permanently stay at its current subdued levels. A number of price shocks are rolling off the 12-month comparisons (e.g. oil and healthcare), and due to these base effects, we can expect inflation to rise from here. Figure 4 below shows an internally derived outlook on inflation that fits the Fed narrative. In order to isolate the impact of base effects, we assumed that the prices for imports and energy commodities will remain flat. These are fairly reasonable assumptions given the long-running deflationary trend in the prices of internationally traded goods (which, if anything, is becoming more pronounced) and the likely stabilization of energy prices over the forecast period following recent volatility. As for the prices of domestically produced goods and services, we assumed the inflation rate will accelerate gradually from its trailing 12-month average level to a normalized 2.9% monthly annualized rate in December 2016. Using trailing 12-month basket weights, we were then able to generate a forecast for headline CPI and by extension PCE using the long-term 40bps differential identified in Figure 1.

In Figure 3, note the rapid acceleration of inflation towards the end of 2015 that is driven by base effects as price shocks roll off the calculations. This inflation acceleration will no doubt attract uninformed and sensationalist commentary in the press as people extrapolate linearly, even though once the base effect re-adjustment fades, inflation growth will likely flat line once again.



**Figure 4: Headline inflation should recover barring further deflationary pressure from imports and energy**

*Hold Your Horses*

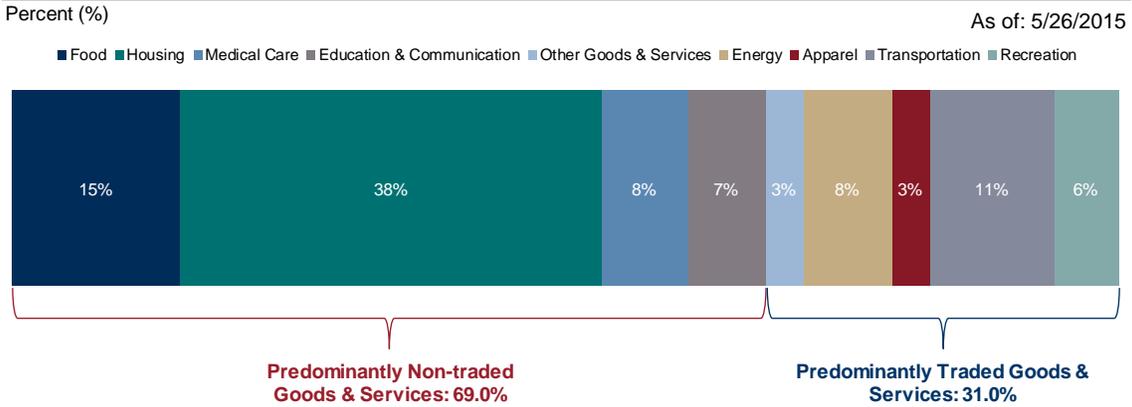
If anything, Figure 4 above is a rosy scenario and would of course be the Fed’s preferred outcome. Unfortunately, there are a number of factors we cannot ignore that might delay the onset of inflation normalization. As we discuss next, the pace and timing of inflation normalization is essentially dependent on wage growth normalization, which may take longer than anticipated.

*The Influence of Import Prices*

Figure 5 below highlights that approximately 1/3 of the prices in the US are influenced by foreign competition. Even if a certain product or service is overwhelmingly supplied by domestic firms, prices will remain subdued as long as there is a viable competitive threat from a foreign firm. In the current expansion, sectors subject to foreign competition have seen average inflation of 1.3%. This is nothing new as the previous two expansions also had clearly deflationary impulses coming from abroad. As the world continues to globalize, there is no reason to expect this segment of the price index to see significant inflation. If anything, given the current environment of “currency wars,” it is somewhat surprising that inflation in this segment hasn’t been *significantly lower*.

On the other hand, the purely domestic sectors (essentially services) have seen atypically low inflation. A significant factor in domestic services prices is of course wages, hence the focus of so much commentary by the Fed and other market participants on wages. Therefore, we now turn to examining wage dynamics.

**Component Weights of US CPI**



NBER Expansion	Average Monthly Inflation Rate (YoY)	
1991 - 2001	3.4%	1.6%
2001 - 2007	3.3%	1.2%
2009 - Present	1.8%	1.3%

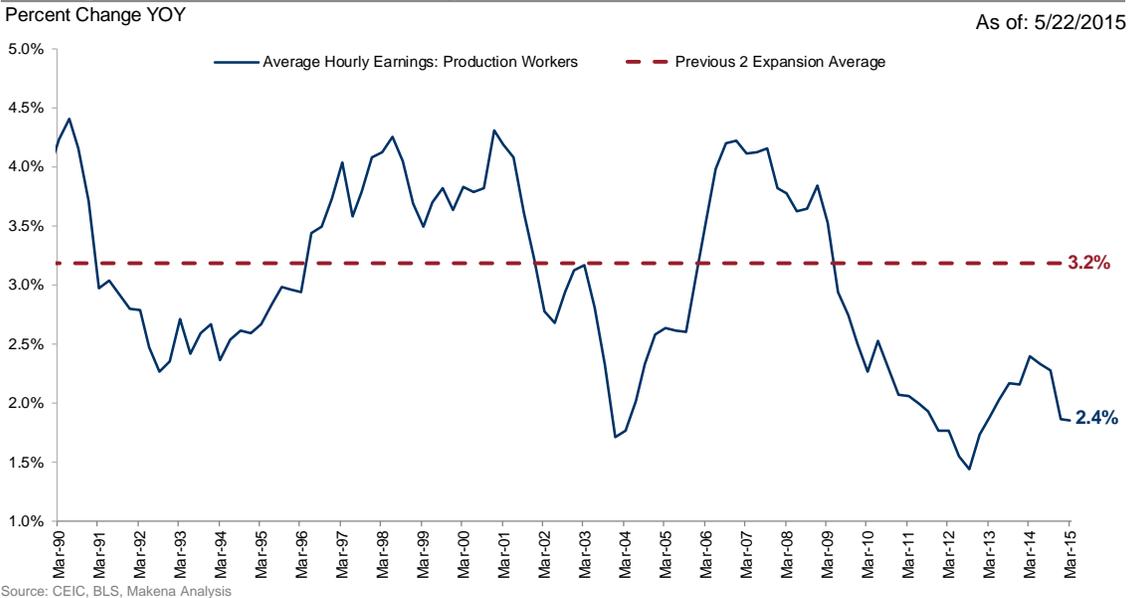
Source: BLS, Makena Analysis

**Figure 5: Non-traded goods and services inflation has been low relative to previous expansions**

*Wages*

We have discussed in previous letters the “low wage” phenomenon that is readily observable in this recovery across developed economies globally (see our Q4 2013 letter). Figure 6 below clearly illustrates this trend for the US. If we compare this expansion to the late 90s expansion and the mid-2000s expansion, we can see that wages are growing at ~3/4 the rate they did during the previous expansions. The reasons often cited for the low wage phenomenon typically revolve around technological innovation<sup>3</sup>. For several quarters of this expansion, the top category in US job growth happened to be “food preparation worker,” one of the lowest paying jobs.

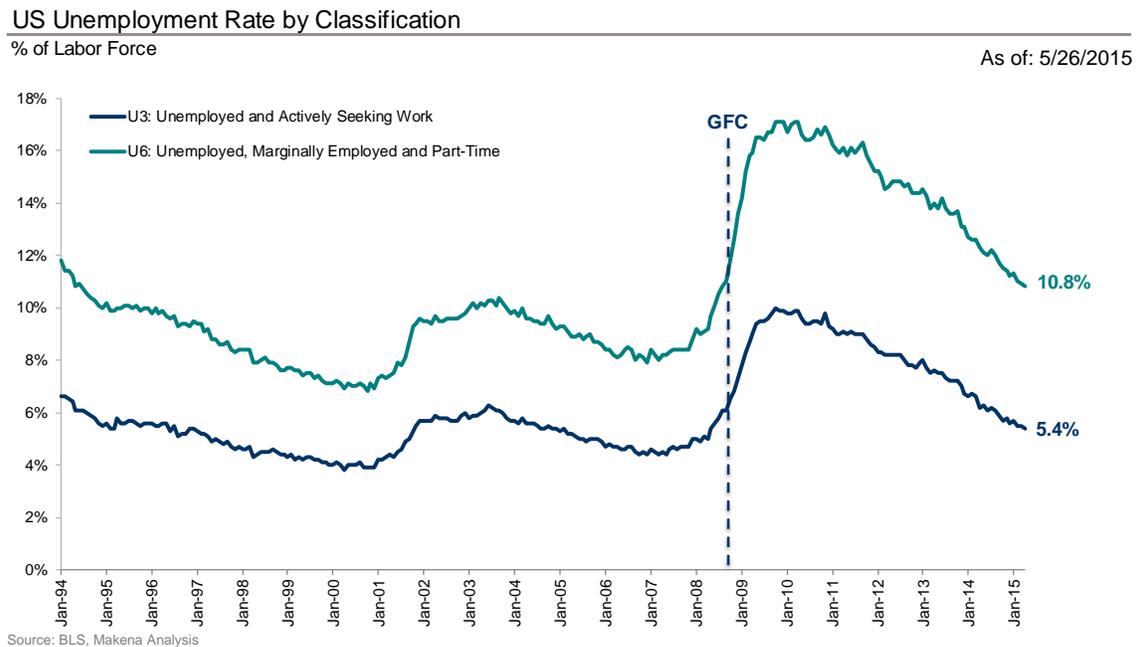
**US Wage Growth Relative to Previous Expansions**



**Figure 6: Wage growth significantly lower than in previous expansions driving low domestic inflation**

<sup>3</sup> Venture Capitalist Vinod Khosla said recently that he foresees 40-50% of current jobs eliminated within 40 years.

Our evaluation of the situation is more mundane. The labor force participation rate has dropped from 66.0% in December 2007 to 62.8% today, driving significant slack in the labor market. We know that with an aging population, a decrease in the labor force participation rate is normal. That said, there are clearly a large number of people who have been dropped from the employment rolls but are most likely still interested in working. Figure 7 below shows that while the standard measure of unemployment (U3) has largely normalized, when we include marginal and part-time workers (U6), there has been less progress. In particular, we find that the ratio of U6 to U3 has been 1.8x historically while today it is 2.0x, which is approximately 3 standard deviations above the average.



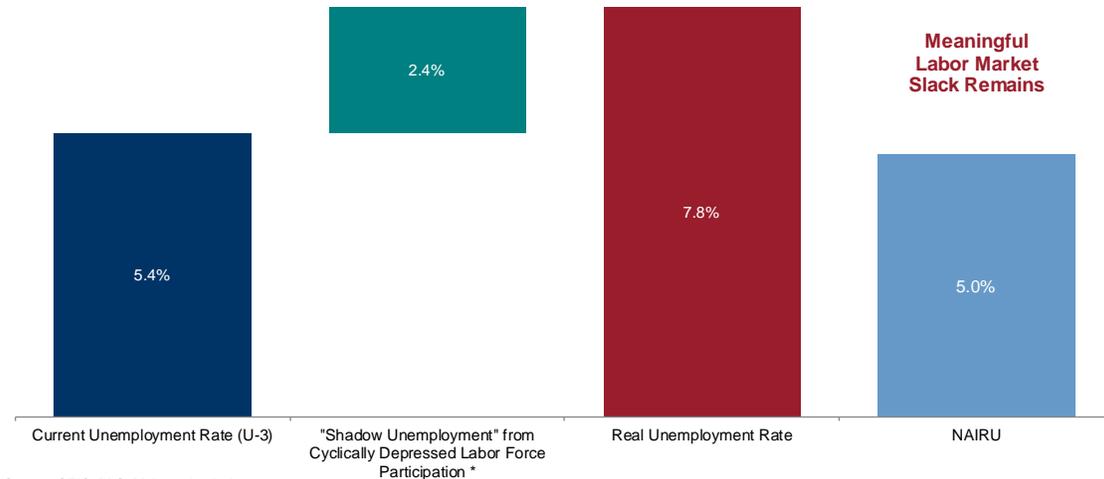
**Figure 7: Unemployment has declined significantly but slack remains among marginal and part-time employees**

While we have not found good studies that separate the cyclical drivers from the structural drivers of the decrease in the labor force participation rate, our discussions with various experts lead us to believe that the decrease was roughly 50% due to demographics and 50% due to cyclical issues. Therefore, we would expect about half of the people who dropped out of the labor force to gradually return to work.

This is illustrated in Figure 8 below where we estimate what the “shadow” unemployment rate would be today if those who may eventually re-enter the workforce were never dropped from the employment rolls to start with. The “shadow” unemployment rate would be between 7% and 8%, or 2-3% above the level at which the Fed estimates that wage inflation would start to manifest itself (the so-called NAIRU, or non-accelerating inflation rate of unemployment). At the current rate of job growth, this amounts to roughly one year of continued job growth from today.

Effect of Labor Force Participation Normalization on Unemployment Rate

Percent (%) As of: 5/22/2015



Source: CEIC, BLS, Makena Analysis  
 \*Assumes that half of difference between current labor force participation and the rate in December 2007 is cyclical

**Figure 8: Cyclically depressed labor participation implies substantial labor market slack remains**

*Higher Rates are Coming – But How High and How Fast?*

The preceding analysis does not mean that inflationary pressures will never manifest nor does it mean that the Fed will not increase interest rates. As we have discussed, there are some base effects that will lead to increased inflation in the near-term. If the expansion continues at its current pace, the labor market slack we just identified will continue to unwind, ultimately resulting in wage-driven inflation. The key is that this will not occur as soon as many seem to think.

As discussed in our Q4 2014 letter, the Fed’s communications strategy has all but obligated it to commence hiking perhaps sooner than truly needed. The reasons behind this are largely ideological – the Fed feels that (i) zero rates are only applicable in emergency situations and clearly the current situation is no longer an emergency, and (ii) “reloading the gun” is important to enable the Fed to face the next crisis. We note, ironically, that “reloading the gun” may precipitate the next crisis for which the gun is needed. However, switching away from forward guidance and towards data dependency enables the Fed to adopt a more cautious path, likely meaning smaller and less frequent hikes than in the past and a lower peak rate at the end of the tightening cycle.

*Inflation – Who Cares Anyway?*

Our thesis of gradual hikes with a lower ultimate peak rate still stands even if inflation manifests sooner and more strongly than our analysis suggests. Figures 9 – 11 below show the change in leverage between 2004 and 2013 in select developed economies for the household, corporate, and government sectors. As the Figures show, current leverage remains highly elevated, in many cases higher than pre-crisis levels. Higher leverage implies higher interest rate sensitivity in these economies. Said differently, a rate hike will have a more profound chilling effect on the economy than in the past. Therefore, when inflation does begin to accelerate, smaller hikes will be needed to counteract a given amount of price pressure. Certainly, there is some time lag to the chilling effect since not all debt resets immediately. This increases the risk of a Fed “mistake” since the effect of a rate hike will not be immediately apparent in the data (outside of financial markets which discount expected future moves by the Fed).

Household Debt as a % of GDP, 2004 and 2013

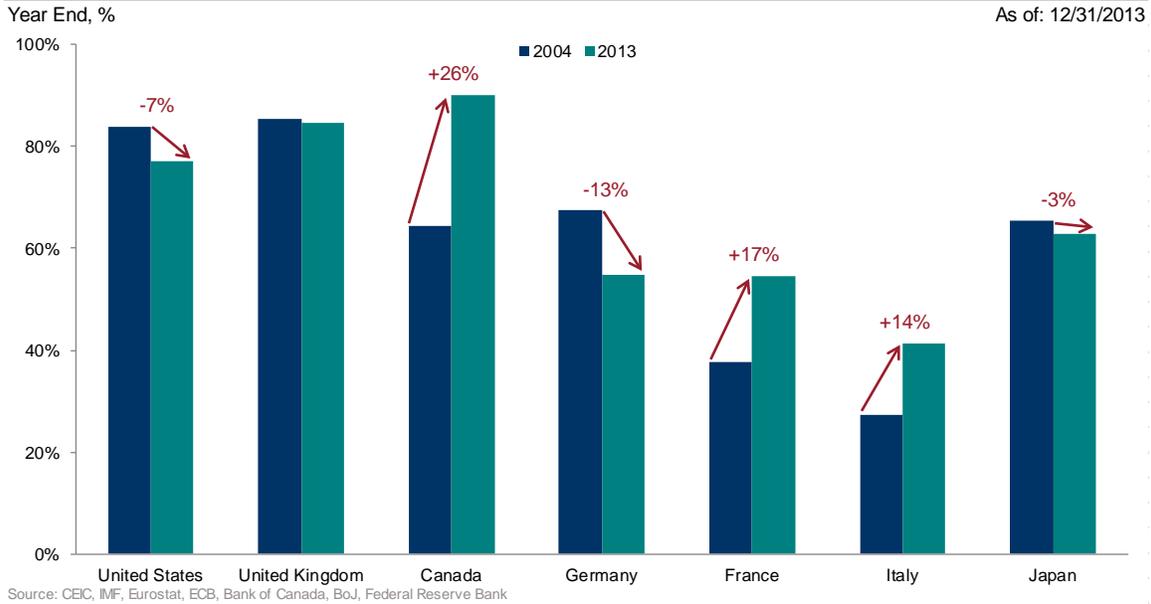


Figure 9: Increase in Household Debt, 2004-2013

Business Debt as a % of GDP, 2004 and 2013

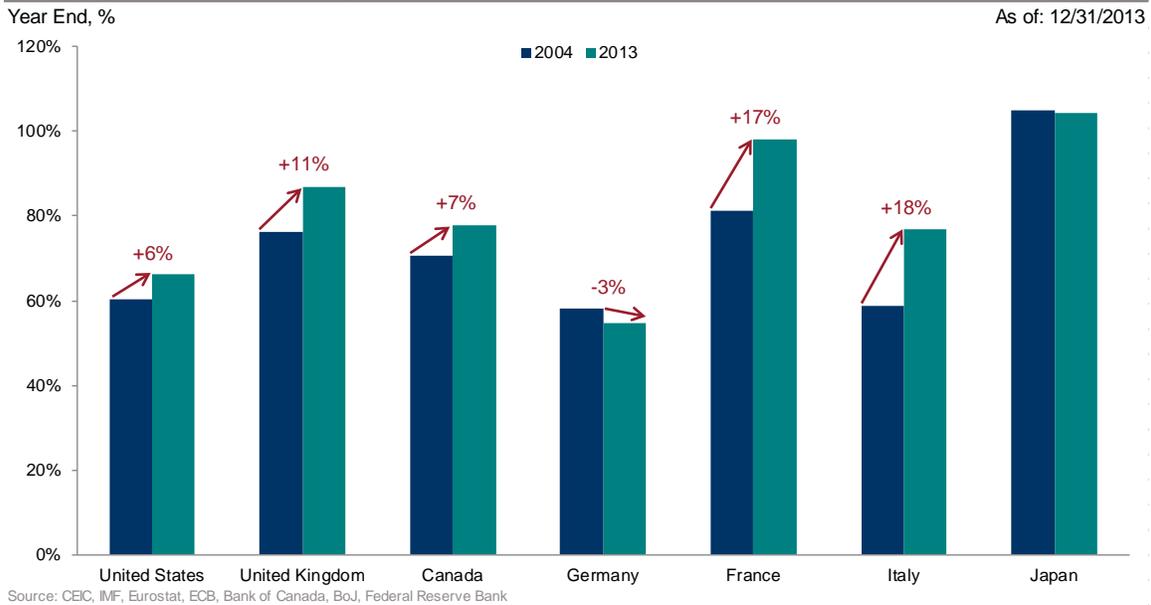
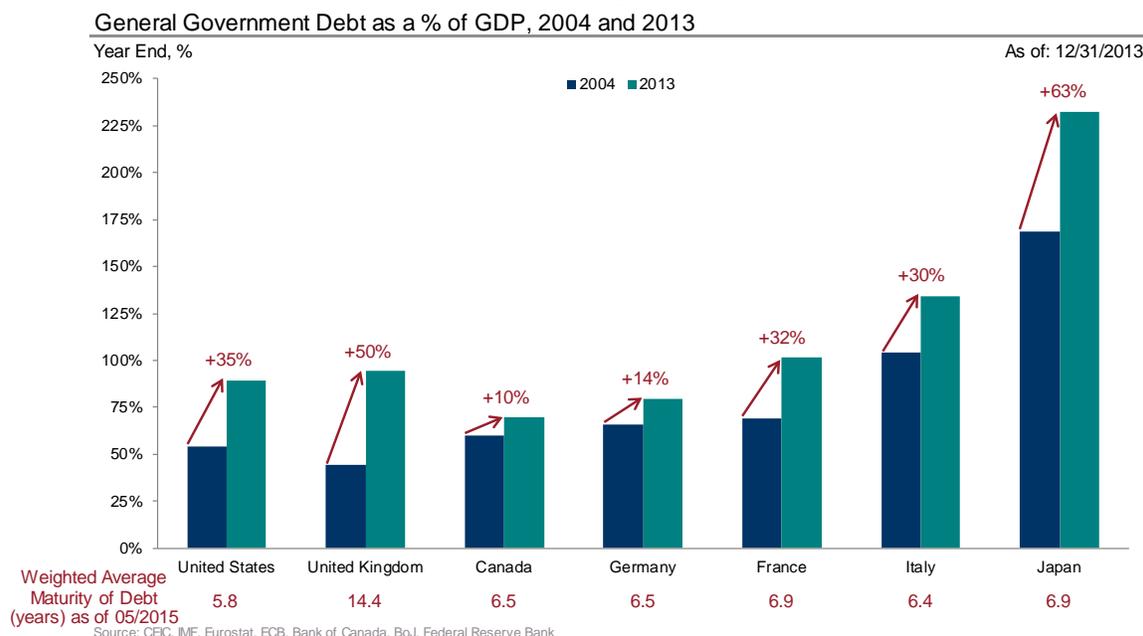


Figure 10: Increase in Business Debt, 2004-2013



**Figure 11: Increase in General Government Debt, 2004-2013**

*Investment Implications*

Let us now discuss how this will affect fixed income and equities.

*Fixed Income*

The implications for fixed income seem relatively straight-forward. Higher rates mean lower bond prices. A long-term investor could mitigate some of the near-term risks in bonds by focusing on the portion of the yield curve that is driven more by fundamentals than by Fed action – the long end of the curve. If growth hovers around 2% in the long term and inflation only gradually reverts back to 2%, we can expect the long end of the curve to eventually yield approximately 4% over the long term. A rate hike in the near term may ultimately lead to a rally in the long end of the curve simply because both inflation and growth expectations would be reduced relative to where they are today.

A rout in the bond market could present an attractive opportunity. Since it would be driven by either (i) the market assuming that the current tightening cycle will be as dramatic as past tightening cycles (i.e. lower growth for longer not internalized by the market), or (ii) by the Fed overshooting and tightening too much relative to fundamentals, ultimately leading to a round of loosening from that point forward.

In either case, due to the low yields achievable from fixed income, equities are and will remain the workhorse of the long-term investor’s portfolio – arguably more than ever before given that there are few other areas that have the potential to meet investors’ return expectations. We therefore now turn to equity implications of the current environment.

*Equities*

Figure 12 below shows the market implied estimate of long-term earnings growth<sup>1</sup>. Perhaps not surprisingly, the current expected growth rate of earnings mirrors that of the economy in nominal terms, somewhere between 3% and 4%.

<sup>1</sup> We use a simple Gordon Growth model to calculate the implied growth rate of the index (EPS/Price + Long-term Earnings Growth = Cost of Equity).

## Market Implied Long-term Growth of S&amp;P 500 Earnings



**Figure 12: Market pricing reflects lower long-term growth**

The market’s long-term growth expectations have decreased from 7-10% in the 1990s to 4-7% in the early 2000s to 3-4% presently. The low level of growth priced into the broad market provides a possible explanation for the extreme valuations of high growth companies and sectors: as growth rates approach the discount rate, the present value calculations of the terminal value of a stock “blow up” towards infinity.

Given that the growth range implied in the stock market is likely to remain fairly static (in line with the economy), we can look at the effect of interest rate changes on valuation using a simple CAPM model, where Risk-Free Rate + Equity Risk Premium = Cost of Equity. The commonly held wisdom that equities will sell-off under a rate hike is captured by the above relationship; when the Fed tightens, the risk-free rate will increase leading to a symmetric increase in the cost of equity. Assuming static long-term growth, this requires that the P/E ratio decreases in tandem with the increase in rates. Said differently, we would expect an equity sell-off as multiples fall. The effect would be even more dramatic if the equity risk premium is a function of the risk-free rate (which likely is the case).

So far, this narrative should be quite familiar and, at first glance, the implications appear very bearish. However, we must incorporate some important corollaries of “lower for longer” growth into this argument, which mitigate the potential for a severe sell-off and suggest a more nuanced approach to the global equity markets:

- i. In a low growth world, it makes sense for a scarce resource, e.g. growth, to be in demand. In a world where growth is scarce, growth should be priced at a premium.
- ii. This should mitigate the sell-off that might occur in growth stocks once the future earnings streams face a new and higher discount rate after a rate hike. Nonetheless, more defensive stocks with nearer-term cash flows may be a safer place to weather near-term Fed-induced stock volatility.
- iii. While most growth stories have seen strong appreciation over the last few years, the exception to this rule is emerging market equities, where the fear of a shakeout due to Fed-induced capital flows seems to dominate the superior growth in emerging markets relative to developed markets. We remain watchful and at present are “at-weight” relative to ACWI in emerging exposure. Should a significant sell-off occur due to Fed-induced volatility and flows, we would advocate adding to EM exposure to buy into their long-term growth prospects on the cheap.
- iv. Should there be a very significant market correction, the implication is that the market is pricing a “normal” tightening cycle going forward, which as we have argued is likely inappropriate given the lower growth outlook. Such a sell-off would then potentially be an overreaction and therefore a *buying* opportunity.

- v. An important driver of stock returns and of EPS growth has been stock buybacks<sup>5</sup>.
  - a. One of the principal drivers of buybacks as a means to return value to shareholders is unaffected by rates: buybacks are a more tax efficient means to return value to shareholders versus dividends.
  - b. A rate hike reduces the number of projects in which a corporation can invest. Companies today already face few alternatives in which to deploy capital, so a rate hike in the current low growth environment would shrink that universe and therefore may mean buyback activity would not slow down as much as intuition would suggest. Historically, if rate hikes coincided with an accelerating economy, a slowdown in buybacks would have been at least partially driven by more appealing alternative uses for capital. In today’s low-growth world, a rate hike seems unlikely to coincide with accelerating underlying economic activity.

### *Summary of Investment Strategy*

In last quarter’s letter we outlined a series of investment recommendations. The above analysis lends further support to these positions and further suggests several additional strategies:

- i. *Caution over growth companies during the run-up to and immediate aftermath of the Fed’s first hike. Following a sell-off, increase growth exposure at more attractive valuations*  
Growth companies will likely exhibit heightened sensitivity to the effects of a rate hike. However, in a world of scarce growth, they should in general be able to attract and sustain higher valuation multiples than they have attracted historically, suggesting a preference for value/safe assets in the near term followed by a tilt towards growth post lift-off.
- ii. *Similar to (i) above, buy into long-term growth via EM equities should there be a significant sell-off*  
Growth *countries* will also likely exhibit heightened sensitivity to the effects of a rate hike. However, in a world of scarce growth, they should in general be able to attract and sustain higher valuation multiples than they have historically, suggesting a tilt towards emerging markets should there be a significant sell-off.
- iii. *Longer duration vs. shorter duration in Fixed Income portfolios*  
Uncertainty over the timing and pace of the coming Fed hiking cycle is likely to continue generating substantial volatility in the short-end of the curve and potentially less in the longer-end. Additionally, should market expectations price a lower growth rate and a lower inflation outlook following a rate hike, we could actually see a rally in the long-end.
- iv. *Continued overweight to US dollar in currency portfolios*  
We believe that the Q1 weakness in US data and the corresponding volatility in the US dollar are transient and so continue to believe fundamentals are aligning for a period of US dollar strength.
- v. *US small and medium enterprise (including Private Equity) vs. large-caps*  
With a strong dollar and therefore weaker commodity prices, the US consumer will have newfound disposable income to spend, favoring more domestically-oriented companies.
- vi. *Competitive EM over commodity EM (across asset classes)*  
While weaker commodity prices hurt commodity exporting nations, it also benefits manufactured goods producing nations through lower input costs. The stronger dollar and increased disposable income available to the US consumer should also benefit manufactured goods-producing nations.
- vii. *Long Europe exporters and periphery intra-Europe exporters*  
Between lower commodity prices and lower wages thanks to internal deflation across most of Europe, European exporters should see margins improve. The weaker Euro will also bolster exports to outside the Eurozone and from peripheral Europe to the core as a substitute for imports.
- viii. *Long US services / non-traded goods companies vs. US exporters*

<sup>5</sup> We calculate that S&P 500 valuation has been boosted due to buybacks by ~3% each year in 2010-2014 for a cumulative valuation boost of 16%. While this is a relatively small proportion of the index return over the recent past, 3% is a substantial proportion of returns in more normal market periods.

The flip side of a strong dollar is that export-led US companies will likely see earnings and earnings growth hampered from overseas operations. Moreover, due to weak inflation dynamics in the non-traded sector, US services will benefit from a slower unwind of high margins as it takes time for declining labor slack to drive wage pressures.

ix. *Long EM reformers vs. laggards (across asset classes)*

Some countries have embraced reforms since the last few crises, embracing flexible exchange rates, minimizing interventions in their domestic economies, and in general fostering an environment where private industry can thrive. These countries should be able to navigate volatility driven by exchange rates and the Fed’s moves more successfully than the laggards who have not reformed. We can think of successful structural reform as both boosting long-term growth and decreasing the risk-free rate, potentially offsetting the effects of a Fed hiking cycle.

The Partners of Makena Capital Management

Analysis by

Michel Del Buono, Global Investment Strategist

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