



The Longbrake Letter*
Bill Longbrake
January, 2015

2014 ended with the “surprising” collapse of oil prices, although there were plenty of warning signals in advance such as burgeoning U.S. oil and gas production and the nose dive in the prices of a variety of other commodities throughout the course of 2014. With the benefit of hindsight, the commodity price boom was just another bubble. It was initiated by substantive changes in the global economy but then carried to unsustainable heights by cheap and abundant money.

Now as 2015 commences, bond yields around the world are in free fall and worries of potential deflation abound. Of course, the two sets of developments are related and are the inevitable result of monumental global adoption of market-driven economic systems by countries with half of the global population and by aggressive use of policy to try to tame the extremes of market-driven systems. This has led to an explosion in aggregate global supply that has not been matched entirely by a commensurate expansion in global aggregate demand. Such a mismatch inevitably leads to intense deflationary pressures, which, in any event, is a natural element of market-based economies.

Unfortunately, these developments have been reinforced by others. Declining population in Japan resulted in entrenched deflation in Japan, once the world’s second largest economy. Japan is now engaged in a desperate attempt to escape the clutches of deflation and economic decline by debasing the value of the yen and exporting its deflation to the rest of the world. Japan’s solution is long on using monetary policy to drive down interest rates and drive up inflation and short on reversing the decline in its labor force and eliminating structural rigidities in its economy that are undermining productivity and which are the real culprits of Japan’s economic problems. If Japan cannot address those fundamental problems adequately, monetary policy might succeed in defeating deflation only to set the stage for new challenges.

Then there is Europe. By the time this letter is posted, the ECB most likely will have adopted some kind of quantitative easing program. Europe is already in the early throes of deflation, but a quantitative easing program in all likelihood will be too little too late to make a significant difference, although financial markets will be happy because the prices of financial assets should benefit. Like Japan, Europe has fundamental economic problems and demographic challenges that lack effective solutions. Unlike Japan, Europe has serious and intractable governance flaws. As a result nationalism has reemerged. Political fragility is escalating as economic difficulties erode the strength of centrist parties that have supported the

*The information contained in this newsletter does not constitute legal advice. This newsletter is intended for educational and informational purposes only.

European Project. Momentum is building for more extreme political parties on the left and on the right and eventually some will be in a position to assume power. That may come as soon as January 25 in Greece, if Syriza wins the election. Even in long stable democracies, such as France and the U.K., political fragmentation is gaining momentum. This could become a serious matter in the U.K. as soon as May when national parliamentary elections must be held.

In contrast, China appears to be handling the necessary transformation of its economy from a trade and investment focus to a consumer focus in a controlled and orderly fashion. This transformation involves accepting a lower rate of growth. While the previous economic strategy focus resulted in a high rate of growth, Chinese leaders had the good sense to recognize that that strategy, if it had been pursued much longer without substantial modification, would have eventually led to a troublesome debt and financial crisis, which not only would have damaged China's economy but might also have threatened Communist Party power. But because of its enormous size as the world's second largest economy, China's shift in economic strategy contributed significantly to the popping of the commodities bubble and the deflationary pressures now stalking many global economies.

In marked contrast with global developments, the U.S. economy seems to be doing just fine and is gaining economic momentum. In this month's letter, most of the commentary is devoted to developments in the U.S., which for the most part are favorable. Nonetheless, the U.S. outlook is not free altogether from risk and one needs to be careful not to be dismissive of troublesome international developments knowing as we do how completely integrated world financial markets have become.

I. U.S. Economic Outlook — Real GDP Growth

Annualized third quarter real GDP growth in the "Final Estimate" was a much greater than expected 5.0 percent. Fundamentals were very strong — improvements occurred in the right categories — personal consumption and nonresidential investment, which collectively contributed 0.92 percent of the 1.06 percent improvement from the "Preliminary Estimate" (see **Table 1**). Private GDP net of "Net Exports," which is a good measure of the strength of the domestic economy — it eliminates volatile changes in inventories, government spending and net exports — improved to a solid 3.41 percent. This follows an equally strong growth rate of 3.20 percent in the second quarter.

1. 2014 Q3 GDP — Final Estimate

Personal consumption expenditures, which account for 67.9 percent of real GDP, contributed 2.21 percent to third quarter GDP growth. This was among the few strong quarterly growth rates since the end of the Great Recession. Annualized quarterly growth of 2.21 percent is consistent with overall real GDP growth of 3.25 percent, which is considerably above most estimates of long-run real potential GDP growth of about 2.1 percent. Recent strong growth in employment and total hours worked, coupled with the substantial decline in oil prices, bode well for continued strength in personal consumption growth over the next several quarters.

Nonresidential investment growth strengthened to 1.10 percent in the "Final Estimate." Nonresidential investment accounts for 13.2 percent of GDP, but contributed 22.0 percent of third quarter real GDP growth. Growth in equipment and intellectual property were particularly strong, while growth in structures was weak, similar to what occurred in the second quarter.

Table 1
Composition of 2014 and 2013 Quarterly GDP Growth

	Third Quarter 2014 Advance Estimate	Third Quarter 2014 Preliminary Estimate	Third Quarter 2014 Final Estimate	Second Quarter 2014	First Quarter 2014	Fourth Quarter 2013
Personal Consumption	1.22%	1.51%	2.21%	1.75%	0.83%	2.51%
Private Investment	.68%	.88%	1.10%	1.18%	.20%	1.23%
Nonresidential	.06%	.09%	.10%	.27%	-.17%	-.28%
Residential	-.57%	-.12%	-.03%	1.42%	-1.16%	-.34%
Inventories	1.32%	.78%	.78%	-.34%	-1.66%	1.08%
Net Exports	.83%	.76%	.80%	.31%	-.15%	-.71%
Government	3.54%	3.90%	4.96%	4.59%	-2.11%	3.49%
Total	4.11%	4.02%	4.99%	3.17%	-0.95%	3.83%
Final Domestic Sales	3.28%	3.26%	4.19%	2.86%	-0.80%	4.54%
Private GDP	1.96%	2.48%	3.41%	3.20%	0.86%	3.46%

To a substantial extent, a significant improvement in real GDP growth in coming quarters will depend upon strong growth in total private investment spending including residential. This means that investment spending will need to contribute more to real GDP growth than its 16.3 percent share of real GDP. That condition was met in the third quarter as total private investment contributed 24.2 percent to real GDP growth. These comparisons are scaled by the third quarter real GDP growth of 5.0 percent. If 3.0 percent growth, which is still well above the long-term potential growth rate of 2.1 percent, is used for scaling purposes, the contribution to growth would have been 40.3 percent. The takeaway is that investment growth indeed has been very strong.

Looking forward the question is one of whether investment growth will continue to exceed its long-term trend level and contribute to closing the output gap. The answer appears to be in the affirmative. The collapse in oil prices will reduce investment in oil and gas. But oil and gas capital spending amounts to just 7 percent of total investment. Thus, a sharp decline in energy-related investment will have only a small impact. There is universal agreement that personal consumption spending will be boosted substantially by the decline in gas prices. As that occurs and with a bit of a lag, spending on capital expenditures should accelerate. Thus, there is ample reason to be optimistic that real GDP growth will be boosted by strong nonresidential capital spending over the next few quarters.

Residential investment accounts for 3.1 percent of GDP but contributed only 2.0 percent of GDP growth during the third quarter. Residential investment spending has been very disappointing. Typically this category is one of the first to show strength following a recession. That has not occurred in the aftermath of the Great Recession. Residential investment spending has been held back by a variety of factors including an initial substantial excess supply, depressed net household formation, and stringent mortgage underwriting. Excess supply is no longer a problem but the other two factors continue to depress growth in residential investment. With job growth accelerating and consumer optimism rising, it seems likely that household formation will accelerate in coming quarters. However, mortgage underwriting seems

unlikely to get much easier, but extremely low interest rates should be helpful. All-in-all, growth in residential investment spending should improve in coming quarters and that improvement could be quite substantial if household formation rates rise rapidly.

Government expenditures contributed 0.80 percent to real GDP growth in the third quarter. Government expenditures account for 18.0 percent of real GDP and contributed 16.0 percent to third quarter GDP growth. This strength appears to be an aberration that will not be repeated. Growth in government expenditures on average over the last 16 quarters has been negative. As the economy strengthens, growth should turn positive. However, policies in place at both the federal and state and local level assure that government spending will contribute far less to real GDP growth than their overall share of real GDP. In other words, it is likely that government spending will contribute far less than 16.0 percent to real GDP growth in coming quarters.

State and local government expenditures declined steadily until the first quarter of 2013. Over the last seven quarters these expenditures have grown modestly, but have contributed far less to real GDP growth over this time period, about 4.6 percent, than their 10.9 percent share of real GDP. This positive trend is likely to continue but substantial acceleration is unlikely, which means that state and local spending is likely to continue to shrink as a portion of total real GDP.

Net exports contributed 0.78 percent to real GDP growth in the third quarter and accounted for 15.6 percent of real GDP growth. The contribution of “Net Exports” to real GDP growth is very volatile from quarter to quarter and averages close to zero over the long run. A long-run zero growth rate is exactly what should be expected, provided that growth in exports and imports is approximately the same over time. Over the last 16 quarters annual growth in exports has been 3.2 percent and annual growth in imports has been 2.4 percent, which means that “Net Exports” have contributed positively to real GDP growth over that time period, but this contribution nonetheless has been relatively insignificant.

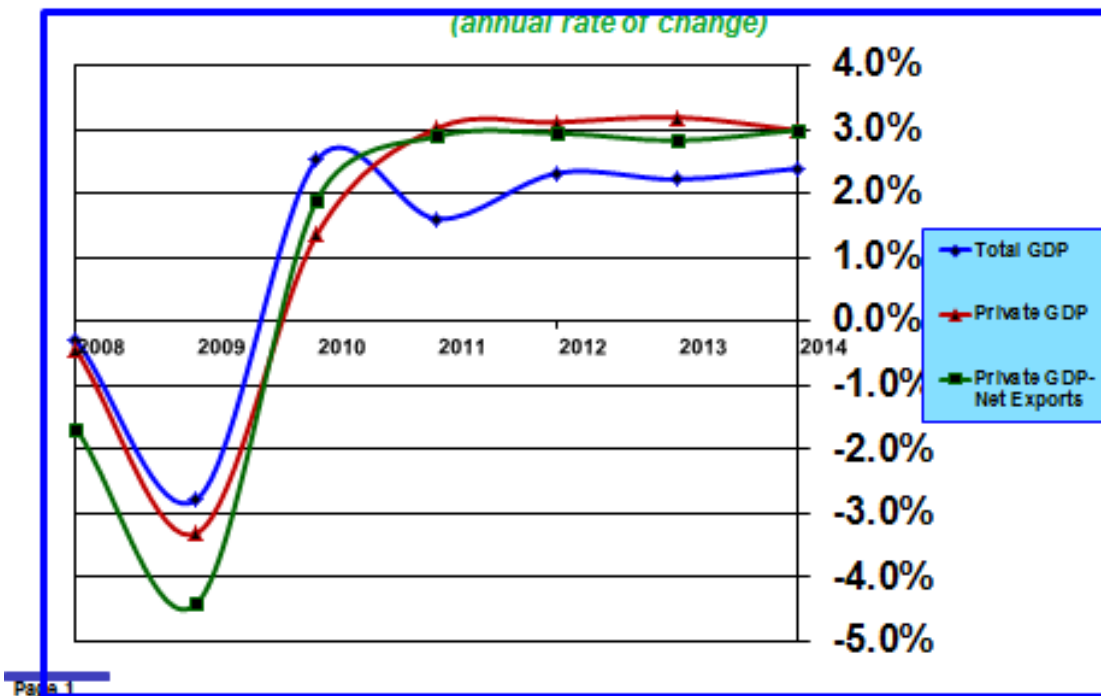
2. Longer-Run Trend in Total Real GDP and Private GDP (With and Without “Net Exports”)

Chart 1 compares total real GDP growth from 2008 through the third quarter of 2013 with two alternative measures. The first is a measure of private sector real GDP growth, which is derived by subtracting changes in inventories and government spending from total GDP. (See the second to last line in **Table 1**.) The second is a measure of private sector real GDP growth net of the impact of the change in “Net Exports.” (See the last line in **Table 1**.) Over long periods of time the two alternative measures should be approximately the same because the contribution of growth in “Net Exports” is close to zero.

Chart 1 clearly shows that private real GDP growth for both alternative measures has been consistently stronger than total real GDP growth over the last four years, averaging about 3.0 percent compared to 2.1 percent for total real GDP. The drag from tepid growth in government expenditures is very apparent. Of course, in 2009 and 2010 a surge in government spending greatly moderated the consequences of the Great Recession.

While growth in government spending will continue to lag private sector growth in coming quarters, the gap is likely to narrow with the result that total real GDP growth should improve relative to private real GDP growth. With private real GDP growth poised to rise because of improving employment, rising consumer confidence and falling oil prices, this means that total real GDP growth could average in a range of 3.0 to 3.5 percent over the next few quarters.

CHART 1 – Total Real GDP and Private GDP (less Inventories and Government Expenditures)



3. GDP Forecasts for Q4

Table 2 shows GDP forecasts/projections for the fourth quarter of 2014 and for the full years 2014 through 2017.

B of A expects 3.4 percent growth in the fourth quarter. **B of A's** forecast for 2014 GDP fourth-quarter-to-fourth-quarter (Q4/Q4) growth is 2.7 percent and 2.5 percent year over year (Y/Y).

GS's forecast for the fourth quarter is slightly lower than **B of A's** forecast — 2.8 percent Q4, 2.55 percent Q4/Q4, and 2.4 percent Y/Y.

Fourth quarter forecasts prepared by Global Insight, Economy.com and the Blue Chip Average, which are shown in **Table 2**, have not been updated since November. Thus, they do not reflect recent strong economic data and, therefore, are probably too low.

Both Bill's "**Steady Growth**" and "**Strong Growth**" Q4/Q4 forecasts are 2.8 percent and 2.5 percent Y/Y. These forecasts differ little from those made by **B of A** and **GS**.

4. GDP Forecasts for 2015 and Beyond

As **Chart 2** and **Table 2** show, most forecasters expect GDP growth to accelerate in 2015 through 2017 as the economy picks up momentum and benefits from lower oil prices.

Table 2
Real GDP Growth Forecasts — B of A, GS, Global Insight, Economy.com, Blue Chip Average, Bill’s “Steady Growth”, Bill’s “Strong Growth” and FOMC High and Low Projections

	2014	2014	2014	2015	2015	2016	2017
	Q4	Q4/Q4	Y/Y	Q4/Q4	Y/Y	Y/Y	Y/Y
B of A	3.5	2.7	2.5	3.1	3.5	3.1	2.7
GS	3.1	2.55	2.4	3.0	3.3	3.0	3.0
Global Insight	3.0		2.3		2.7	2.9	3.1
Economy.com	3.1		2.2		3.5		
Blue Chip Average*	3.0		2.2		3.1	2.9	2.7
Bill’s Steady Growth		2.8	2.5	1.9	2.8	2.3	2.0
Bill’s Strong Growth		2.8	2.5	2.8	3.4	3.0	2.6
FOMC - High#		2.4		3.0#		3.0#	2.5#
FOMC - Low#		2.3		2.6#		2.5#	2.3#

*As of November 2014.

#Measured from Q4 to Q4

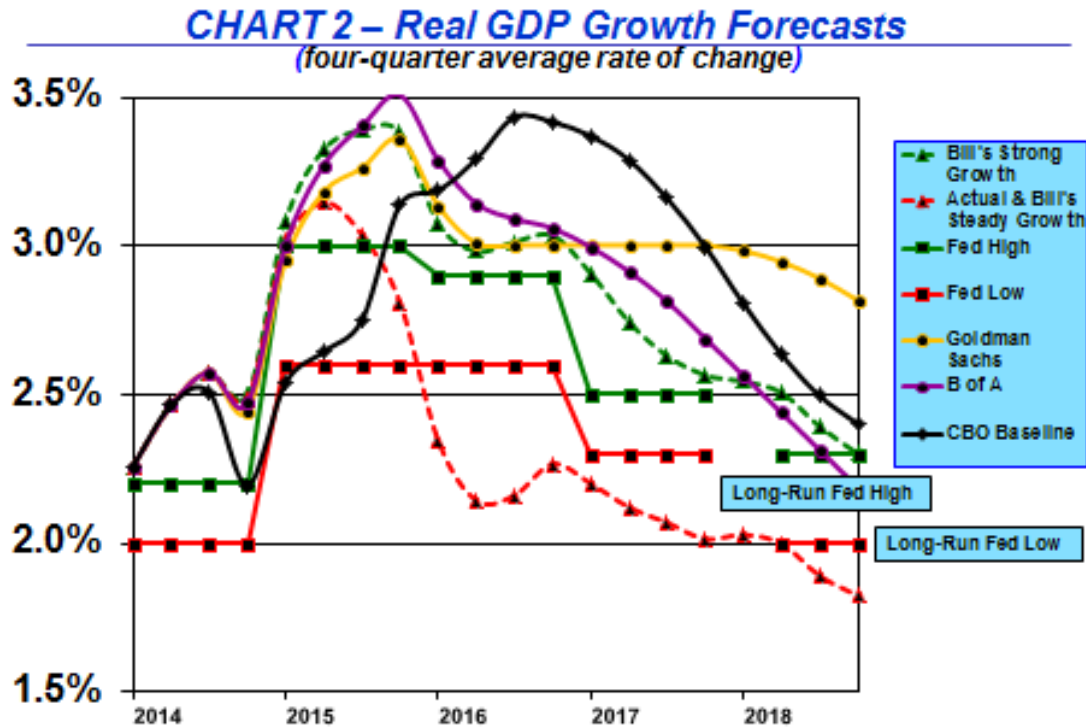
Consumer spending and private investment spending account for 84 percent of real GDP. **GS’s** and **B of A’s** forecasts for 2015, 2016 and 2017 for these real GDP categories are summarized below. In past letters, I have expressed skepticism about what I considered to be overly optimistic forecasts. That skepticism has been borne out by actual results.

However, in reviewing **GS’s** and **B of A’s** forecasts for the next three years I believe them to be reasonable — neither too optimistic nor too pessimistic. There are two reasons I have come to that conclusion. First, both forecasters have scaled back their growth expectations. Second, there is much more compelling evidence that economic growth is accelerating and that development will be sustained.

Consumer Spending. **GS** and **B of A** both forecast strong acceleration in consumer spending growth from 2.5 percent in 2014 to 3.7 percent in 2015. Growth slows to about 3.15 percent in 2016 and 2.7 percent in 2017 as the transitory benefit of lower oil prices dissipates and as employment growth begins to slow.

Residential Investment. **GS** expects residential investment growth to accelerate to 8 percent in 2015, 11 percent in 2016, and 13 percent in 2017. **B of A** is also optimistic, but a little less so. Its forecast for residential investment growth in 2015 is 7 percent, 9 percent in 2016, and 10 percent in 2017. In both cases, however, residential investment growth is sufficiently strong that it boosts **GS’s** and **B of A’s** overall forecast of real GDP growth for 2015 — 2017.

Business Investment. **GS** forecasts business investment growth will average about 5.25 percent annually in 2015, 2016 and 2017. **B of A** expects investment growth of about 5.5 percent in 2015, 2016,



Page 2

and 2017. Both sets of forecasts are somewhat less optimistic than those made a year ago. However, real investment growth in the range of 5 percent is above the long-term average and will boost the annual rate of growth in real GDP.

Bill's "*Strong Growth*" scenario of Y/Y 3.4 percent growth in 2015 is consistent with the upper end of the consensus range and Bill's "*Steady Growth*" scenario of Y/Y 2.8 percent growth is aligned with the lower end of the consensus range.

Bill's real GDP forecasts for 2016 and 2017 are lower than other forecasts for the "*Steady Growth*" scenario but similar for the "*Strong Growth*" scenario. The principal difference has to do with my view that employment and investment growth will decelerate in the "*Steady Growth*" scenario. Slow investment growth will hold back employment growth and retard income growth, which implies that consumer spending growth will slow more rapidly after the benefits of the oil price collapse play themselves out.

5. FOMC GDP Forecasts for 2015 and Beyond

As **Table 3** shows, the FOMC's real GDP growth projections were persistently overly optimistic until recently. That no longer appears to be the case. Private forecasts are now somewhat more optimistic than the FOMC's projections.

Real GDP growth forecasts for 2015, including my own, range from 2.7 to 3.5 percent. So, there appears to be substantial consensus.

Table 3
Median of FOMC's Central Tendency Real GDP Growth Projections Compared to Actual Results — 2011 to 2017

Meeting Date	2011	2012	2013	2014	2015	2016	2017	Long Run
Jan 2011	3.70	3.95	4.00					2.7
Apr 2011	3.30	3.65	4.00					2.7
June 2011	2.75	3.10	3.75					2.7
Nov 2011	1.70	2.90	3.35	3.60				2.6
Jan 2012		2.55	3.10	3.55				2.6
Apr 2012		2.55	3.10	3.60				2.6
June 2012		2.05	2.85	3.40				2.6
Sep 2012		1.80	2.90	3.40	3.35			2.6
Dec 2012		1.80	2.60	3.40	3.35			2.6
Mar 2013			2.50	3.20	3.15			2.5
June 2013			2.30	2.90	3.05			2.5
Sep 2013			2.10	2.75	2.95	2.85		2.3
Dec 2013				3.00	3.20	2.85		2.3
Mar 2014				2.90	3.10	2.75		2.25
June 2014				2.20	3.10	2.75		2.2
Sep 2014				2.10	2.80	2.75	2.40	2.15
Dec 2014				2.35	2.80	2.75	2.40	2.15
Actual Q4 to Q4	1.68	1.60	3.13	2.60*	3.00*	3.00*	3.00*	
Actual Y/Y	1.60	2.32	2.22	2.45*	3.36*	3.00*	3.00*	
Bill Steady Y/Y				2.49	2.81	2.27	2.01	
Bill Strong Y/Y				2.50	3.38	3.04	2.57	
Long Run Potential							2.0-2.3#	

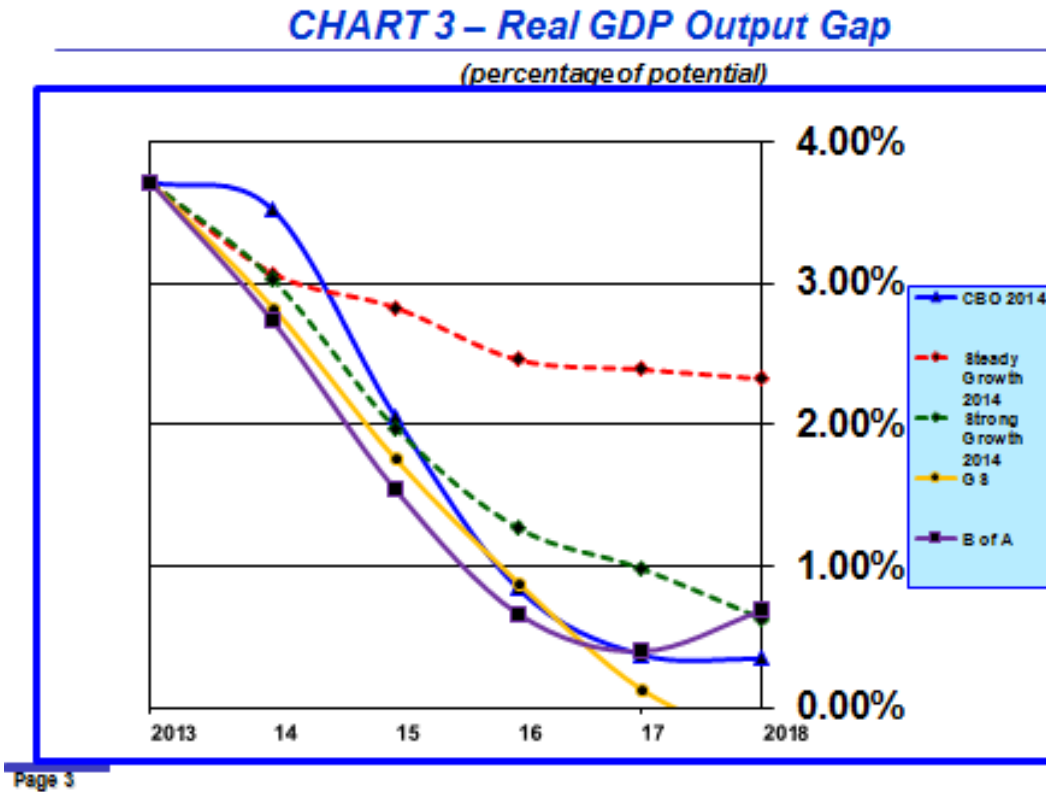
*GS forecast

#Bill's "*Steady Growth*" long-run potential = 1.98%; Bill's "*Strong Growth*" long-run potential = 2.34%

Although FOMC projections have been systematically overly optimistic in the past, FOMC projections for 2014, 2015, and 2016 are similar to those of most forecasters.

6. GDP Output Gap

Generally, most forecasts expect the real GDP output gap, which was 3.2 percent at the end of the third quarter, to close rapidly during 2015 and 2016. The only exception is my “*Steady Growth*” scenario. (See **Chart 3**.) So, at long last there is light at the end of a long tunnel. But the tunnel has been long indeed — 8 to 9 years from 2008 to 2016-2017.



II. Consumer Income and Spending

Consumer income and spending data reported monthly by the Bureau of Economic Analysis is frequently and substantially revised. This means that the most recent monthly report often can be misleading. Also, these data are very sensitive over short periods of time to policy changes. That certainly has been the case in recent years with frequent changes in taxes that have had direct and indirect impacts on consumer income and spending. Also, uncertainty and fluctuations in consumer confidence have led to volatility in consumer spending patterns.

For all of these reasons, it is best to look at trends in consumer income and spending data. Data in **Table 4** compare year-over-year changes for 2011, 2012, 2013 and for the 12 months ending in September, October, and November 2014. The year-over-year changes are very sensitive to data anomalies in a specific month. That problem is particular prominent in the 2012 data when the impending repeal of the Bush tax rate cuts for high income earners beginning in 2013 led to acceleration of income recognition in December

2012. This in turn affected the year-over-year change in December 2013 data. This kind of volatility makes it difficult to discern trends.

Table 4
Percentage Change in Nominal Personal Income and Its Disposition for 2011, 2012 and 2013 and 12 Months September, October, and November 2014

	2011 Pct. Change	2012 Pct. Change	2013 Pct. Change	Pct. Change Sep 13 - Sep 14	Pct. Change Oct 13 - Oct 14	Pct. Change Nov 13 - Nov 14
Personal Income	5.10%	8.96%	-2.07%	3.64%	4.11%	4.21%
Compensation	2.72%	6.74%	0.75%	4.08%	4.25%	4.24%
Proprietors' Income	10.90%	8.40%	3.44%	1.47%	4.13%	4.88%
Rental Income	18.55%	8.42%	10.03%	6.99%	6.54%	6.27%
Asset Income	8.48%	24.43%	-15.49%	1.41%	2.10%	2.52%
Government Transfers	0.18%	3.12%	2.14%	4.92%	5.11%	5.05%
Less: <i>Personal Taxes</i>	4.61%	9.73%	9.02%	4.96%	5.03%	4.92%
Disposable Income	4.12%	8.62%	-3.05%	3.46%	3.98%	4.12%
Less: <i>Consumption</i>	3.55%	3.79%	3.88%	4.18%	4.08%	4.06%
Personal Saving	13.27%	79.50%	-61.90%	-9.71%	2.09%	5.55%
Personal Saving Rate	5.98%	6.88%	5.41%	4.87%	4.77%	4.76%
Adj. Personal Income [#]	4.20%	8.81%	-1.06%	3.73%	4.17%	4.27%

[#]Growth rate in personal income, assuming no change in the payroll tax rate. The payroll tax rate was lowered by 2 percentage points in 2011 and restored to its original level in 2013.

However, I use moving averages in **Charts 4, 5A, 5B, and 6**. The policy impacts are visible in the charts, but it is easier to see the longer-term trends unfolding.

1. Year-Over-Year Percentage Changes in Personal Income, Disposable Income and Consumption — 2011, 2012 and 12 Months Ending in September, October and November 2014

There is some value in comparing the three right hand columns in **Table 4** with the 2011 column.

Growth in nominal personal income has edged up steadily over the course of 2014, but still remains below the rate achieved in 2011. However, when 2011 personal income data is adjusted for the change in the payroll tax that occurred in 2011 to yield an apples-to-apples comparison, the 12-month change in personal income in November 2014 was very slightly higher than in 2011. Similarly, as of November 2014, the 4.12 percent growth rate in disposal income matched the level achieved in 2011. So, these two data points suggest that the growth rate in nominal personal and disposable income, in spite of all the policy-induced volatility, has been relatively stable.

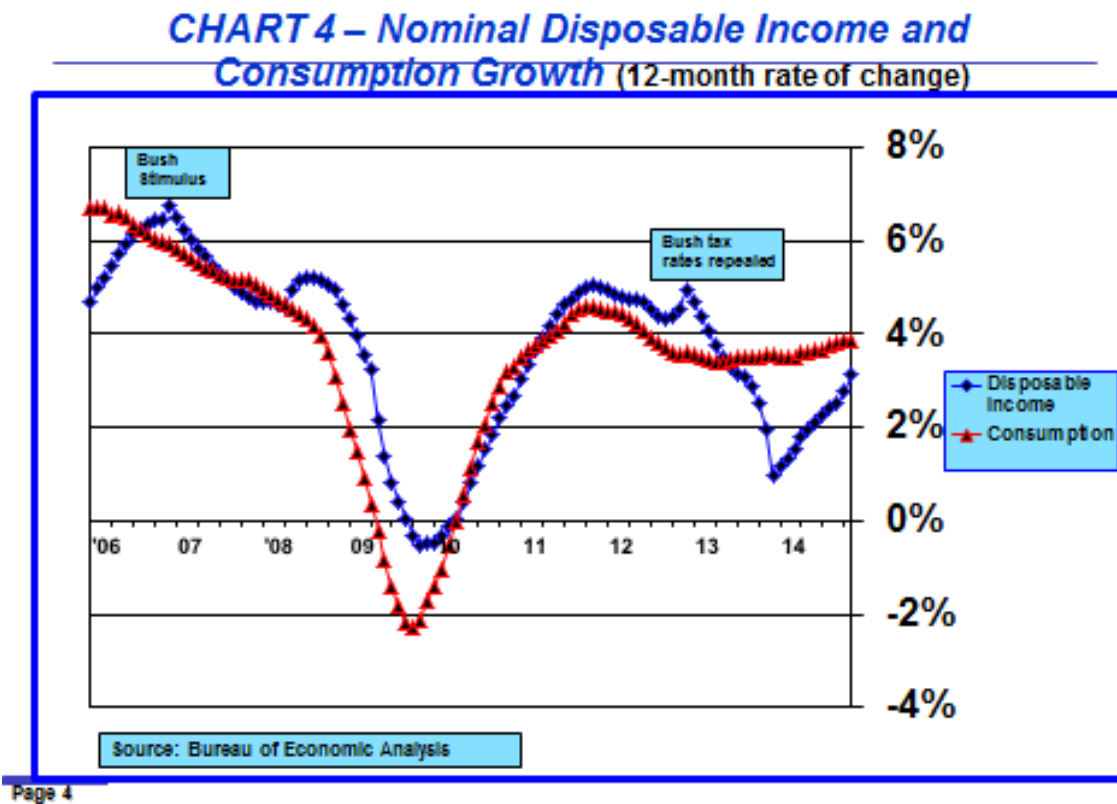
2. Consumption

Data in **Table 4** indicate that the growth rate in nominal consumer spending has been rising gradually. Whenever the growth rate in spending exceeds the growth rate in disposable income the gap is filled by saving less. As can be seen, the saving rate has fallen a full percentage point between 2011 and November 2014.

With strong employment growth in recent months, particularly in terms of total hours worked, it is likely that disposable income growth will continue to edge up in coming months. The growth rate would rise even faster if the rate of increase in nominal hourly wages began to rise. So far this hasn't happened. But, as the unemployment rate continues to decrease and the labor market tightens, the odds are rising that nominal wages will soon began to rise at a more rapid clip.

3. Disposable Income and Spending

Chart 4 shows the nominal rate of growth in disposable income and consumer spending from 2004 to the present. Growth rates are calculated as changes in quarterly averages year over year. This method smooths timing anomalies to a certain extent, although major events such as occurred at the end of 2012 will still impact the observed trend for the following 12 months.



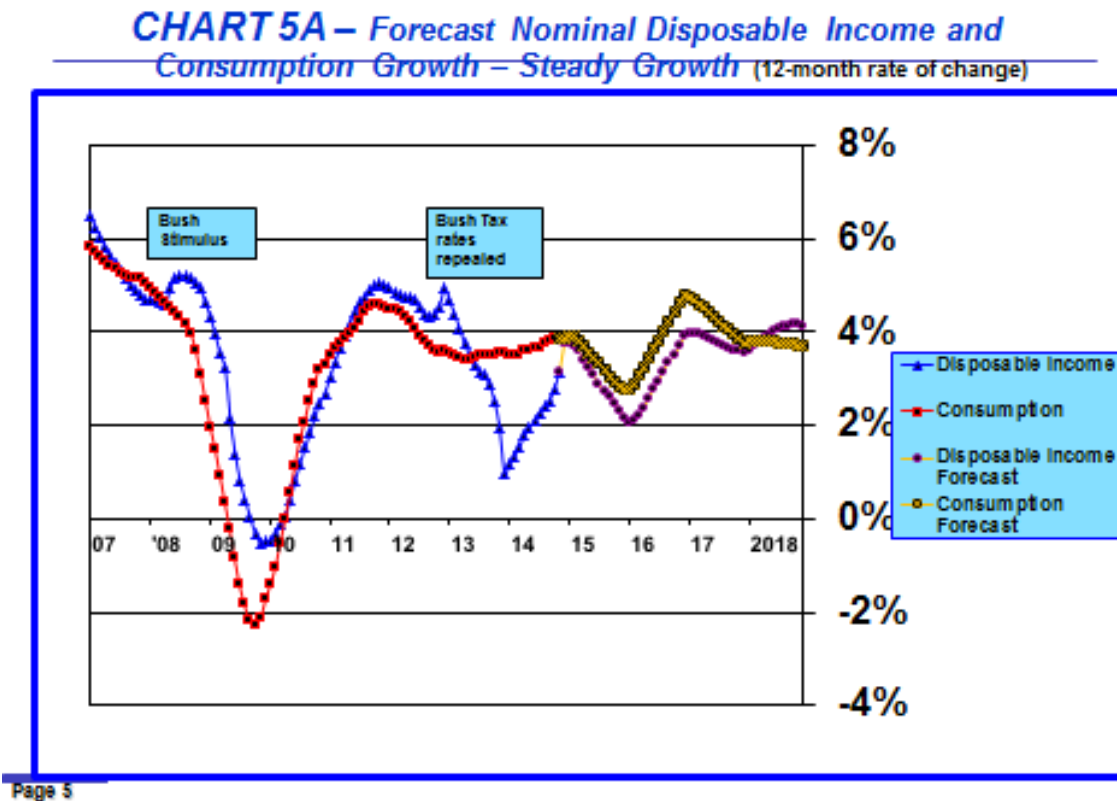
The annual rate of growth in disposable income began slowing in late 2011 and declined from 5.0 percent in November 2011 to 1.0 percent in December 2013, but then rebounded since then to 3.1 percent

in November 2014.

Chart 4 shows that growth in nominal consumer spending, after peaking at 4.6 percent in October 2011, slowed to about 3.4 percent in June 2013 and has edged back up to 3.9 percent in November 2014.

4. Outlook for Nominal Disposable Income and Spending

As can be seen in **Charts 5A** (“*Steady Growth*” scenario) and **5B** (“*Strong Growth*” scenario), my statistical model indicates that nominal consumer disposable income and spending growth will slow in coming months but then rise sharply in 2016. This result is inconsistent with other forecasts. In the short run, the way in which the model adjusts for inflation appears to be skewing the forecast. The total inflation rate will drop sharply in coming months because of falling oil prices. The model does not appear to capture this nuance in the short run.

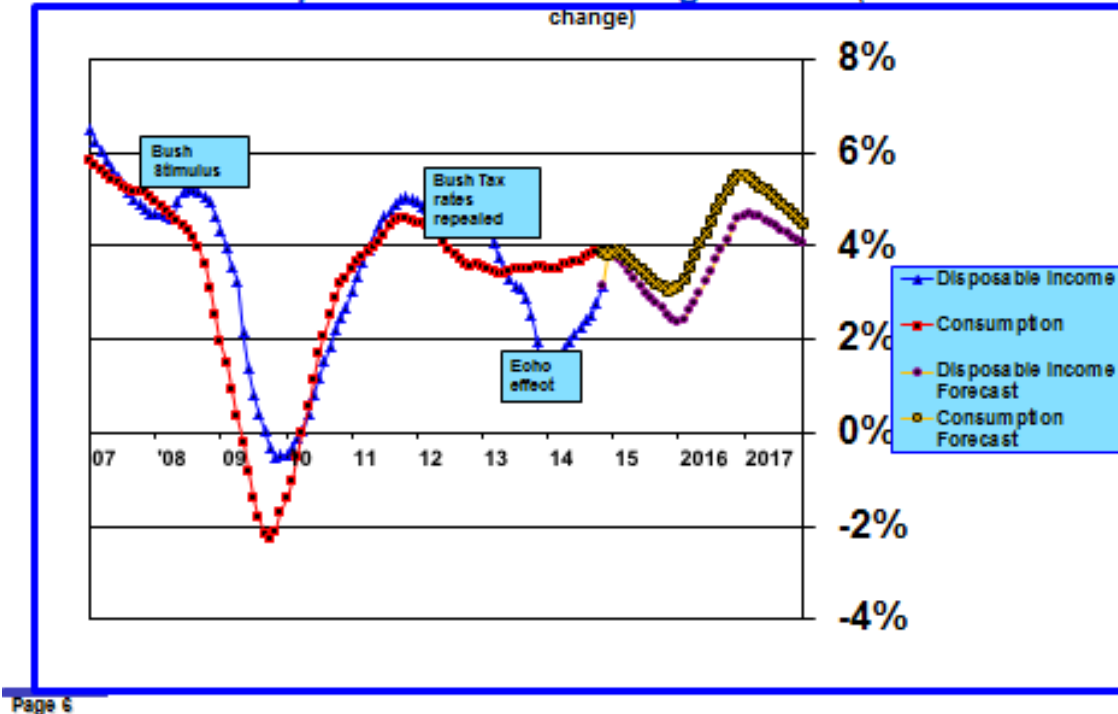


Generally, growth in nominal consumption exceeds growth in nominal disposable income, which means that the saving rate is gradually declining over time.

5. Real Consumer Spending Forecasts

Chart 6 shows forecasts for quarterly real consumer spending growth at an annualized rate. My “*Steady Growth*” and “*Strong Growth*” forecasts for real consumer spending do not appear to be affected as

CHART 5B – Forecast Nominal Disposable Income and Consumption Growth – Strong Growth (12-month rate of change)



Page 6

much by the impact of falling oil prices on inflation; however, the forecasts do not indicate the short-run peaking in the rate of real consumer spending growth that occurs in both the **GS** and **B of A** forecasts.

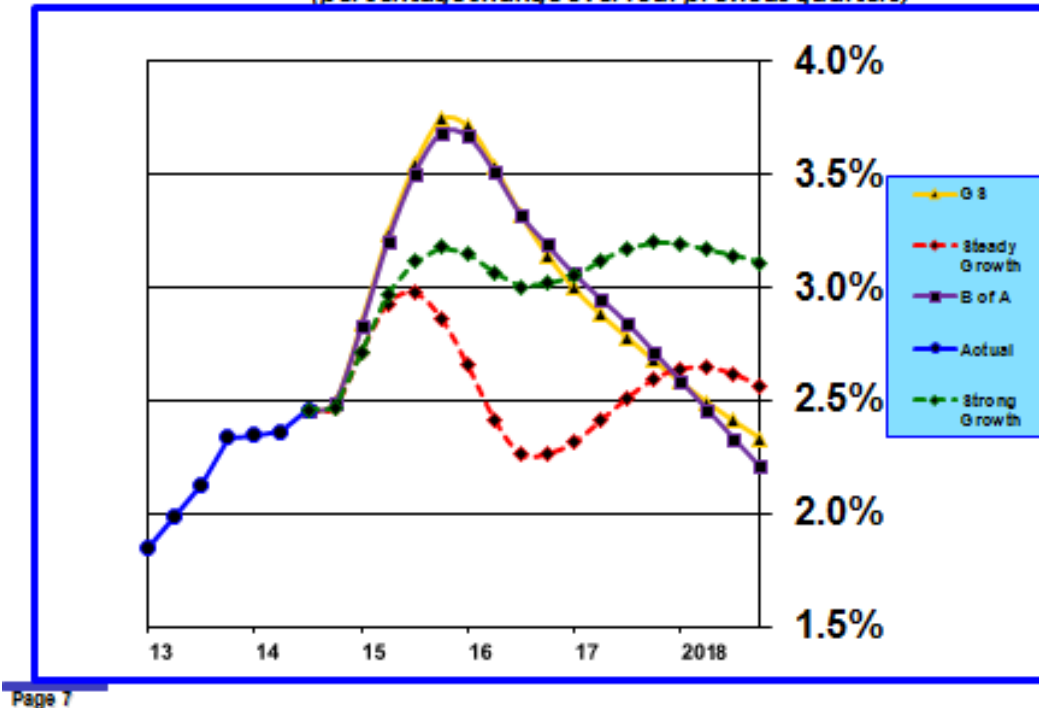
B of A and **GS** expect real consumer spending to rise 3.7 percent during 2015. My *“Steady Growth”* forecast indicates growth of about 2.9 percent and my *“Strong Growth”* forecast is for 3.2 percent growth.

Table 5 shows forecast real consumer spending growth rates for **B of A**, **GS** and my two scenarios. **Table 5 Real Consumer Spending Growth Rate Y/Y Forecasts — B of A, GS, Bill’s “Steady Growth” and Bill’s “Strong Growth”**

**Table 5
Real Consumer Spending Growth Rate Y/Y Forecasts — B of A, GS, Bill’s “Steady Growth” and Bill’s “Strong Growth”**

Real Consumer Spending Growth	2011	2012	2013	2014	2015	2016	2017	2018
B of A	2.02	1.72	2.34	2.49	3.68	3.19	2.71	2.20
GS	2.02	1.72	2.34	2.49	3.74	3.14	2.68	2.33
Bill’s Steady Growth	2.02	1.72	2.34	2.47	2.86	2.26	2.60	2.56
Bill’s Strong Growth	2.02	1.72	2.34	2.46	3.18	3.02	3.20	3.11

CHART 6 – Real Consumer Spending Growth - Forecast
 (percentage change over four previous quarters)



Page 7

GS’s forecast is derived from a model that includes consumer disposable income, consumer sentiment, financial and housing wealth, credit availability, and deviations in the actual consumer saving rate from the long-run target level as variables. At the beginning of 2014 both GS and B of A forecast real consumption growth of 2.76 percent in 2014. The likely growth rate once fourth quarter data are reported should be a little less at approximately 2.5 percent. My original “*Strong Growth*” forecast for 2014 was 2.64 percent.

My forecasts are derived from a model that includes hours worked, productivity, financial and housing wealth, and the saving rate as variables. Hours worked and productivity replace GS’s consumer disposable income variable. The principal difference between GS’s and my models has to do with slower growth in disposable income in my model because of low growth in productivity. This is very apparent in the “*Steady Growth*” scenario. Higher productivity growth in my “*Strong Growth*” scenario boosts real consumer spending growth.

In summary, the principal drivers of stronger real consumer spending in 2015 include the recent acceleration in growth in total hours worked and the plunge in oil prices. If wage rates begin to rise at a faster clip that could also contribute.

6. Consumer Confidence

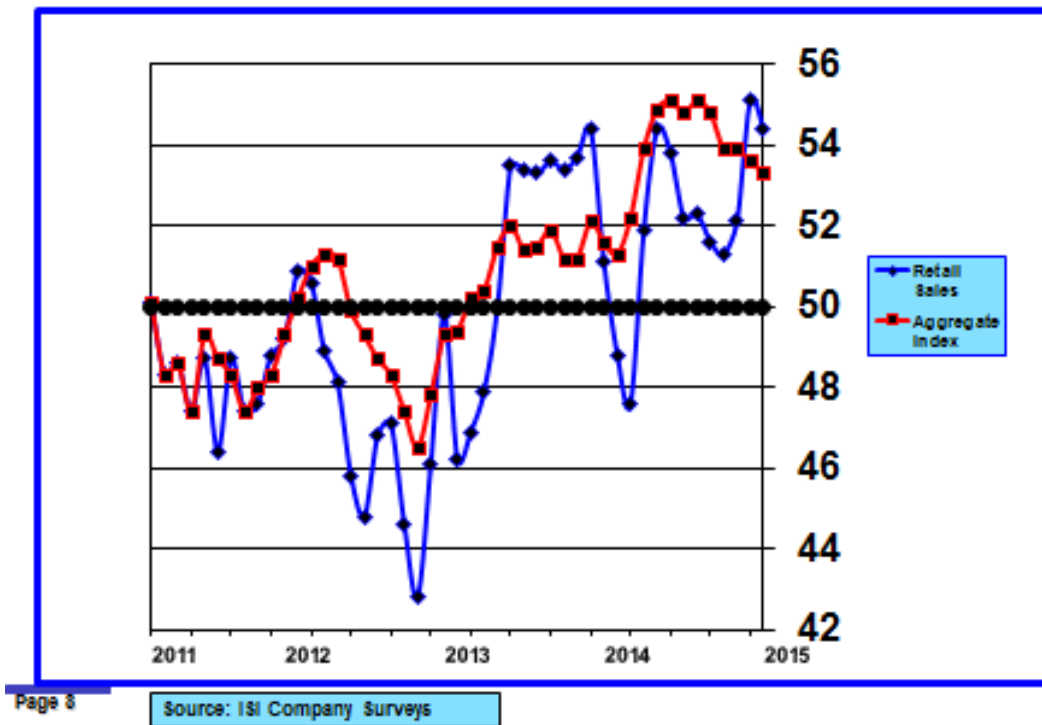
Measures of consumer confidence have risen handsomely in recent months.

The University of Michigan’s consumer sentiment index 89.4 in November compared to 75.1 in November 2013.

According to the Conference Board’s survey, overall consumer confidence was 88.7 in November compared to 72.0 in November 2013.

ISI’s weekly company surveys averaged about 55 during the middle part of 2014 but have eased back to approximately 53 over the last few months. However, the retail sales survey jumped in December, probably reflecting the benefits of sharply lower gasoline prices (see **Chart 7**).

CHART 7 – Aggregate Index & Retail Sales (diffusion index)



Rasmussen conducts a daily consumer confidence poll. This index was 113 on January 12 and is now at a level comparable to what prevailed on average from 2005 through 2007.

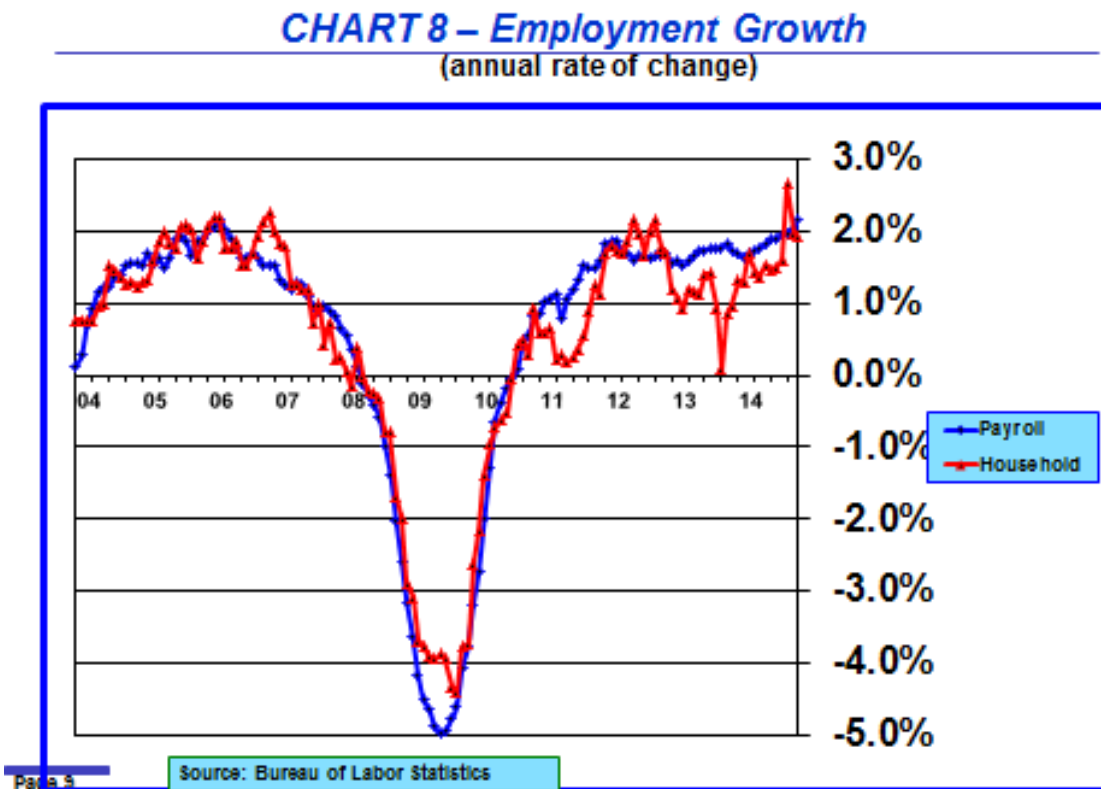
Overall, consumer confidence measures are rising and are near their pre-Great Recession levels.

III. Employment

There was much to celebrate about labor market developments during 2014, but weaknesses remained at the end of the year.

1. The Good News

As can be seen in **Chart 8**, employment growth was strong in 2014. Payrolls grew 2,952,000 — a 2.15 percent increase. Household employment grew 2,770,000 — a 1.92 percent increase. The unemployment rate fell from 6.69 percent in December 2013 to 5.56 percent in December 2014 — only a small increment above the Congressional Budget Office's 5.5 percent long-term full economic potential unemployment rate.



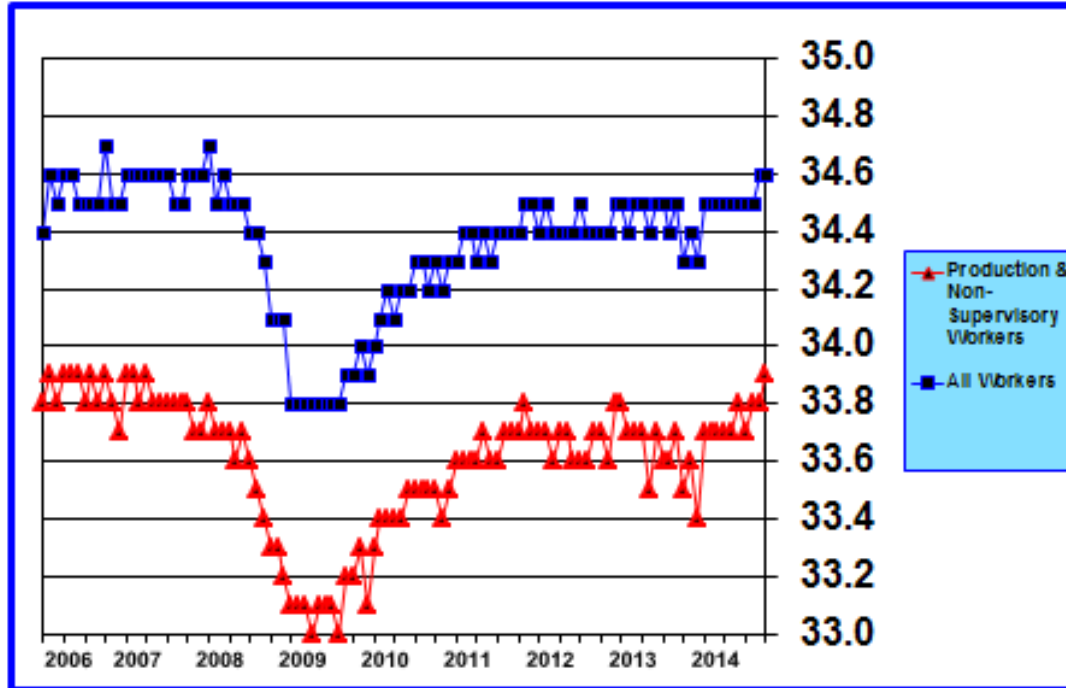
Employment growth, measured in terms of total hours worked, was even stronger. **Chart 9** shows that the length of the workweek rose for all workers and for production and nonsupervisory workers. Total hours worked by production and nonsupervisory workers rose 3.56 percent during 2014, due primarily to a larger proportion of full time jobs.

If analysts looked no further, it would be easy to conclude that the labor market was fast approaching full employment at the end of the year.

2. Disappointing News

Although employment growth was strong, the drop in the unemployment rate to 5.56 percent in December paints a rosy picture of the health of the labor market that is not corroborated by other labor market measures.

CHART 9 – Average Weekly Hours
(All Workers; Production and Non-Supervisory Workers)



Page 10

Source: Bureau of Labor Statistics

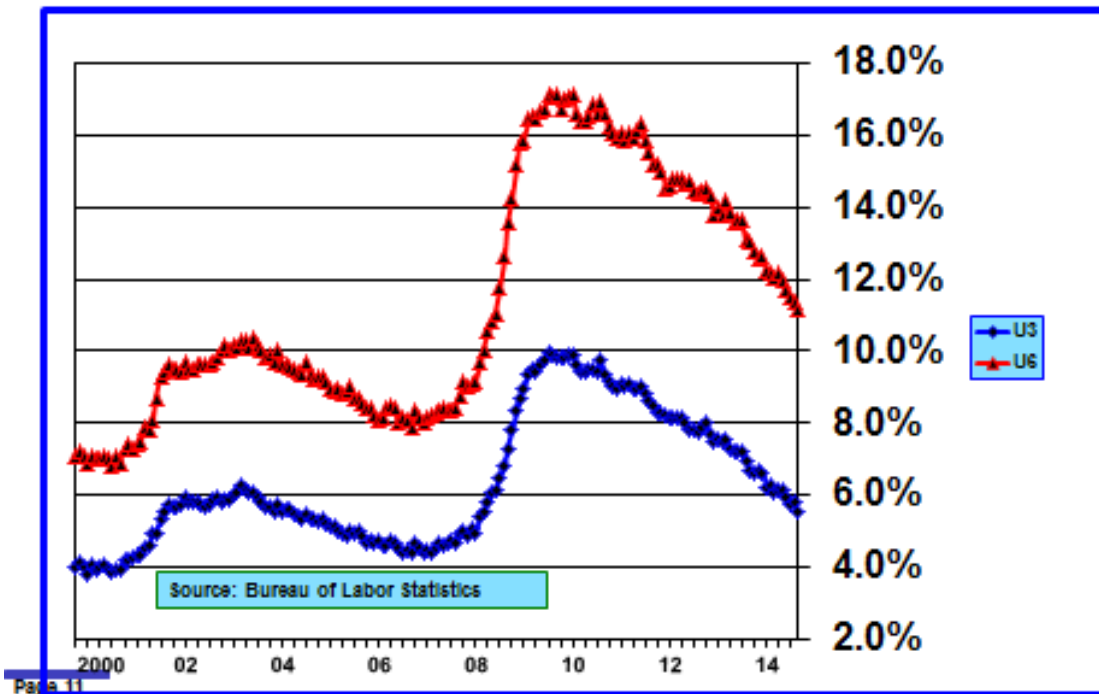
a. Unemployment Rates — U-3 and U-6

First of all, the conventional unemployment rate, which the Bureau of Labor Statistics refers to as the “U-3” measure, is nearing the level that generally prevails when the economy is buoyant. But, the broader “U-6” measure of unemployment, which adds those who are working part-time for economic reasons and those marginally attached to the labor force to the U-3 measure, is still well above the 8 percent to 9 percent range that historically has prevailed when economic activity is strong (see **Chart 10**). The U-6 unemployment rate fell from 13.06 percent in December 2013 to 11.20 percent in December 2014 and is heading in the right direction. Improvement in the U6 unemployment rate lags improvement in the U3 unemployment rate. However, allowing for this lagged relationship, the U-6 unemployment rate should be 10.75 percent instead of 11.20 percent. So, the U6 rate is actually improving more slowly than would be expected based on the recent improvement in the U3 rate.

b. Long-Term Unemployment

Another labor market indicator that is still registering weakness is the long-term unemployment rate, defined as the percentage of the labor force that has been unemployed for 26 weeks or longer. When the short-term unemployment rate (those unemployed less than 26 weeks) averaged 3.8 percent in 2006 and 2007 just prior to the onset of the Great Recession, the long-term unemployment rate averaged 0.8 percent. In December 2014 the short-term unemployment rate was 3.8 percent, identical to the pre-Great Recession average, but the long term unemployment rate was 1.8 percent. As can be seen in **Chart 11**, the long-term unemployment rate fell from 2.5 percent in December 2013 to 1.8 percent in December 2014.

CHART 10 – U-3 and U-6 Unemployment Rates



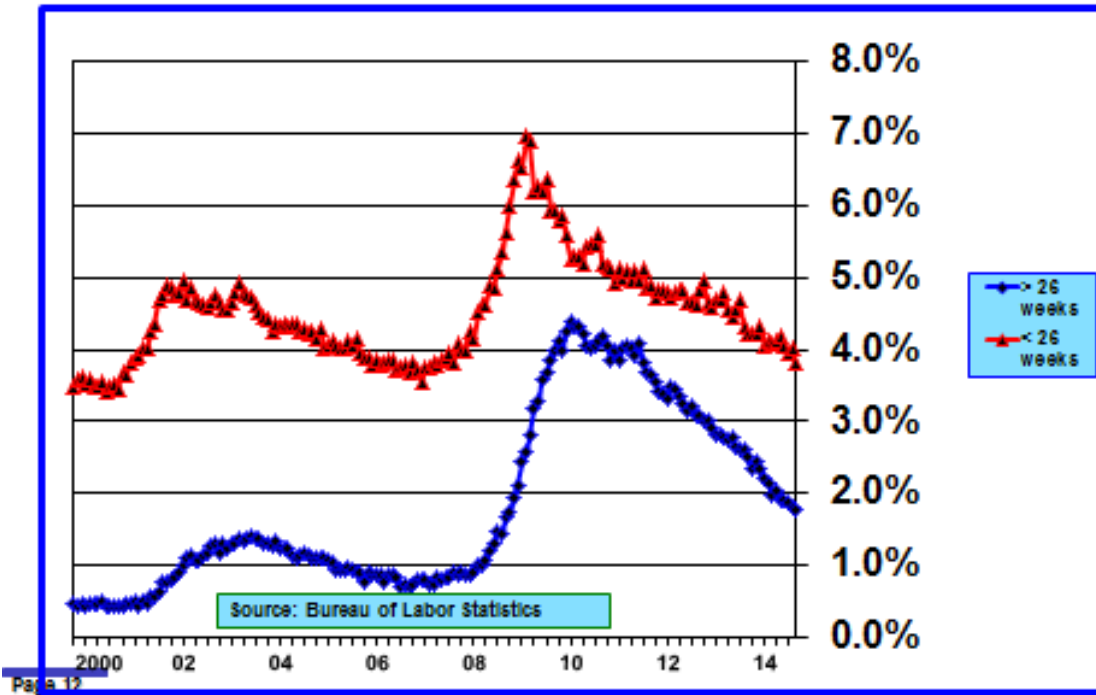
Thus, this metric is improving rapidly but still has a ways to go to equal the pre-Great Recession average of 0.8 percent.

c. Employment-to-Population and Labor Force Participation Ratios (U-3 Definition of Unemployment)

The **labor-force-participation ratio** and the **employment-to-population ratio** are also important measures of the health of the labor market. The **employment-to-population ratio** measures the percentage of people eligible to work who have a job, while the **labor force participation rate** is the percentage of those in the labor force who are either working or would like to work but are counted as unemployed. The numerators of both of these measures are based on the U-3 measure of unemployment. The difference in the numerators of the two ratios is the number of unemployed workers — those who say they are looking for work — based upon the U3 definition of unemployment. Trends in both measures are shown in **Chart 12**.

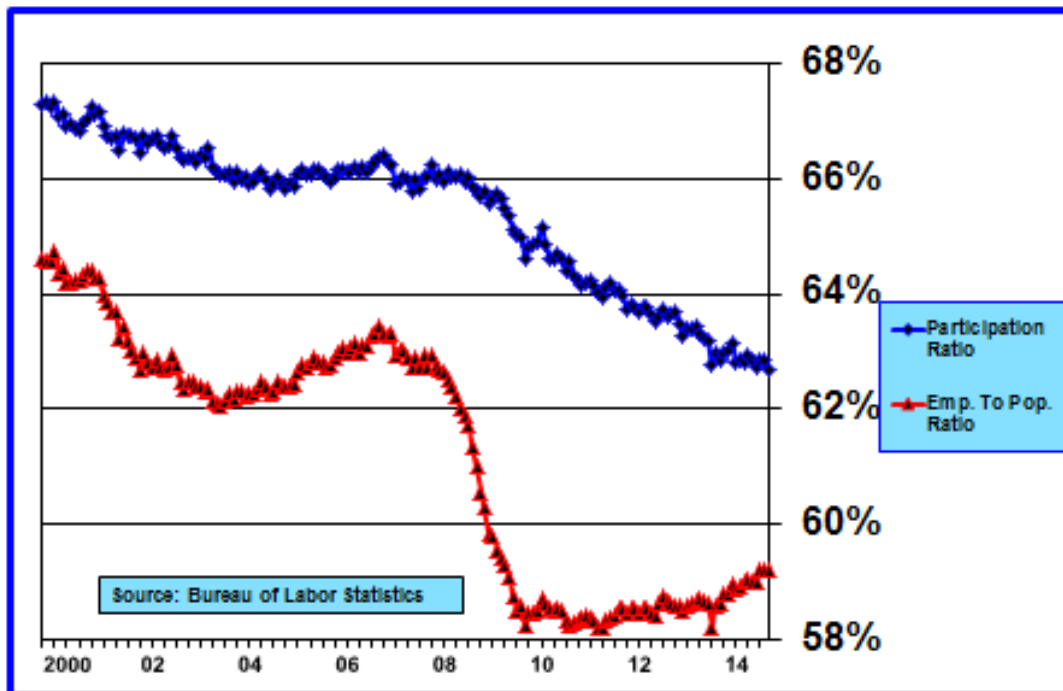
When the Great Recession hit, the employment-to-population ratio plummeted from 62.9 percent in December 2007 to 58.2 percent in December 2009. What is troubling is that the recovery in this ratio has been anemic. It was 59.2 percent in December 2014 compared to 58.6 in December 2013. What this means is that most of the 9.4 million jobs created since December 2009 have accommodated approximately 7.2 million new entrants into the labor force who are willing to work. The difference of approximately 2.2 million is unemployed workers who have become reemployed. But, the number of unemployed workers has fallen by 6.4 million over this same period. What accounts for this 4.2 million discrepancy? All of

**CHART 11 – LT (>26 weeks) and ST (<26 weeks)
Unemployment Rates**



Page 12

**CHART 12 – Labor-Force-Participation and Eligible-
Employment-to-Population Ratios (U-3 Measure)**



Page 13

them have left the labor force, but the question is one of whether they have left permanently or are simply discouraged and will enter the labor market in the future as employment prospects improve.

The **participation ratio** is measured by adding the number of unemployed workers to the numerator of the employment-to-population ratio. When the Great Recession hit, the participation ratio fell from 66.0 percent in December 2007 to 64.6 percent in December 2009. What is concerning is that the participation ratio has continued to decline, although it stabilized during 2014. It was 62.7 percent in December 2014 compared to 62.8 in December 2013. Over the longer term, the aging of the labor force should continue to put downward pressure on the participation ratio; however, this measure has declined more than what can be explained by demographic shifts alone. The discrepancy involves workers who have become discouraged and have simply dropped out of the labor force.

d. Discouraged Workers

While it is generally acknowledged that there is some number of uncounted discouraged workers, there is considerable disagreement about what that number is.

In recent months the unemployment rate has declined much more than expected, partially because employment growth has been stronger. But the question remains is to what extent is the U-3 measure of unemployment artificially depressed by omission of discouraged workers, who may reenter the labor market in coming months.

Chart 13 shows my alternative unemployment measure, which adjusts for discouraged workers. In December 2014, my alternative unemployment rate was 6.46 percent compared to BLS's reported rate of 5.56 percent for the U-3 unemployment rate. This difference of 0.90 percent amounts to 1.4 million discouraged workers or approximately one-third of the "missing" workers. To the extent that this is a reasonable estimate, it means that the other two-thirds have permanently left the labor force due to demographic shifts in the composition of the labor force, such as the increasing percentage of retirees.

What is important from a policy standpoint is whether workers who have stopped looking for jobs, and thus are no longer counted as unemployed, will reenter the job market when jobs become more plentiful or whether their exit is permanent because there are no jobs that fit their skills and there won't be any in the future.

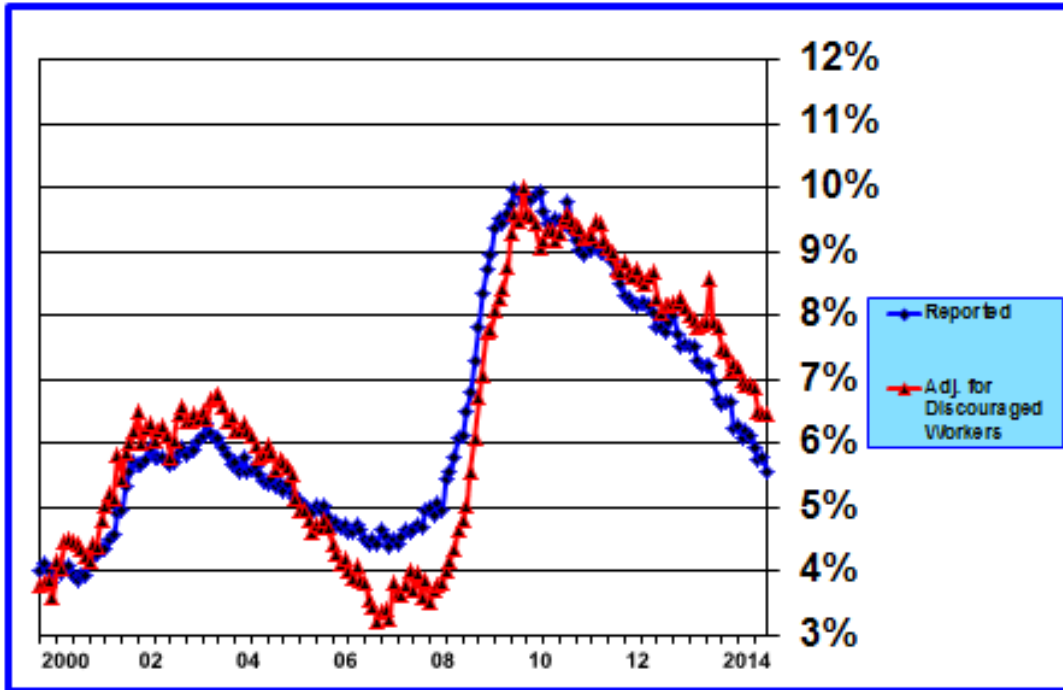
All of this implies that the U-3 measure of unemployment, which has nearly reached CBO's long-term full employment potential rate of unemployment, probably overstates the strength of the labor market.

e. Employment-to-Population and Labor Force Participation Ratios (U-6 Definition of Unemployment)

The **labor-force-participation ratio** and the **employment-to-population ratio** can be adjusted to the U-6 measure of unemployment. The numerators of both of these revised measures are based on the U-6 measure of unemployment. The difference in the numerators of the two ratios is the number of unemployed workers — those who say they are looking for work — plus those working part-time for economic reasons and marginally attached to the labor force, based upon the U-6 definition of unemployment. Trends in both measures are shown in **Chart 14**.

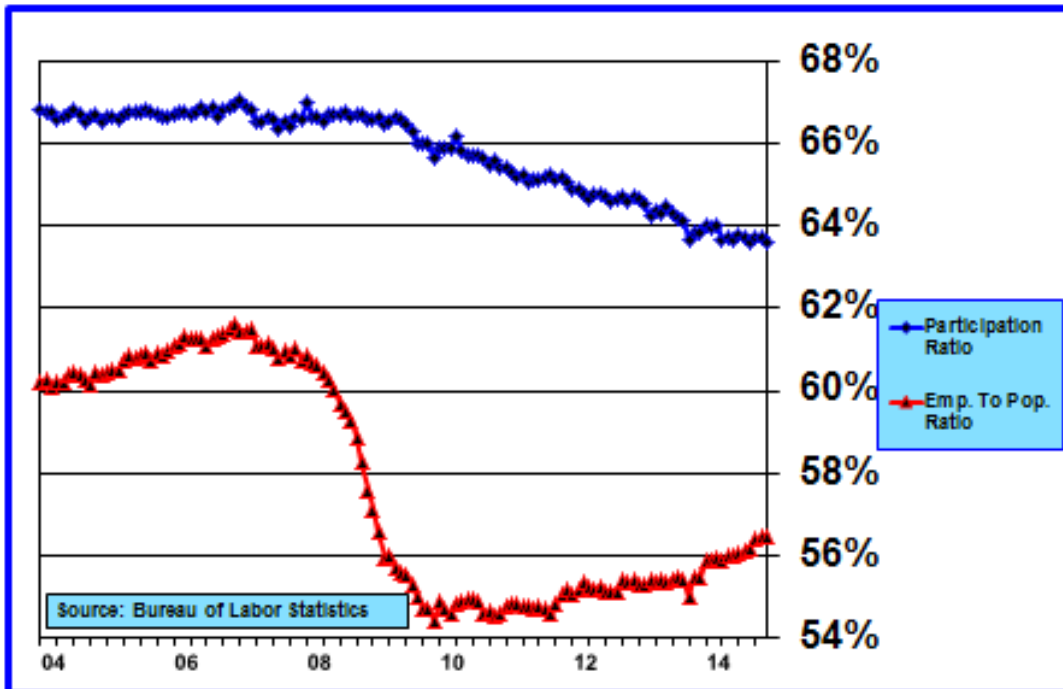
When the Great Recession hit, the U-6 employment-to-population ratio plummeted slightly from 60.8

CHART 13 – Reported Unemployment Rate & Adjusted for Discouraged Workers



Page 14

CHART 14 – Labor-Force-Participation and Eligible-Employment-to-Population Ratios (U-6 Measure)



Page 15

percent in December 2007 (U-3 = 62.9 percent) to 54.4 percent in December 2009 (U-3 = 58.2 percent). The decline for the U-6 measure of the employment-to-population ratio was larger than the decline in the U-3 measure and reflects the substantial increase in people working part-time for economic reasons (increase of 4.5 million) and marginally attached workers (increase of 926,000) during and just following the Great Recession.

This U-6 ratio has improved a little more rapidly than the U-3 measure over the last 12 months as the number of working part-time for economic reasons (-976,000) and those marginally attached to the labor force (-167,000) have declined. It was 56.5 percent in December 2014 (U-3 = 59.2 percent) compared to 55.5 in December 2013 (U-3 = 58.6 percent).

The **U-6 participation ratio** is measured by adding the number of unemployed workers and those marginally attached to the labor force to the numerator of the U-6 employment-to-population ratio. When the Great Recession hit, the participation ratio fell from 66.6 percent in December 2007 (U-3 = 66.0 percent) to 65.7 percent in December 2009 (U-3 = 64.6 percent). The smaller decline in the U-6 measure reflects an increase in the number of marginally attached workers.

The U-6 participation ratio, like the U-3 measure, has also continued to decline, although it showed signs of stabilizing during 2014. It was 63.6 percent in December 2014 (U-3 = 62.7 percent) compared to 63.8 in December 2013 (U-3 = 62.8 percent).

f. Wage Rate Growth

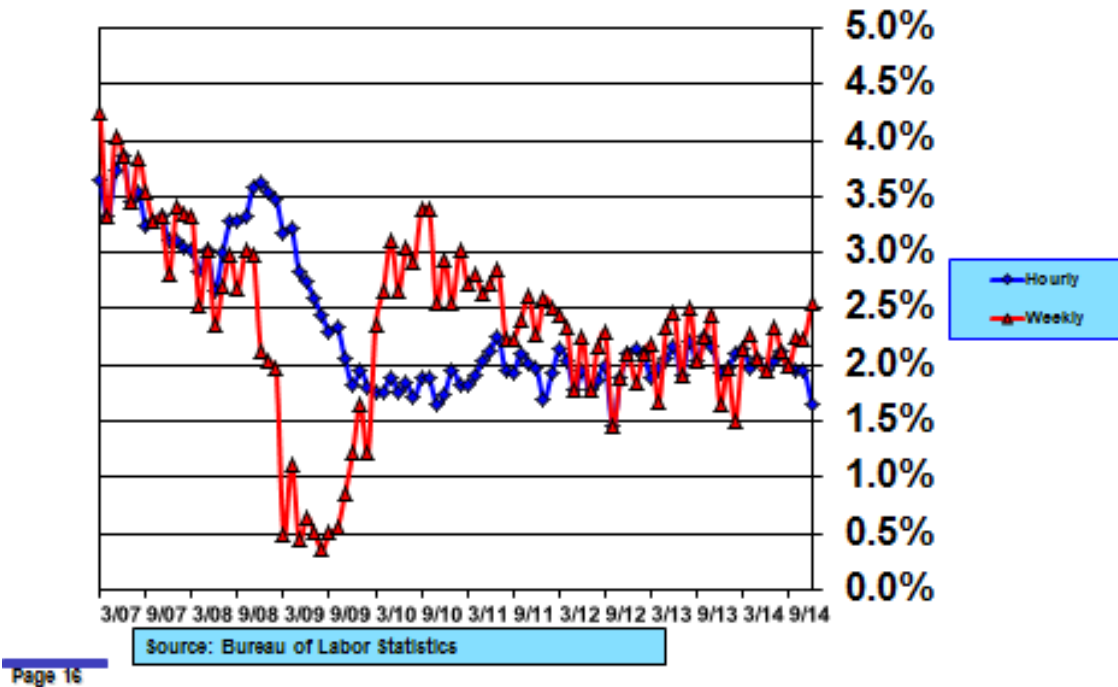
Growth in hourly wages is an important measure of labor market strength. An increasing rate of growth would be evidence of a strengthening labor market in which labor, particularly in scarcer job categories, is gaining more bargaining power. As can be seen in **Chart 15**, the rate of growth in hourly wages has fluctuated in a narrow band in the vicinity of 2.0 percent for the last four years. In a way this is good news because the large output gap and high unemployment rate, which have persisted for several years, have not put further downward pressure on wage rate growth. But, it has become increasingly disturbing that wage growth has not shown any sign of acceleration as the U-3 unemployment rate has dropped to close to CBO's long-term full employment level of 5.5 percent.

Hourly wages grew only 1.65 percent in 2014, well below the recent average of approximately 2.0 percent. This is not what market watchers had expected and offset to some extent the optimistic picture painted by many other aspects of the December 2014 employment report. According to a **GS** analysis¹, there are several reasons to discount the reported number as an aberration. First, wage data are frequently revised in subsequent months as more detailed information becomes available. It would not be unusual for hourly wages to be revised higher in the next couple of months. Second, there were a couple of calendar anomalies in December that might have affected the seasonal adjustment factor. Third, wage data for retail nonsupervisory workers were unusually low and, reflecting the first reason, could be revised higher in future reports. In any event, **GS**'s wage tracker indicates that hourly wages currently should be rising at a 2.2 percent rate.

In contrast to hourly wages, weekly average wages for all employees grew 2.5 percent during 2014, reflecting an increase in the length of the workweek from 34.3 hours in December 2013 to 34.6 in December 2014. The year-over-year increase in weekly wages is greatly overstated because the average length of the workweek in December 2013 was depressed by 0.2 hours. When this adjustment is made, weekly wages grew 2.0 percent during 2014. So, the December growth rate of weekly wages in **Chart 15** is much too

¹Kris Dawsey. "Don't Read Much into December Wage Weakness," US Daily, Goldman Sachs Research, January 13, 2015.

CHART 15 – Hourly and Weekly Wages – All Workers
(annual rate of change)



Page 16

optimistic and the growth rate in hourly wages is probably too pessimistic.

Chart 16 smooths trends in hourly wages by calculating a 12-month moving average. Over the last year the trend growth rate in hourly wages has edged down from 2.1 percent in December 2013 to 2.0 percent in December 2014. Thus, in spite of expectations there is as yet no direct evidence that hourly wages are increasing. Nonetheless, most expect that will begin to change during 2015 and that is certainly what **GS**'s wage tracker suggests, although at 2.2 percent it is not indicating much upward pressure on hourly wages yet exists.

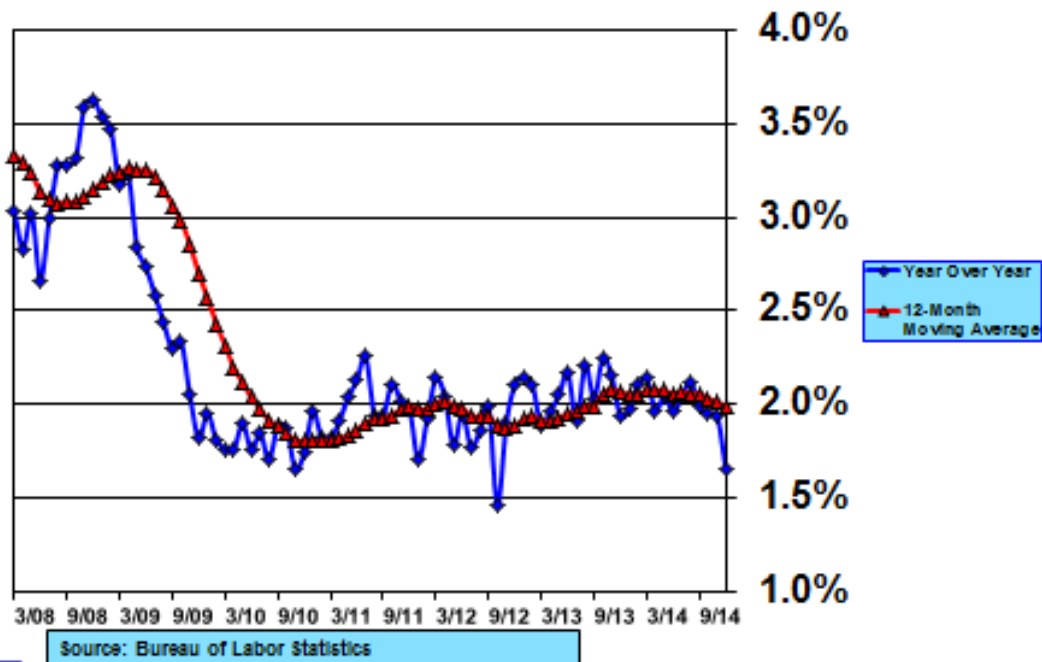
It goes without saying that the failure of hourly wages to begin rising as the labor market gradually tightens has led to a search for plausible reasons. There are two possibilities.

First, employers did not reduce wages during the extended period of labor market weakness by as much as the standard relationship between the supply and demand for labor implies. This relationship is described by the wage-unemployment Phillips curve. The explanation is that there is downward wage rigidity which simply means that employees resist wage cuts and employers tend to avoid doing things that create negative employee relations. This phenomenon leads to “pent-up wage cuts.” When the labor market improves, employers respond to pent-up wage cuts by waiting longer to raise wage rates or by raising them in smaller increments.

This pattern of employer behavior is well documented in a recent study authored by Mary C. Daly and Bart Hobijn, economists at the San Francisco Federal Reserve Bank.² They marshal considerable

²Mary C. Daly and Bart Hobijn. “Why Is Wage Growth So Slow?” Federal Reserve Bank of San Francisco Economic Letter 2015-01, January 5, 2015.

CHART 16 – Hourly Wage Rate Growth – All Workers
(annual year over year and 12-month moving average rates of change)



Page 17

statistical evidence that shows clearly that industries that lacked employment flexibility and were least able to cut wages during and just after the Great Recession, thus resulting in pent-up wage cuts, experienced much slower rates of wage rate increase as the labor market strengthened. In other words, industries that have limited wage flexibility, such as construction, perhaps because of union contracts, experience smaller reductions in wage growth during difficult times but also experience smaller gains during better times. Industries with considerable wage flexibility, such as financial, insurance and real estate services, experience much more wage flexibility.

What this implies is that wage growth should begin to accelerate as the labor market continues to tighten, but the acceleration should be gradual. To the extent that this is what actually happens in coming months, there would be little near-term upward pressure on inflation.

Second, as logical as the “pent-up wage cut” theory is and the historical evidence that supports it, wage increases may turn out to accelerate far less, if at all, than implied by the historical experience. That is because employees and employers also respond to expected changes in inflation. If employers expect prices of their services and products to rise more slowly in the future, they will be more reluctant to raise wages, even as labor scarcity increases. Similarly, as long as employees expect low inflation to result in adequate improvement in real spendable wages, they are likely to extend less pressure for nominal wage increases.

This is all about human psychology. An extended period of disinflation and perhaps even deflation is not a phenomenon we have experienced in our lifetimes, so it is difficult to speculate how this might impact the extent to which nominal wage growth accelerates in coming months. What we do know is that when people expect prices to fall (deflation) they postpone purchases. This behavioral response depresses demand relative to supply and actually reinforces deflationary pressures. That is one of the reasons that

policymakers focus so intently on trying to maintain expectations of gradual price increases and why the Federal Open Market Committee (FOMC) has a 2.0 percent inflation objective for monetary policy. Although measured inflation in the U.S. has been below the 2.0 percent objective for some time, the threat of outright deflation remains remote. Nonetheless, there is increasing evidence that inflation expectations are becoming unanchored and moving lower. This development could well depress upward pressure on wage rate growth and if that, indeed, does occur, it will make it more difficult to drive inflation back up to 2.0 percent and correspondingly will increase the risk that the inflation rate falls rather than rises in coming months. It with this risk in mind that underpins escalating worry about low interest rates and the collapse in oil and commodity prices.

3. Implications of Substantial Remaining Labor Market Slack

What do these remaining weaknesses in the labor market mean? First and foremost, the sharp decline in the employment-to-population ratio (total number employed to total number eligible to work) means that the U.S. economy is a lot smaller than it could be based on historical employment patterns. That means there is less income. Americans are not as well off collectively as they could be if a greater proportion of them were employed.

Second, the U.S. has no unemployment objectives other than “full employment”. We are not even sure how to measure what “full employment” is. We do not know how to determine whether someone is discouraged. We do not have any objective for what the employment-to-population ratio ought to be. Therefore, we have few specific policies aimed at creating jobs.

4. Outlook for the Unemployment Rate

One of the great unexpected surprises over the last two years has been how rapidly the U-3 measure of unemployment has fallen. It was 7.9 percent in December 2012, 6.7 percent in December 2013, and 5.6 percent in December 2014. The U-3 unemployment rate now approximates CBO’s long-term full employment potential unemployment rate of 5.5 percent.

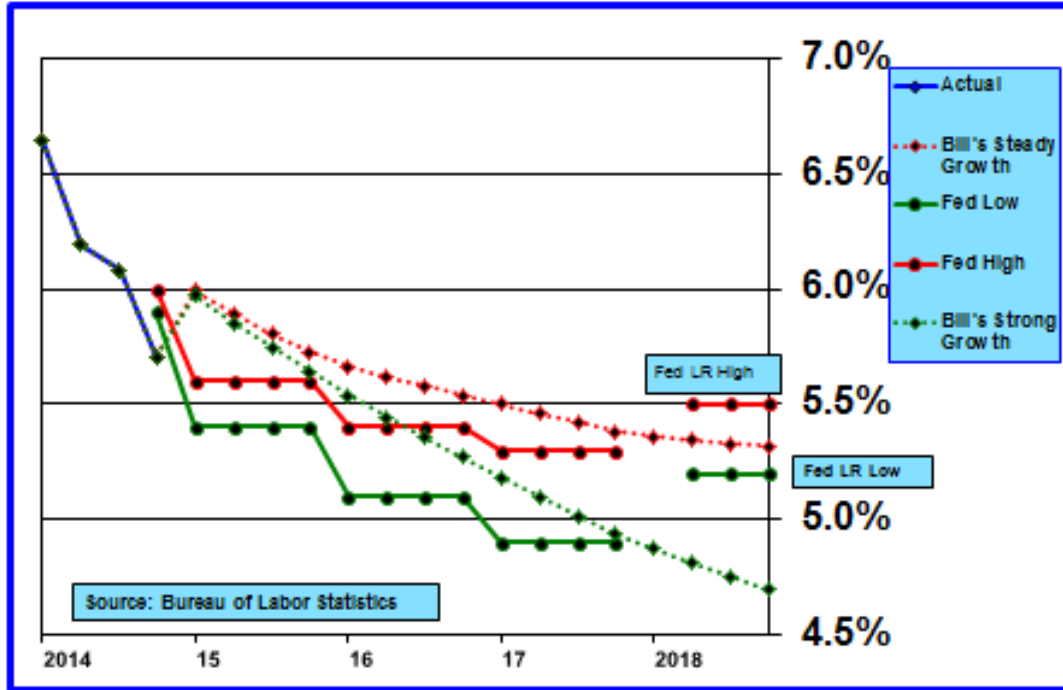
But, as discussed in the sections above, considerable labor market weakness remains, meaning that the signaling value of the U-3 unemployment rate is overstated, at least for the time being.

Chart 17 shows the FOMC’s high (red line and circles) and low (green line and circles) unemployment rate projections for 2015, 2016 and 2017. The FOMC expects further declines in the unemployment rate through 2017 to a level below its long-term expected range. That means that the FOMC expects growth to be above long-term potential and as slack in the economy diminishes, a tighter monetary policy will be required. A tight labor market is expected to take hold in 2016 and 2017, but because monetary policy operates with a 12 to 18 month lag, the FOMC’s unemployment rate projections imply that it will begin raising the federal funds rate during 2015.

I have included in **Chart 17** unemployment rate forecasts for both my “*Steady Growth*” (red dashed line and diamonds) and “*Strong Growth*” (green dashed line and diamonds) scenarios. The “*Steady Growth*” unemployment rate projection generally tracks above the upper end of the FOMC’s range and the “*Strong Growth*” unemployment rate reaches the lower end of the FOMC’s range in 2017.

Both **B of A** and **GS**, like all other forecasters, have repeatedly marked their unemployment rate forecasts to market over the last two years. Both are quite optimistic relative to the FOMC, with **B of A**

CHART 17 – Unemployment Rate
(quarterly average)



Page 18

more so until 2018 than **GS** (see **Chart 18**).

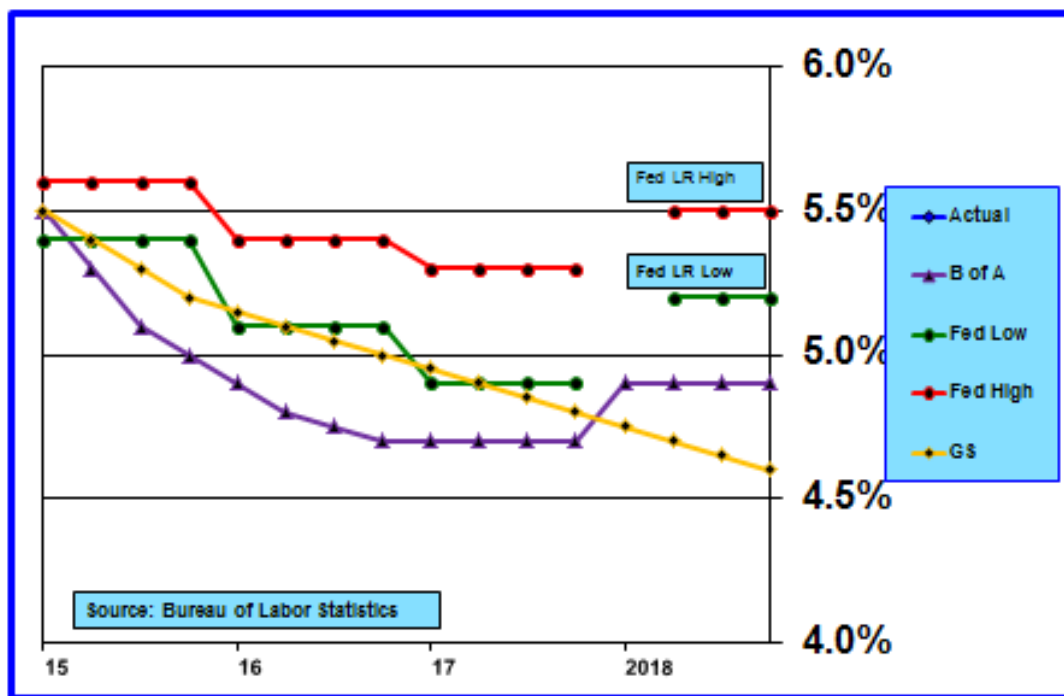
IV. Business Activity

As measured by the Institute for Supply Management (ISM) monthly surveys of manufacturing and non-manufacturing establishments, business activity has expanded steadily throughout 2014. As noted above, nonresidential investment spending has been relatively strong for most of the year.

As 2015 begins, however, there are some cross-currents that bear watching. Good job growth during 2014 and gradual acceleration in nominal personal income growth are positive factors. In addition, the recent sharp decline in oil prices will enable consumers to redeploy spending to a variety of non-energy purchases, which should bolster sales of many businesses. However, a negative factor is the increase in the value of the dollar. This will hurt those businesses whose sales depend on the dollar. The burden will fall in particular on manufacturing firms that are heavily dependent on exports. Non-manufacturing firms, think retailers and providers of services, in theory could be hurt by rising import prices. However, research conclusively indicates that while a strong dollar does depress exports, it has limited impact on imports, at least in the short run. In the aggregate businesses should have a good year in 2015. Manufacturers heavily dependent upon export sales will be challenged.

All measures of business activity were strong during 2014 and there is ample evidence that much of this strength is likely to carry over into 2015.

CHART 18 – Unemployment Rate
(quarterly average)



Page 19

1. ISM Manufacturing Index

The **ISM Manufacturing Index** averaged 55.8 during 2014, with a monthly range from 51.3 to 59.0. The index was 55.5 in December. Values of this index above 50 mean that manufacturing activity is expanding. But, according to ISM, values of this index above 43.2 generally indicate an expansion in the overall economy.

2. ISM Nonmanufacturing Index

Much the same story is told by the **ISM Non-manufacturing Index**, which averaged 56.3 during 2014, with a monthly range from 51.6 to 59.6. The index was 56.2 in December.

3. NFIB — National Federation of Independent Business

Small business optimism (**NFIB — National Federation of Independent Business**) was 100.4 in December. This is the highest level this business activity measure has registered since October 2006 a year prior to the onset of the Great Recession. Small businesses have been very pessimistic for a long time, but optimism has now returned. This measure is benchmarked at a value of 100 covering 1986, a year that occurred in the middle of a long economic expansion.

Details of the December **NFIB** report indicate momentum in business activity is likely to build during

2015. Forward looking sub-indices were very robust. Net respondents expecting higher inflation-adjusted sales in six months increased to 20 percent from 14 percent in November. (Note: this sub-index subtracts those with a negative response from those with a positive response and omits consideration of those who expect no change; thus, a net 20 percent positive response is very strong.) Similarly, the net expecting to increase inventories rose to 5 percent from 2 percent; the net planning capital expenditures in the next three to six months increased to 29 percent from 25 percent; and the net intending to hire more employees rose from 11 percent to 15 percent.

4. Goldman Sachs Analyst Index (GSAI)

GSAI tells a similar story. It averaged 59.8 during 2014, with a monthly range of 54.4 to 64.7. The index was 61.1 in December. Tellingly, forward looking sub-indices, such as orders and capital spending plans were very strong. With respect to lower inflation prospects, materials prices weaken sharply at year end and there was evidence of a decline in pricing power with respect to outputs. In addition, prospects for exports weakened considerably in the fourth quarter.

V. Investment Activity

Investment in people, plant and equipment, and technology are keys to long-run potential real GDP growth. Increased investment generally leads to greater capital and labor productivity. Labor force growth and productivity combine to determine an economy's long-term potential rate of growth. Labor force growth is largely determined by long-term demographic trends but can be influenced to a degree by immigration policy.

Productivity is more responsive to policy formulation and implementation that impact education, worker training, workplace rules, compliance and regulation. Productivity is also determined to a very large extent by policies that encourage investment. This can occur in the form of direct intervention through fiscal policy, particularly through incentives embedded in the tax code. Monetary policy, by influencing interest rates and changing the cost of financing investment relative to expected returns, can encourage or discourage investment, particularly by private businesses. In this context low real interest rates, which increasingly characterize the evolving deflationary tendencies of the global economy, probably discourage investment and are an element of secular stagnation. To the extent that this is actually occurring it is a very negative development because it diverts activity away from the kinds of investment that enhance productivity to unproductive financial speculation in financial and real assets. This is the stuff of Larry Summers musings a year ago on secular stagnation and frequent asset price bubbles.

Investment can be divided into private business and government activities. Productivity depends upon both sectors and contrary to popular opinion the effect of a dollar of investment on productivity differs little between the private and government sectors. A one percent increase in private business sector investment increases productivity by approximately 41 basis points over an average lag time of 2.5 quarters. A similar increase in government spending increases productivity by about 38 basis points over a longer average lag time of 8.8 quarters. The difference in lag times between the private and public sectors may derive from the tendency for government to invest in activities, such as education and infrastructure, that have long gestation periods. Thus, business investment is very important in the short run in boosting real GDP growth, but government investment spending is just as important in the longer run in boosting potential real GDP growth. When this is understood, the substantial pull back in government investment spending, not the pullback in spending on transfer payments, is a very negative and short-sighted policy which will

reduce real potential GDP growth in years to come.

1. Business Investment

Table 6 shows actual total residential and nonresidential private investment growth for 2012 and 2013 and forecasts for 2014 through 2018. Relative to the 67-year average growth of 3.79 percent annually the actual results and forecasts are quite optimistic. The forecasts look even more heroic when compared against the 1.28 percent growth rate in private investment over the last 15 years. Perhaps the optimism will be warranted as a way of catching up from the long drought in private investment since the dot.com boom of the late 1990s. But, if low real interest rates and secular stagnation are obstacles, perhaps this will not turn out to be the case. Perhaps the recent surge in investment spending is a natural cyclical result of a healing economy, but one that might prove to be short-lived. If that turns out to be the case, then my “*Steady Growth*” scenario may prove to be more accurate than other more optimistic forecasts. It should be noted that both B of A and GS have been overly optimistic about the prospects for private investment growth over the last years. This has accounted for much of the disappointing difference between forecast and actual real GDP growth over the last two years.

Table 6/Real Private Business Investment (Residential and Nonresidential) Growth Rate Y/Y Forecasts — B of A, GS, Bill’s “Steady Growth” and Bill’s “Strong Growth”

Real Consumer Spending Growth	2012	2013	2014	2015	2016	2017	2018	Ave. 1947 - 2014
Actual	8.30	4.68						3.79
B of A			5.31	5.78	6.25	6.29	5.11	
GS			5.17	5.19	6.42	6.99	6.83	
Bill’s Steady Growth			5.47	6.45	2.97	2.55	2.55	
Bill’s Strong Growth			5.49	8.00	6.60	4.05	3.08	

2. Government Investment

Government investment spending in BEA’s GDP spending accounts is divided between federal and state/local investment spending. Federal government spending accounts for 60.8 percent of the total. It might surprise you to know that total government investment spending as a percentage of real GDP was relatively constant in a range of 30.9 percent to 34.3 percent between 1955 and 1970, but is just 18.0 percent today. Prior to the Great Recession government spending accounted for 19.6 percent of real GDP, so in spite of the initial fiscal response to the Great Recession, government investment spending continues to shrink as a component of real GDP. Remember! Government transfer payments are not included in the real GDP compilation.

Table 7 shows actual total government investment growth for 2012 and 2013 and forecasts for 2014 through 2018. Relative to the 67-year average growth of 2.71 percent annually the actual results and forecasts are quite pessimistic. But the pessimism is warranted by the political constraints that have been

imposed on government spending in recent years. In this respect, the forecasts in my “*Strong Growth*” scenario are probably too optimistic.

Table 7/Government Investment Growth Rate Y/Y Forecasts — B of A, GS, Bill’s “Steady Growth” and Bill’s “Strong Growth”

Real Consumer Spending Growth	2012	2013	2014	2015	2016	2017	2018	Ave. 1947 - 2014
Actual	-1.28	-2.01						2.71
B of A			-0.11	1.09	1.00			
GS			-0.28	0.36	1.25	1.26	1.27	
Bill’s Steady Growth			0.00	1.29	1.16	1.26	1.21	
Bill’s Strong Growth			0.02	1.72	1.51	1.67	1.76	

Given that the contributions of private and government investment spending to productivity are very similar, a downsizing of government contribution to new investment would not necessarily be problematic if the slack were taken up by the private sector. This has occurred over the last couple of years and is forecast to continue for at least another couple of years. But, this could prove to be transitory. Perhaps more telling of the decline in investment spending over the longer term is that the combined contribution of private and government investment spending to real GDP has fallen from an average of 38.5 percent over the 20 years from 1980 to 2000 to 35 percent recently. Both a smaller amount of total investment and slower growth will retard productivity growth and depress the potential rate of real GDP growth.

VI. Monetary Policy, Inflation and Interest Rates

In the U.S. the major question confronting policy makers is when will the FOMC begin raising the federal funds rate.

1. Monetary Policy Objectives

By law, monetary policy’s objectives are to maximize employment consistent with maintaining price stability. When the labor market is weak, as it has been since late 2007, the FOMC eases monetary policy in an attempt to stimulate aggregate demand.

There are four ways in which the FOMC can implement monetary policy.

- First, historically, the FOMC’s primary policy instrument was changing the federal funds rate. Changes in this rate affected interest rates and the cost of capital. By easing monetary policy through reductions in the federal funds rate, the FOMC expects to stimulate business investment spending and consumer spending on durables such as homes and cars.
- A second transmission mechanism involves boosting financial wealth and stimulating additional consumer spending.

- A third transmission mechanism is to change market and household expectations through policy statements. This is where the credibility of the FOMC's communications becomes important. If communications lack credibility, this transmission mechanism will not work as intended.
- A fourth mechanism is prudential supervision of the activities of financial firms and markets. This fourth mechanism was seldom used while Alan Greenspan was Fed chairman. Its efficacy has been restored in the aftermath of the Great Recession, but it is too soon to tell yet whether this policy mechanism will be deployed effectively. To be effective, prudential supervision must be tied to incentives. When incentives are lacking prudential supervision will probably be ineffective. For example, jawboning banks to make more loans did not result in them actually making any more loans. Banks simply continued to make loans based on borrower demand and risk considerations. Moreover, there is reason to be concerned that revised capital and liquidity regulations and credit underwriting supervision, in an attempt to promote financial stability and reduce the potential for financial panics, might reduce risk appetite to an extent that depresses the potential real rate of GDP growth.

When interest rates hit the zero boundary in early 2009, the primary policy instrument of cutting the federal funds rate ceased to be effective. In an attempt to overcome this problem the FOMC has implemented nontraditional policy tools including large scale asset purchases, calendar-based guidance, and projections of economic variables.

Nontraditional tools have been studied in theoretical academic papers and analyzed using econometric models. However, when they were first implemented their real world impacts were untested. Behaviors in the real world are not tidy in the ways that models usually assume. The effectiveness of nontraditional tools relies to a considerable extent on what market participants expect the tools to accomplish. This highlights the importance of the FOMC providing clarity about the intent of the tools. However, the economy is dynamic and ever changing, which is why forecasters don't do a very good job in predicting the future beyond a few quarters. FOMC members are no better forecasters than anyone else. For that reason they feel it imperative to retain flexibility to adjust policy to changing conditions, thus the "data dependency" policy. Unfortunately, flexibility to adjust policy is at odds with providing policy clarity. Basically, it puts the FOMC in a no-win position.

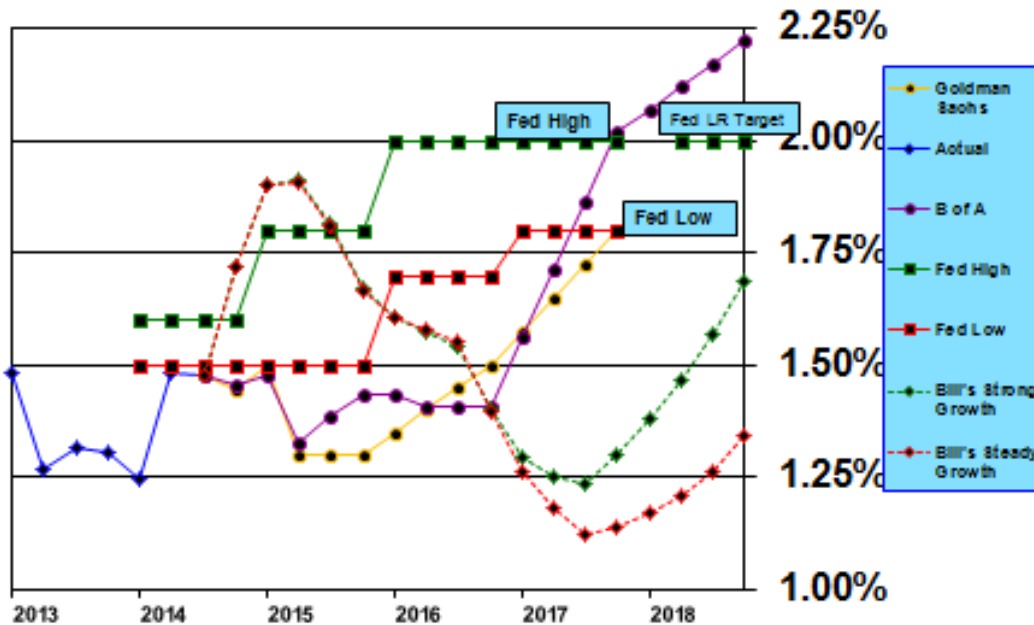
Such a dilemma again faces the FOMC. The labor market continues to improve, although weaknesses remain. In the past the FOMC would be poised to begin tightening monetary policy to make sure that accelerating economic activity didn't initiate a hard to control inflationary process. For that reason there is plenty of talk about the need for the FOMC to begin raising interest rates, perhaps as soon as the June meeting. However, inflation remains well below the FOMC's target of 2.0 percent and plunging commodity prices and bond yields threaten to drive inflation even lower, notwithstanding accelerating economic activity. The FOMC's dilemma is one of how to manage market expectations. Should it respond to the threat of lower inflation or the prospect of faster growth? And, what if neither outcome actually occurs — inflation doesn't fall and growth slows down. Premature signaling of what the FOMC intends to do and when could unintentionally result in counterproductive responses. Thus, the prudent course, which is the one the FOMC has taken, is to emphasize that monetary policy is data dependent and that the FOMC will consider how to adjust policy as new information is received.

2. Prospects for PCE Inflation

Core PCE inflation was 1.41 percent in November and total PCE inflation was 1.17 percent (see **Chart 19**). Compared to core PCE inflation, total PCE inflation is much more volatile and has been negative for

short periods of time in the past. For that reason the FOMC prefers to focus policy deliberations on the core PCE inflation measure.

CHART 19 – Core PCE Inflation Forecasts
(percentage change over previous 12 months)



Page 20

Core PCE inflation is well below the FOMC’s target level of 2 percent and is not much above the lows near 1.0 percent experienced briefly in mid-2009 and late-2010 when the FOMC was concerned about the threat of deflation.

As can be seen in **Table 8** (**Chart 19** shows historical core PCE price index data and data from **Table 8** in graphical form), forecasts of the core PCE inflation index indicate that inflation will change little during 2015. FOMC members are projecting a slightly higher range, although that already appears to be too high based upon the likelihood that core PCE inflation for 2014 will be below the lower end of the FOMC’s 2014 projection range when the data are reported at the end of January.

Most forecasters, including the FOMC’s projections, expect core PCE inflation to gradually rise in 2016 and 2017 toward the FOMC’s 2.0 percent target. Increasingly, this expectation is taking on more of an attribute of hope that building momentum in the U.S. economy and a belief that the FOMC will be successful in fighting powerful global deflationary forces will prove successful in nudging the core PCE inflation rate back toward 2.0 percent. But, this expectation has been in place for a longer period of time and the date of realization continues to be extended year after year.

Risks of downward pressure on core PCE inflation relative to the forecasts and projections outweigh risks of upward pressure. Although real global GDP growth should benefit during 2015 from commodity price deflation as spending power is transferred to countries and consumers with a higher propensity to spend, this outcome may be insufficient to offset put enough pressure on aggregate global demand to offset

Table 8
Core PCE Inflation Forecasts — B of A, GS, Bill’s “Steady Growth”, Bill’s “Strong Growth” and FOMC High and Low and Total CPI Inflation Forecasts — Global Insight, Economy.com, and Blue Chip Average

Core CPE	2013	2014	2015	2016	2017	2017
B of A	1.3	1.45	1.4	1.6	2.0	2.2
GS	1.3	1.45	1.3	1.5	1.8	2.0
Bill’s Steady Growth	1.3	1.45	1.65	1.4	1.15	1.35
Bill’s Strong Growth	1.3	1.45	1.7	1.4	1.3	1.7
FOMC — High		1.6	1.8	2.0	2.0	
FOMC — Low		1.5	1.5	1.7	1.8	
Total CPI	2013	2014	2015	2016	2017	2017
Global Insight*	1.7	1.8	1.4	1.6	2.0	2.1
Economy.com*	1.7	1.8	2.1			
Blue Chip Average*	1.7	1.8	1.9	2.2	2.3	2.4

*Not updated from November

the highly deflationary consequences of excess aggregate global supply.

Moreover, as global bond markets are signaling, long-term nominal interest rates have fallen to levels that imply deflation once a real rate of return and term premium are considered, provided that the recent substantial declines are not solely an artifact of fear and overreaction to the sudden collapse in oil prices. At least a part of the recent decline in global nominal long-term interest rates, and perhaps a substantial part, is due to a substantial decrease in long-term inflation expectations. As commented on above, when inflation expectations become unanchored, this time in the downward direction, they can lead to behavioral responses that are self-fulfilling.

3. Federal Funds Rate

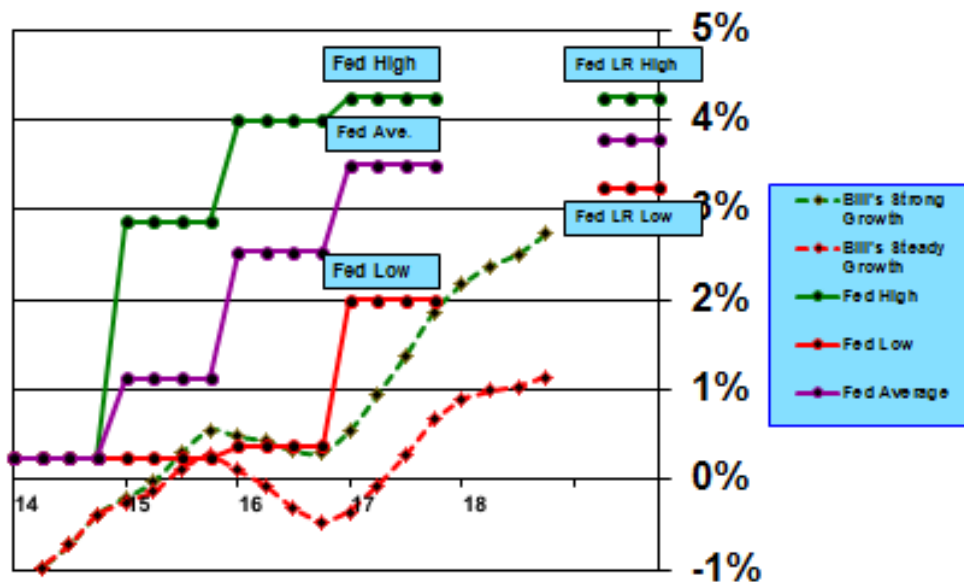
Chart 20 shows the FOMC’s central tendency range for high and low projections for the federal funds rate for 2014, 2015, 2016, and 2017. The purple line (circles) is the average of projections for the 19 FOMC members (7 governors and 12 presidents — note that there are two vacancies on the Board of Governors currently which means the dots reflect only 17 participants). The projections imply that the first increase in the federal funds rate will take place sometime during 2015.

Both **B of A** and **GS** expect the first federal funds rate increase will occur at the September 2015 meeting of the FOMC. However, one could easily conclude from remarks made by various FOMC members that the FOMC will begin raising rates at the June 2015 meeting.

But, the FOMC is not on a pre-ordained schedule. It has said time and again and Chair Yellen has emphasized repeatedly that the decision to raise interest rates is data dependent.

The FOMC has a dual mandate — to achieve full employment and maintain stable prices. While the FOMC has no explicit employment goal, the CBO’s long-term U-3 full-employment potential unemployment rate of 5.5 percent serves as an imperfect proxy. Currently, the U-3 unemployment rate is

CHART 20 – Federal Funds Rate Forecast



Page 21

5.56 percent which implies that the FOMC is closing in on its full-employment mandate. However, other employment market measures are less robust. Until these other measures improve further the FOMC's "patient" language gives it flexibility to delay a rate increase.

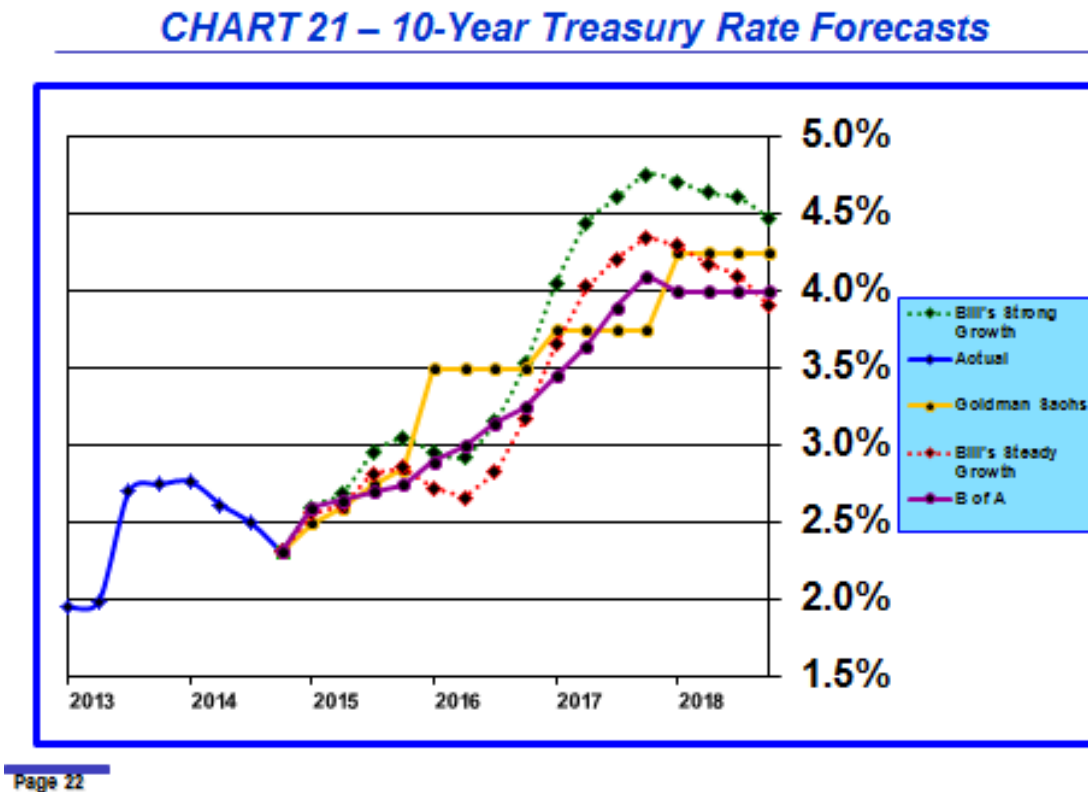
Inflation, or lack of it, is rapidly becoming the more important policy mandate. Core PCE inflation has persistently been below the FOMC's explicitly stated 2.0 percent objective. While FOMC members have been steadfastly optimistic that core PCE inflation will return to 2.0 percent within a couple of years, the timing of this expectation has repeatedly been pushed forward. Now global events and bond prices are signaling that even lower inflation and in some countries deflation is a very real threat. To date FOMC members have been dismissive of these risks. But, if core PCE inflation edges down in coming months, the FOMC will be hard pressed to raise interest rates unless the U.S. economy takes off.

Like **GS** and **B of A**, market participants now place a higher probability that the first federal funds rate increase will come at the September rather than the June meeting. Moreover, the forward yield curve has flattened considerable since the start of the year and implies that increases in the federal funds rate, when they come, will occur more gradually and the end point will be lower than the timing and level embodied in the FOMC's projections as shown in **Chart 20**.

My "**Steady Growth**" and "**Strong Growth**" forecasts are shown by the red dashed line (diamonds) and green dashed line (diamonds). My "**Steady Growth**" forecast indicates that the federal funds rate is not likely to increase until 2017 or later, which is inconsistent with FOMC guidance. In my "**Strong Growth**" forecast, the first increase in the federal funds rate occurs in late 2015 but there is little pressure to move it up rapidly.

4. 10-Year Treasury Rate

Chart 21 shows forecasts for the 10-year Treasury rate for my “*Steady Growth*” (red dashed line and diamonds) and “*Strong Growth*” (green dashed line and diamonds) scenarios. **GS**’s forecast (yellow line and circles) and **B of A**’s forecast (purple line and circles) are also shown.



As of January 16, the 10-year Treasury yield was 1.83 percent, down from 2.17 percent at the beginning of 2015 and 3.04 percent at the beginning of 2014. Forecasts of the 10-year rate by the end of 2015 cluster in a range of 2.75 percent to 3.00 percent. These forecasts increasingly appear to be too high based upon what has happened so far in 2015 in global bond markets. The forecasts also assume anchored inflation expectations. That assumption is rapidly losing credibility. A step down in inflation expectations, to repeat again, tends to have self-fulfilling behavioral consequences. The implication is that the forecasts shown in **Chart 21** are probably overstating the extent to which long-term interest rates will rise in 2015 and perhaps in the years beyond the current year as well.

Long-term interest rates have a theoretical equilibrium value which is a combination of several components: a real rate of return, the rate of expected inflation over the next several years, an inflation uncertainty premium, a liquidity premium, and a credit risk (default) premium. The risk-based premiums can be artificially reduced if the policymakers state directly or past practices indicate that bondholders will be protected from default risk. Had not Mario Draghi opined in the summer of 2012 that the ECB would “do whatever it takes to preserve the euro,” long-term rates on the sovereign bonds of countries like Greece, Spain, and Italy would not be nearly as low as they are today.

Long-term rates can also be depressed by an intentional quantitative easing bond buying policy by the

central bank. Quantitative easing usually results in depressing the value of a country's currency. That has been an intentional part of Japan's Abenomics and may soon be an intentional aspect of the ECB's monetary policy. Because the U.S. ended quantitative easing in October last year, the U.S. is now on the receiving end which is evidenced in the rising value of the dollar. This has a relatively immediate effect of transmitting lower foreign long-term interest rates to the U.S. through purchases of U.S. treasury bonds. It also has a longer term effect of depressing U.S. exports and slowing the rate of real GDP growth. This is the phenomenon of currency wars in which each nation attempts to avoid the deflationary consequences of excess aggregate supply relative to aggregate demand by devaluing its currency. The overall result is that that country's deflation is simply exported to other countries. Where this evolving international policy mix takes us in a deflationary setting is uncertain, but the odds are that the consequences will not be nearly as benign as many expect.

Other factors also influence long-term rates, at least in the short run. There is the dollar safe-haven effect which lowers rates on U.S. Treasury securities. This effect ebbs and flows, depending on global political crises and periodic turmoil in financial markets.

If the real rate of interest is depressed below its "natural level" needed to stimulate investment, then this will depress investment, slow growth and add to disinflationary and deflationary pressures which, in turn, will drive nominal rates even lower. This is the condition of the world that we currently find ourselves in. The risks are high that outcomes over time will not be favorable.

So what should the 10-year rate be today? If one simply adds the real rate of return to an expected inflation rate and ignores the nuances of all the other factors that influence long-term rates, the rate should be about 3.0 percent, assuming expected inflation is 1.5 percent and the real rate of return is 1.5 percent. That is why most conventional forecasts expect the 10-year rate to be between 2.75 percent and 3.00 percent by the end of 2015. A current 10-year Treasury rate of 1.83 percent barely covers inflation and leaves little real return. Inflation would have to drop a lot from a 1.5 percent level to justify today's 1.83 percent rate and provide an acceptable real rate of return. Either the recent level of rates is the result of temporary factors and rates will soon return to a higher level or today's low rates reflect forces afoot that are not transitory and which will have significant consequences.

Even if the downside risk to the 10-year rate proves transitory and an artifact of momentary surge in market participants' fear and anxiety, it is important to note that none of these forecasts indicates a surge in the 10-year rate for a very long time.

VII. Fiscal Policy Developments

We have entered the last two years of the Obama presidency with Republicans in control of both the House and Senate. It should prove an interesting year until presidential politicking takes over in the fall. Congress has much to do.

1. Key Events

- January 20 President's State of the Union address to Congress
- February 2 President's budget released and sent to Congress
- February 27 Spending authority for Department of Homeland Security expires

- March 4 Supreme Court hears arguments on Affordable Care Act subsidies; ruling will come before session ends in June
- March 16 Federal debt ceiling reinstated at then current level of debt
- March 31 Medicare “doc fix” expires
- May Highway trust fund depleted
- May 31 Highway legislation expires
- June 30 Export-Import Bank charter expires
- October 1 Spending authority expires requiring either a continuing resolution or appropriation legislation; next phase of budget sequester kicks in
- December 31 Tax extenders — latest date for renewal for calendar year 2015
- Late 2016 Social Security Disability Insurance Trust Fund becomes insolvent

You will note that there is no mention of tax reform, trade promotion authority, Federal Reserve audit, or immigration on the list of key events. These and other issues will be considered by Congress and may result in legislation.

2. Debt Ceiling

Congress probably won't do anything about the debt ceiling before March 16 when it is reinstated. After March 16 the Treasury Department will not be able to increase the total amount of debt outstanding. As in the past, the Treasury will pursue a variety of accounting procedures to delay running out of cash. The day of reckoning is not likely to occur before sometime between August and October.

3. Highway Trust Fund and Highway Bill

There is bipartisan support for extending the highway bill and funding the highway trust fund. The remains the same as last year — there is no agreement on how to fund the costs. An obvious choice but one which Republicans have refused to consider would be to raise the gasoline tax. The current tax is 18.4 cents per gallon and was last changed in 1993. Closing the gap between current revenues and expenditures would require the gas tax to increase by approximately 15 cents per gallon. With the recent 50 percent decline in oil prices this would seem to be an optimal time to increase this tax. But, it would be a tax increase and that is reason enough for many in Congress to oppose this option. If Congress cannot find a permanent funding source to close the gap, another short term extension is likely.

4. Sequester Returns on October 1

Sequester spending caps originally enacted as part of the Budget Control Act of 2011 will become effective on October 1 unless Congress passes alternative legislation. The sequester would allow spending to increase by about \$2 billion above the current fiscal year level. It is estimated that spending needs to increase by \$17 billion just to keep pace with inflation. Repeal of the sequester is unlikely as it would add about \$100 billion to fiscal year 2016 spending.

5. Dynamic Budget Scoring

As one of its very first actions, the House adopted a new budget scoring rule that requires the CBO and the Joint Committee on Taxation (JCT) to “incorporate the macroeconomic effects of major legislation’ into the official cost estimates used for enforcing the budget resolution and the other rules of the House.” The idea is to incorporate the secondary effects of tax and spending legislation on economic activity. At first blush dynamic scoring seems sensible. If a spending program leads to economic activity that increases tax revenues, these estimated additional revenues should be included in analysis of how the spending program is to be funded. However, such estimates tend to be very subject to the quality of underlying assumptions. There is much skepticism about whether it will lead to better decision making or simply result in making it easier to engage in deficit spending. It will be interesting to watch how CBO and JCT figure out how to structure dynamic scoring analyses.

6. President’s State of the Union Address

By the time this month’s letter reaches you, you will know what President Obama has proposed in his State of the Union address to Congress. Some key proposals have already been released intentionally.

President Obama will reiterate his support for comprehensive corporate tax reform, but will propose a variety of tax increases for higher income people which, if enacted, will raise an estimated \$300 billion. The additional revenue would be redeployed based on the theme of combating rising income inequality by reducing taxes on middle-income earners, providing an expanded child care tax credit and a new tax credit for two-income households, expanding paid parental leave and making attending a community college free. Commentators view these proposals as playing to the Democratic base and expect on substantive legislative action.

VIII. APPENDIX: Outlook — 2015 and Beyond — Forecast Summary for the U.S. and the Rest of the World, Highlights of Key Issues, and Identification of Risks

Observations about the 2015 U.S. and global economic outlook and risks to the outlook were contained in the *December 2014 Longbrake Letter* and are included below without any changes. As events unfold during 2015, this will enable the reader to track my analytical prowess. Current assessments follow each item with the following identifiers: “+” tracking forecast; “-” not tracking forecast; “?” too soon to know.

1. U.S.

- **2015 real GDP Y/Y** growth projections range from 2.7% to 3.5%. The FOMC’s central tendency Q4/Q4 projections range from 2.6% to 3.0%. (Q4/Q4 projections are highly dependent upon potential anomalies in Q4 data; therefore, Y/Y estimates, which average all four quarters, are more stable estimates.) Because the substantial decline in oil prices is likely to boost consumption growth more than it depresses investment growth, actual 2015 real GDP growth is likely to be at the high end of the forecast range.
- **Real GDP output gap** will remain high, but will close rapidly during 2015 from about 3.4% to 2.0%. (The exact size of the output gap will be revised by CBO, probably in February 2015).
- **Potential structural rate of real GDP growth** has declined significantly in recent years. I expect potential growth to be about 2.0% in 2014. Long-term potential real GDP growth will edge up in coming years to between 2.0% and 2.3%.
- **Productivity** should rise during 2015 as growth improves and investment increases, but should still fall well short of the historical 2.1% average.
- **Employment** growth should slow during 2015 as full employment approaches and grow about 185,000 per month.
- **Employment participation** will rise slightly during 2015 as the unemployment rate falls, labor market conditions tighten and discouraged workers find jobs. These cyclical factors will more than offset the downward pressure on the participation rate stemming from an aging population.
- **Unemployment rate** should edge down to about 5.25%. A higher rate could occur if substantial numbers of discouraged workers re-enter the labor force.
- **Nominal consumer disposable income**, measured on a Y/Y basis will rise about 3.2% (roughly 1.2% increase in hours worked; 1.8% increase in CPI inflation and .2% increase in the hourly wage rate).
- **Nominal consumer spending growth** on the Y/Y basis will grow slightly faster at approximately 3.5%, but could grow slightly faster if low oil prices persist.
- **Household personal saving rate** will decline slightly as growth in spending exceeds growth in disposable income.
- **Stock prices**, as measured by the S&P 500 average, should rise between 0% and 5%.
- **Manufacturing** growth will continue to be relatively strong and the PMI index will exceed 50.
- **Business investment** spending growth should remain relatively strong in a range of 4% to 6% as employment and consumer spending growth gathering momentum; however, low oil prices will depress energy investment.

- **Residential housing investment** should improve over 2014's disappointing level by 8% to 10%; residential housing starts should rise 15% to 20%.
- **Residential housing prices** should rise about 2% to 4% in 2015, more slowly than 2014's projected 4.5% increase.
- **Trade deficit** should be slightly higher in 2015 as economic growth improves growth in imports and the rising value of the dollar depresses growth in exports. The **dollar's value** on a trade-weighted basis should continue to rise.
- **Monetary policy** — the Federal Reserve will raise the federal funds rate at its June, or possibly, September 2015 meeting. Because inflation is likely to continue to fall short of the Federal Reserve's expectations, the pace of increases in the federal funds rate is likely to be slow.
- **Total inflation** measures (CPI and CPE) will fall sharply during the first half of 2015, reflecting the significant decline in oil prices. **Core PCE inflation** will be stable to slightly lower in a range of 1.3% to 1.5%, reflecting global disinflationary trends. Core PCE inflation will remain well below the FOMC's 2% objective at least through 2017.
- **Federal funds rate** is not likely to increase before mid-2015 and might not increase at all in 2015 if growth is less than expected and core inflation declines more than expected. The pace of increases is likely to be slow.
- The **10-year Treasury rate** is likely to fluctuate in a range between 2.0% and 3.0% in 2015. Faster than expected real GDP employment growth will push the rate toward the top end of the range; greater than expected declines in inflation and/or heightened financial instability will push the rate toward the bottom end of the range.
- **Fiscal policy** will have limited impact on real GDP growth during both fiscal year and calendar year 2015. The deficit as a percentage of nominal GDP will probably decline from fiscal year 2014's level of 2.75% to 2.50%. The decline could be greater if economic growth and tax revenues exceed expectations or less if Congress increases spending without offsets as it did in approving the tax extenders bill for 2014.
- **State and Local investment** spending growth rises slightly from 0.5% in 2014 to 1.0% in 2015, which is still well below the long-term average of approximately 1.4%.

2. Rest of the World

- **Global growth** is likely to improve to 3.7% in 2015 from 3.2% in 2014. Risks are tilted to the upside because of the substantial decline in oil prices.
- **European growth** will be positive but will be likely to fall short of the consensus 1.2%.
- **European inflation** will continue to decline and may even turn into outright deflation. Quantitative easing, assuming it occurs, may be too late and have too limited an impact to deflect emerging deflationary expectations. Europe may well be headed to the kind of deflationary trap Japan has been in for the last 20 years.
- **European financial markets** may face renewed turmoil. Markets expect the ECB to begin purchasing large amounts of securities, including sovereign debt, by March. This presumes that legal hurdles and German opposition will be overcome. Assuming that quantitative easing actually occurs, its impact is likely to disappoint.
- **European political dysfunction, populism and nationalism** will continue to worsen gradually. Countries to watch include the U.K., Greece, Spain, Italy and Portugal. **U.K. growth** is expected to slow from 3.0% in 2014 to 2.6% in 2015; however, political turmoil should the May parliamentary elections be inconclusive could drive growth lower.

- *China's GDP growth* will slow below 7% and gradually moved toward 6% as economic reforms are implemented and the shift to a consumer-focused economy gathers momentum.
 - *China's leadership* will focus on implementing *economic reforms* and will overcome resistance and maintain stability.
 - *Japan's* economic policies may be successful in defeating deflation, but GDP growth will be hard pressed to achieve the expected 1.6% rate in 2015 if Abenomics' third arrow of economic reforms fails to raise the level of potential growth sufficiently to overcome the effect of negative population growth on labor force growth.
 - *India* should experience an improvement in real GDP growth to 6.3% in 2015.
 - *Emerging market countries* that are energy consumers will experience greater growth, as long as the U.S. does better in 2015; energy producing. countries and those heavily dependent upon commodities exports for growth will do less well.
3. **Risks** — stated in the negative, but each risk could go in a positive direction.
- *U.S. potential real GDP growth* falls short of expectations
 - *U.S. employment growth* is slower than expected; the *participation rate* is stable or declines rather than rising modestly
 - *U.S. hourly wage rate growth* does not rise materially over its 2014 level of 2.1%
 - *US. Unemployment rate* falls less than expected
 - *U.S. productivity* remains low in the vicinity of 1%
 - *Real U.S. consumer income and spending* increase less than expected
 - *U.S. financial asset prices* rise more than expected posing increased bubble risks
 - *Growth in U.S. residential housing investment and housing starts* is less than expected
 - *U.S. residential housing price increases* slow more than expected
 - *U.S. private business investment* does not improve as much as expected
 - *Oil price declines* in the U.S. trigger bankruptcies and cause tight financial conditions with negative implications for economic activity and growth
 - *U.S. manufacturing growth* slows as the value of the dollar rises and global growth slows
 - *U.S. trade deficit* widens and the *value of the dollar* rises more than expected
 - *U.S. monetary policy* spawns financial market uncertainty and contributes to financial instability
 - *U.S. inflation falls, rather than rising, and threatens deflation*
 - *U.S. interest rates* fall or rise more than expected
 - *U.S. fiscal policy* is more restrictive than expected and the *budget deficit* falls more than expected
 - *U.S. state and local spending* does not rise as fast as expected
 - *Global GDP growth* does not rise as fast as expected
 - *Europe* slips back into recession
 - *ECB* does not engage in quantitative easing or the quantitative easing program it decides to pursue lacks market credibility
 - *Europe* — financial market turmoil reemerges
 - *Europe* — political instability and social unrest rises more than expected threatening survival of the Eurozone and the European Union

- *Acute political turmoil* engulfs the **U.K.**
- *Chinese* leaders have difficulty implementing *economic reforms*
- *China's growth* slows more than expected
- *Japan* — markets lose faith in Abenomics
- Severe and, of course, unexpected *natural disasters* occur, which negatively impact global growth

Bill Longbrake is an Executive in Residence at the Robert H. Smith School of Business at the University of Maryland.