



The Longbrake Letter*
Bill Longbrake
September, 2014

Personal Note: *In the last several months I have experienced two significant life changing events that have impacted my ability to produce a detailed monthly examination of the U.S. and global economies. My wife, Martha, who was my partner for 43 years, died in June. At about the same time I was elected Chair of the College of Wooster board of trustees. The College of Wooster is an outstanding liberal arts residential college. I am honored to have been tapped for this role at a time of great challenge for higher education. As I am now finding out, this job is very demanding. It is almost like being employed full-time once again. The upshot is that I have less interrupted time for writing. I have discussed the situation with Barnett, Sivon and Natter and we have agreed to continue the monthly Longbrake Letters under an altered format. Once a quarter I will do a comprehensive review of the economy beginning with the September letter. In the other two months I will choose one or two topics to examine.*

Bill Longbrake

I. Economic Expansion Gains Momentum; Near-Term Risks Diminish

Second quarter real GDP growth rebounded strongly to 4.2 percent from the artificially depressed -2.1 percent in the first quarter. Tracking estimates of “final” second quarter real GDP, which will be reported at the end of September, are higher yet at approximately 4.8 percent. Third quarter GDP growth is currently expected to be approximately 3.5 percent. But, growth for all of 2014 is not expected to differ materially from 2013’s depressed 2.2 percent real GDP growth.

Collectively, recent data reports are consistent with gradual acceleration in economic growth. Employment growth is a bright spot but wages and disposable income have yet to break out convincingly to the higher growth rates necessary to propel increases in consumer spending, which, in turn, are necessary to drive increases in business and housing investment.

There are signs that the virtuous circle of higher employment, higher income, higher spending and higher investment may finally be getting underway. But, the pace of improvement remains painfully slow

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with little indication that the still very large output gap will close quickly. As is always the case, there are downside risks, but none appears to be sufficiently great to give cause for worry about a significant slowdown in the economy or onset of recession.

Nevertheless, although the U.S. economy appears to remain on a steady, yet gradually improving, growth track, serious long-run adverse trends, such as underinvestment, growing income and wealth inequality, and the effects of an aging population, remain firmly entrenched. Policymakers have done little to address these trends. Like the adverse effects of global warming, it will take a long time before the consequences of these trends are fully evident. Over time these trends have been worsening and could ultimately limit U.S. economic growth and disrupt the stability of the American social fabric.

II. Real U.S. GDP Growth

Real GDP growth has been on a roller coaster during the first two quarters of 2014. Annualized first quarter 2014 real GDP growth, according to the Bureau of Economic Analysis' (BEA),” was initially reported at an anemic 0.1 percent, but after several revisions settled at a disappointing -2.1 percent. But in the second quarter growth bounced back strongly to 4.2 percent and is likely to be revised higher to 4.8 percent in the “Final Estimate.” Details are shown in **Table 1**.

Table 1
Composition of First and Second Quarter 2014 and 2013 Quarterly GDP Growth

	Second Quarter 2014 Advance Estimate	Second Quarter 2014 Preliminary Estimate	Second Quarter 2014 Final Estimate	First Quarter 2014	Fourth Quarter 2013	Third Quarter 2013	Second Quarter 2013
Personal Consumption	1.69%	1.69%		0.83%	2.51%	1.39%	1.23%
Private Investment							
Nonresidential	0.68%	1.03%		0.20%	1.23%	0.67%	0.21%
Residential	0.23%	0.22%		-0.17%	-.28%	0.34%	0.53%
Inventories	1.66%	1.39%		-1.16%	-.34%	1.49%	0.30%
Net Exports	-0.61%	-0.43%		-1.66%	1.08%	0.59%	-0.54%
Government	0.30%	0.27%		-0.15%	-0.71%	0.04%	0.04%
Total	3.95%	4.17%		-2.11%	3.49%	4.52%	1.77%
Final Domestic Sales	2.29%	2.78%		-0.95%	3.83%	3.03%	1.47%
Private GDP	1.99%	2.51%		-0.80%	4.54%	2.99%	1.43%
Private GDP less Net Exports	2.60%	2.94%		0.86%	3.46%	2.40%	1.97%

Although this quarterly volatility is considerable, it is not unusual. Volatility arises from the practice of annualizing quarterly rates of change. This has the effect of amplifying small anomalous changes in individual components. This is particularly true for inventories and net exports, and sometimes also for other GDP components, as can be seen in **Table 1**. **Table 2** shows real GDP growth on a year-over-year basis. This method smooths out volatility in annualized quarterly rates of changes. This methodology

gives a better sense of the underlying trend in real GDP growth and its components. China reports its real GDP data on a year-over-year basis.

Table 2
Composition of First and Second Quarter 2014 and 2013 Quarterly Real GDP Growth —
Year-Over-Year Rates of Change

	Second Quarter 2014 Preliminary Estimate	Second Quarter 2014 Final Estimate	First Quarter 2014	Fourth Quarter 2013	Third Quarter 2013	Second Quarter 2013
Personal Consumption	1.60%		1.48%	1.88%	1.57%	1.57%
Private Investment						
Nonresidential	0.81%		0.60%	0.59%	0.38%	0.24%
Residential	0.03%		0.10%	0.20%	0.41%	0.42%
Inventories	0.26%		0.01%	0.48%	0.16%	-0.23%
Net Exports	-0.11%		-0.13%	0.26%	0.18%	0.13%
Government	-0.14%		-0.20%	-0.35%	-0.47%	-0.35%
Total	2.48%		1.89%	3.13%	2.26%	1.76%
Final Domestic Sales	2.22%		1.88%	2.64%	2.10%	1.99%
Private GDP	2.37%		2.08%	2.99%	2.57%	2.34%
Private GDP less Net Exports	2.48%		2.21%	2.73%	2.38%	2.21%

Sometimes external factors will impact most quarterly real GDP components. This was the case in the first quarter of 2014 when especially severe winter weather in the eastern United States slowed economic activity. Thus, strong annualized quarterly growth in the second quarter reflects, in part, a natural bounce back from temporarily depressed economic activity in the first quarter.

Alternative measures of real GDP, by eliminating often volatile individual components, give a better sense of the underlying momentum in the economy. For example, “**Final Domestic Sales**” eliminates the volatile impact of fluctuations in inventory accumulation. This alternative measure accounts for approximately 99.5 percent of total economic activity. “**Private GDP**” eliminates the impact of both inventories and government spending and equals about 81 percent of economic activity. “**Private GDP less Net Exports**” eliminates inventories, government spending and net trade activity and equals about 84 percent of economic activity. This alternative measure highlights non-government domestic economic activity.

1. Trends in Real GDP Growth

Table 2 shows trends in four alternative measures of real GDP growth.

- “**Total**” — Year-over-year changes are less volatile than the annualized quarterly rates of change shown in **Table 1**; however, considerable volatility remains from quarter to quarter, making it hard to discern any underlying trend. Over the five quarters shown, growth has ranged from 1.76 percent to 3.13 percent and averaged 2.30 percent.

- **“Final Domestic Sales”** — Omitting fluctuations in the rate of accumulation of inventories reduces volatility. Over the five quarters shown, growth has ranged from 1.88 percent to 2.64 percent and averaged 2.17 percent. While it is hard to discern a trend, it appears that the growth rate may be improving very gradually.
- **“Private GDP”** — Government spending, primarily resulting from cutbacks at the federal level, has been declining in recent quarters. However, this negative trend is diminishing and is likely to continue to diminish further in coming quarters as the federal budget stabilizes and state and local spending gradually increase along with an improving economy and rising tax revenues. Over the five quarters shown, growth has ranged from 2.08 percent to 2.99 percent when the impact of government spending is removed and averages 2.47 percent. This means that government spending cutbacks has reduced real GDP growth by an average of 0.30 percent over the last five quarters. However, the negative impact in the second quarter of 2014 was only 0.14 percent.
- **“Private GDP less Net Exports”** — This alternative real GDP measure of domestic private sector spending is the least volatile of the four measures. Over the five quarters shown, growth has ranged from 2.21 percent to 2.73 percent and averaged 2.40 percent. There appears to be a very modest positive trend, but the absolute level of growth remains very disappointing.

2. 2014 Q2 GDP — Preliminary Estimate

In reviewing the “Preliminary Estimate” of second quarter real GDP, it will be useful to refer to both **Tables 1** and **2**.

Annualized second quarter real GDP growth in the BEA’s “Preliminary Estimate” was 4.2 percent (see **Table 1**). This estimate is likely to be revised up to about 4.8 percent in the “Final Estimate.” Year-over-year **“Total”** real GDP growth was 2.48 percent and **“Private GDP less Net Exports”** real GDP growth was also 2.48 percent; both measures were slightly above their five-quarter averages of 2.30 percent and 2.40 percent, respectively.

There are several reasons to be optimistic that real growth will continue to edge higher:

- Payroll *employment* has been growing about 1.8 percent annually, while the alternative household employment growth rate has been a slightly lower 1.5 percent. Unemployment continues to fall, reaching 6.15 percent of the labor force in August. This will have two favorable effects. First, as employment increases, consumer spending growth should gradually improve. This trend is not yet visible in **Table 2**, but is likely to occur in coming quarters. Second, increases in spending means rising business sales revenues and improving capacity utilization. As excess capacity diminishes, businesses will probably increase investment spending and that will boost the growth rate in non-residential investment. That trend is already visible in the nonresidential investment line of **Table 2**.
- *Residential investment* growth should be improving as employment grows and because today’s extremely low interest rates make buying homes very affordable. However, growth has decelerated over the last five quarters. This is not a normal cyclical trend and can be traced to low household formation rates and extremely tight mortgage underwriting standards. But, both of these negative forces are poised to abate in coming quarters and excess housing stock has largely been eliminated. What this means is that further declines in the residential housing investment growth rate are unlikely and significant increases are possible. Thus, in coming quarters residential housing growth should accelerate and this will boost real GDP growth.

- ***Nonresidential investment*** growth has already accelerated. Growth is likely to remain at a relatively high level as capacity tightens and sales revenues rise.
- ***State and local government spending*** has improved gradually in recent quarters. Tax revenues of state and local governments collapsed during and following the Great Recession. Because budgets of state and local governments customarily must be balanced, this forced reductions in spending. Tax revenues are now rising and so, too, is government spending. The year-over-year contribution of state and local spending to real GDP growth has risen from 0.04 percent in the second quarter of 2013 to 0.09 percent in the second quarter of 2014. The annualized quarterly increase was 0.33 percent in the second quarter of 2014. This sector is likely to continue to contribute modestly to improvements in real GDP growth.
- ***Federal government spending*** has pulled down real GDP growth significantly in recent quarters. While this negative trend has diminished and will continue to do so, it is unlikely that federal government spending will contribute positively to real GDP growth in coming quarters.
- ***Net exports*** is the only component of real GDP that is likely to have a negative impact on growth in coming quarters. There are two reasons for this. First, as unemployment falls and consumer incomes improve, imports are likely to grow more than exports. Second, the value of the dollar has been strengthening recently and in time that will weigh on export growth.

So, all-in-all, the growth rate of real GDP is likely to move higher in coming quarters and could range between 3.0 and 3.5 percent for a few quarters. 2014 looks to be on track to be a reasonably good year, but not quite as good as expected at the beginning of the year. Optimism was a bit premature, but still appears to be merited.

In the near term the risks of negative shocks that could significantly depress U.S. real GDP growth are limited. However, in the longer run forces are at work which will result in slowing employment growth and could also lead to low productivity growth. This would cause growth in potential real GDP to be lower over time than it has been in the past and could even fall short of lowered expectations. That, in turn, would mean that improvements in the standard of living, as conventionally measured, would be limited and growing income and wealth inequality could be aggravated.

3. 2014 Q2 GDP — Preliminary Estimate — Components

Personal consumption expenditures, which account for 68.2 percent of real GDP, contributed 1.69 percent to second quarter GDP growth. This is a little better than the year-over-year growth of 1.60 percent. All else equal, the second annualized growth rate is consistent with real GDP growth of 2.48 percent, which happens coincidentally to be the same as the year-over-year growth rate in both “Total” and “Private GDP less Net Exports.” So, in this sense, real consumption growth was about what one would expect.

Nonresidential investment accounts for 13.1 percent of real GDP. Its contribution to real GDP growth in the second quarter was 1.03 percent. This translates to an 8.4 percent annualized increase in nonresidential investment. The year-over-over growth rate has steadily improved from 1.9 percent in the second quarter of 2013 to 6.4 percent in the second quarter of 2014.

To a very large extent forecasts of a substantial improvement in real GDP growth in 2014 assumed strong investment spending growth and to a lesser extent, improving consumer spending growth, as employment increases and wages accelerate. The assumption of above trend growth in investment is critical to

accelerating employment and income growth, which, in turn are necessary outcomes if consumer spending is to strengthen appreciably. Fundamentals, such as growth in corporate profits, have been supportive of acceleration in investment spending. This is a bit of a “chicken and egg” problem because stronger consumer spending depends upon increased investment activity to drive employment and income, but increased investment activity depends upon expectations that consumer demand will improve. Thus, improvements in business and consumer confidence are important. Once investment growth rises a virtuous and self-reinforcing circle sets in with employment, income and spending steadily accelerating.

Forecasts of rising investment spending during 2013 turned out to be prematurely optimistic but it now appears that the virtuous circle is underway, just a little later than expected.

Residential investment accounts for 3.1 percent of GDP. It added 0.22 percent to annualized second quarter real GDP growth. This reversed declines in the fourth quarter of 2013 and the first quarter of 2014. With lean housing inventories and housing prices rising at double digit rates, housing investment is supposed to be rising, not falling. This translated into a 7.2 percent annual rate of increase, although the year-over-year growth rate subsided to 0.8 percent. Housing investment has continued to be a real disappointment in the current economic expansion but should gradually improve in coming quarters.

Inventories were an outsized contributor to annualized real GDP growth in the second quarter. Quarterly annualized growth contributed 1.39 percent compared to year-over-year growth of 0.26 percent. Growth in inventories during the second quarter was a high \$83.9 billion, which is above the four-year average of \$54.7 billion. This means that the contribution of inventory accumulation may decrease real GDP growth in the third quarter. At least the balance of risks is tilted in that direction.

Government expenditures comprise 18.0 percent of real GDP and increased second quarter annualized GDP growth by 0.27 percent. This outcome was entirely due to the state and local government component, which added 0.33 percent. Federal expenditures fell slightly and subtracted 0.06 percent from real GDP growth.

Government expenditures will probably continue to rise modestly during 2014 because state and local spending is expanding and federal government spending cuts will be smaller.

Net exports subtracted 0.43 percent from second quarter annualized real GDP growth. The growth contribution in **net exports** is highly volatile from quarter to quarter. On a year-over-year base, net exports subtracted only 0.11 percent from growth.

4. 2014 Q2 GDP

Table 3 shows forecasts/projections for the third quarter of 2014, as well as for the years 2014 through 2016. A long-run estimate of potential growth in 2023 is also included.

Second quarter growth was 4.2 percent in the “Preliminary Estimate” and is likely to be revised up to approximately 4.8 percent in the “Final Estimate.”

5. 2014 Q3 GDP Forecast

Third quarter real GDP growth forecasts range from 2.9 percent to 3.6 percent.

Table 3
Real GDP Growth Forecasts *

	2014	2014	2014	2014	2015	2016	2017	2023
	Q2	Q3	Q4/Q4	Y/Y	Y/Y	Y/Y	Y/Y	Y/Y
Reported	4.2							
B of A	4.8	3.5	2.1	2.2	3.3	3.3	3.0	2.2
GS	4.7	3.3	2.2	2.2	3.2	3.0	3.0	
Global Insight		3.6		2.1	2.8	3.4	3.3	
Blue Chip		3.1		2.1	3.5			
Economy.com		2.9		2.1	3.0	2.9	2.8	
Bill's Steady Growth			2.3	2.2	2.7	2.1	1.9	2.0
Bill's Strong Growth			2.5	2.3	3.4	2.9	2.5	2.35
FOMC - High[#]			2.2		3.0 [#]	2.9 [#]	2.5 [#]	2.3
FOMC - Low[#]			2.0		2.6 [#]	2.6 [#]	2.3 [#]	2.0
CBO*				2.1	3.3	3.4	3.0	2.0

[#]Measured from Q4 to Q4

6. 2014 GDP Forecast

As **Chart 1** and **Table 3** show, forecasters have reduced expected year-over-year real GDP growth for 2014 to a range of 2.1 to 2.3 percent compared to the beginning of the year forecast range of 2.4 to 3.1 percent. Most of the reduction stems from downwardly revised expectations for residential and nonresidential investment activity. The reduced forecasts for real GDP put 2014 growth at about the same level as the 2.2 percent growth rate experienced in 2013.

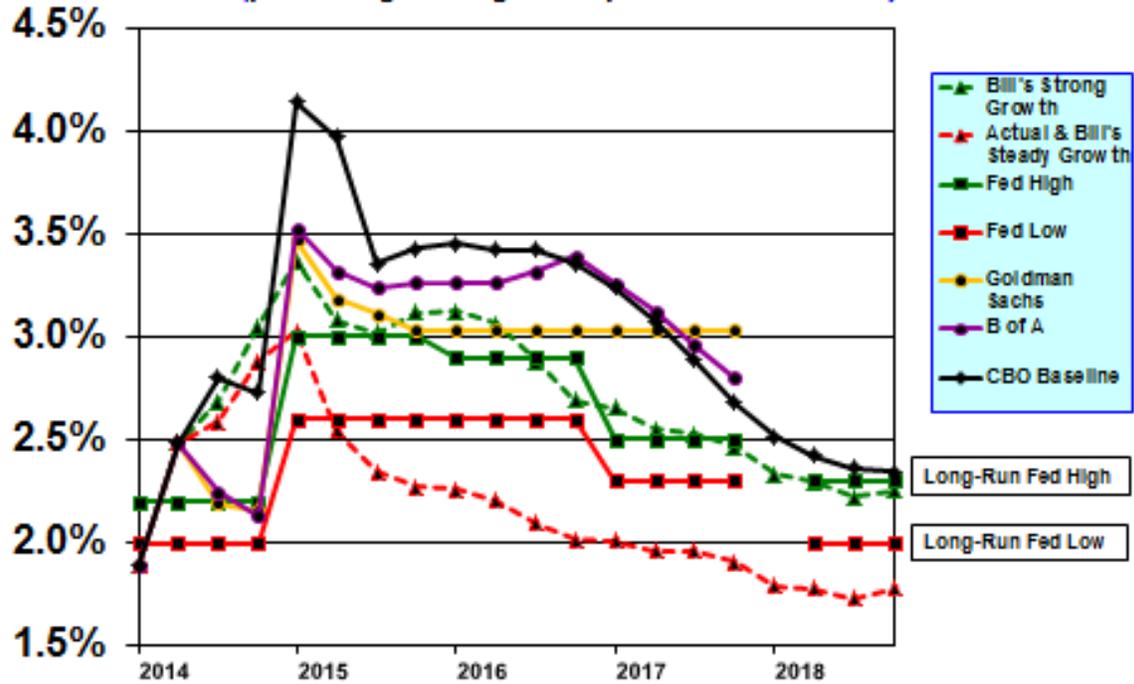
As discussed above, there are several reasons to expect real GDP growth will improve in coming quarters.

7. GDP Forecasts for 2015 and Beyond

As **Chart 1** and **Table 3** show, forecasters expect real GDP growth to be near 3.0 percent in 2015 and 2016, which would be well above the level of potential growth estimated by CBO. This means that the output gap would close considerably.

Real GDP growth in Bill's "**Steady Growth**" scenario in 2015 and 2016 is at the low end of forecasts. Growth is considerably higher in Bill's "**Strong Growth**" scenario in 2015 and 2016 and is in the general vicinity of other forecasts. Generally, the lower real GDP growth forecast in Bill's "**Steady Growth**" scenario results from lower growth assumptions for consumer spending and investment. Differences in

CHART 1 – Real GDP Growth Forecasts
(percentage change over previous 12 months)



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assumptions for consumer and investment spending are shown in **Tables 4 and 5**.

Table 4 shows consumption growth forecasts for 2014, 2015, 2016, and 2017. Most of the difference in consumption growth between the “*Steady Growth*” and “*Strong Growth*” scenarios is due to the wealth effect of increasing prices for houses and financial assets. Faster employment growth and a lower saving rate also contribute to the difference.

Table 4
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
Actual	2.02	1.72	2.34				
B of A				2.19	2.82	2.97	2.71
GS				2.27	2.61	2.52	2.52
Bill’s Steady Growth				2.23	2.38	2.06	2.45
Bill’s Strong Growth				2.29	2.91	2.73	2.96

Except for the **B of A** forecast for 2016, the “*Strong Growth*” scenario consumer spending growth

forecasts exceed other forecasts.

Business and residential investment growth forecasts are shown in **Table 5**. (*Note: forecast net change in inventories is not included in investment spending growth estimates in **Table 5**; but growth estimates in **Table 7** below are for total private investment, which includes net change in inventories.*) Both **GS** and **B of A** expect investment growth to accelerate strongly in coming quarters. **GS** forecasts stronger residential and business investment growth of 7.4 percent in 2015 and 7.1 percent in 2016 compared to 5.4 percent Y/Y in 2014. **B of A** forecasts investment growth Y/Y of 8.1 percent in 2015. Although the differences are small, both **B of A** and **GS** expect investment growth in the second half of 2014 to be stronger than assumed in Bill's scenarios.

Table 5

Real 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
Actual	8.30	4.68				
B of A			5.63	8.10		
GS			5.43	7.42	7.08	7.08
Bill's Steady Growth			4.81	5.68	2.95	2.55
Bill's Strong Growth			4.93	7.64	6.61	4.05

Investment growth in Bill's "**Steady Growth**" scenario is 5.7 percent in 2015 and 3.0 percent in 2016. Investment in Bill's "**Strong Growth**" scenario accelerates to a robust 7.6 percent in 2015 and 6.6 percent in 2016, which is similar to the **GS** and **B of A** forecasts. After 2016, as the expansion matures, investment growth slows in 2017 in Bill's "**Strong Growth**" scenario; however, **GS** remains optimistic that growth will not slow.

8. Potential Real GDP Growth

Potential real GDP growth is the product of growth in hours worked and productivity. (Details have been provided in previous Longbrake Letters.) The "gold standard" for estimates of potential real GDP is provided by CBO. However, CBO's estimate is just that — an estimate. CBO's estimate is based upon its assumptions about labor force growth and productivity. Different assumptions for either will result in different estimates of potential real GDP.

In 2007, the year preceding the Great Recession, CBO estimated potential growth to be 2.45 percent. This was well below the historical long-term potential growth rate of 3.2 percent. However, in the nearly five years since the recovery from the Great Recession commenced CBO estimates that potential growth averaged 1.55 percent. CBO expects potential growth to improve to 2.2 percent by the end of 2017.

My potential growth rates are 2.0 percent for the "**Steady Growth**" scenario and 2.3 percent for the "**Strong Growth**" scenario in 2017. My assumption for labor growth is 0.84 percent for the "**Steady Growth**" scenario and 1.24 percent for the "**Strong Growth**" scenario.

Together estimates of potential real GDP and forecasts of actual real GDP growth define the output gap.

There is now a consensus that potential real GDP growth will not improve materially as the economy heals and the output gap closes. CBO expects potential growth to be 2.0 percent in 2024. FOMC members have become progressively less optimistic. The central tendency of FOMC member long-term anticipated potential real GDP growth has fallen from 2.7 percent in June 2011 to 2.15 percent in September 2014. Diminished expectations are largely the result of a reduction in expected labor force growth, but also lower productivity growth is a factor. Lower productivity is not a foreordained outcome. Policies could be pursued that would amplify productivity prospects. But, political obsession with cutting government spending and monetary policy that has depressed the real rate of interest are having and could continue to have a combined depressing impact on investment activity, which is essential in the long run to boost productivity.

9. GDP Output Gap

The output gap is the percentage difference between actual or forecast real GDP and estimates of potential full-employment real GDP.

In **Chart 2** my estimates of the output gap in the “*Steady Growth*” and “*Strong Growth*” scenarios are based on my estimates of potential real GDP and not on CBO’s estimates. By 2023 my estimate of potential real GDP in the “*Strong Growth*” scenario is 0.4 percent higher than CBO’s estimate, and my estimate of potential real GDP in the “*Steady Growth*” scenario is 1.9 percent lower. Even though I have lowered expected potential real GDP in my “*Steady Growth*” scenario, the output gap does not close. This means that forecast growth in real GDP by 2023 in my “*Steady Growth*” scenario is even weaker than one might guess by looking at **Chart 2** — 1.9 percent lower than CBO’s potential and 4.4 percent lower than CBO’s actual estimates of real GDP.

Chart 2 benchmarks the GDP output gap as 3.7 percent at the end of 2013 and then shows how the output gap would change over time based upon CBO’s GDP projections and my “*Steady Growth*” and “*Strong Growth*” scenarios. CBO expects the output gap to close by 2017. The output gap closes in my “*Strong Growth*” scenario by 2020, but the gap does not close in my “*Steady Growth*” scenario.

In my “*Strong Growth*” scenario, which assumes strong labor force growth, strong investment growth, and robust productivity, the output gap shrinks in line with CBO’s estimates initially in 2014 and 2015, but then the rate at which the gap shrinks slows and it closes about three years later in 2020.

In my “*Steady Growth*” scenario the output gap shrinks slowly and does not close. This scenario assumes slow labor force growth, tepid investment growth, and lackluster productivity. It is intentionally structured to be a pessimistic scenario.

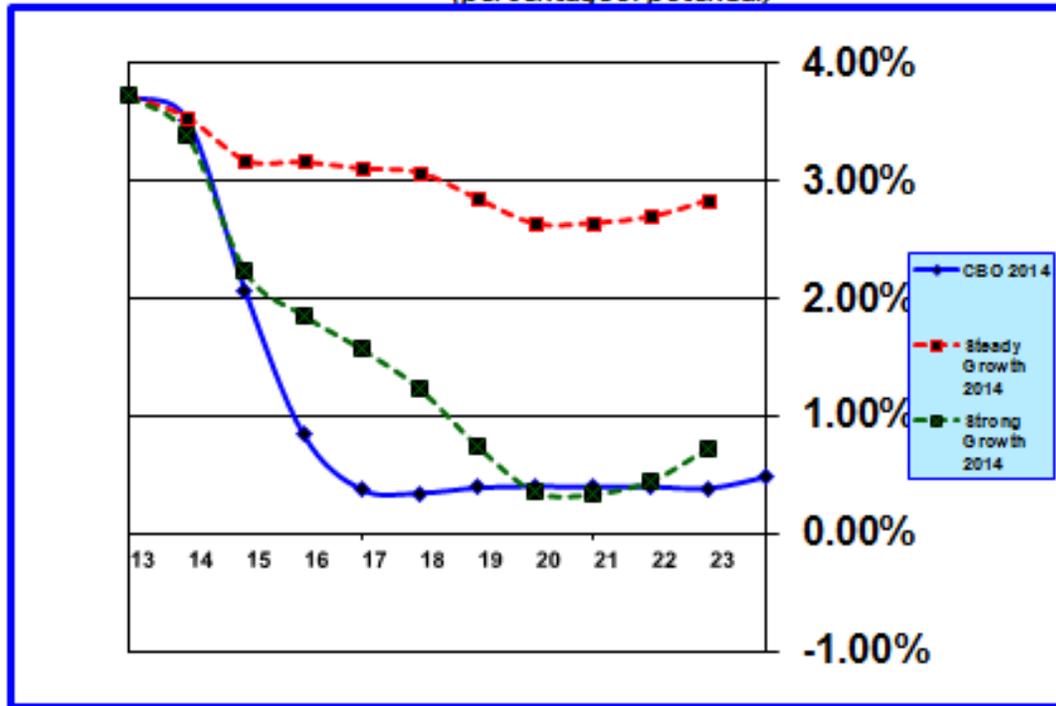
Chart 3 includes **B of A’s** and **GS’s** estimates of the output gap along with those for my two scenarios and CBO’s. **B of A’s** and **GS’s** estimated gaps are based upon CBO’s estimates of potential real GDP. The time period is also shortened in **Chart 3**.

B of A’s estimate of the output gap is slightly less optimistic than CBO’s projection in 2014 and 2015. **GS’s** estimate of the output gap closes more slowly CBO’s.

Probably the most important take-away is that the output gap is large and it will take at least another three to four years for the economy to reach full potential, and perhaps

CHART 2 – Real GDP Output Gap

(percentage of potential)



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longer. If the time ends up being shorter, it will either be because growth accelerates from the expected trend, which is possible but seems unlikely, or that potential real GDP is less than CBO believes, which would be a very negative development.

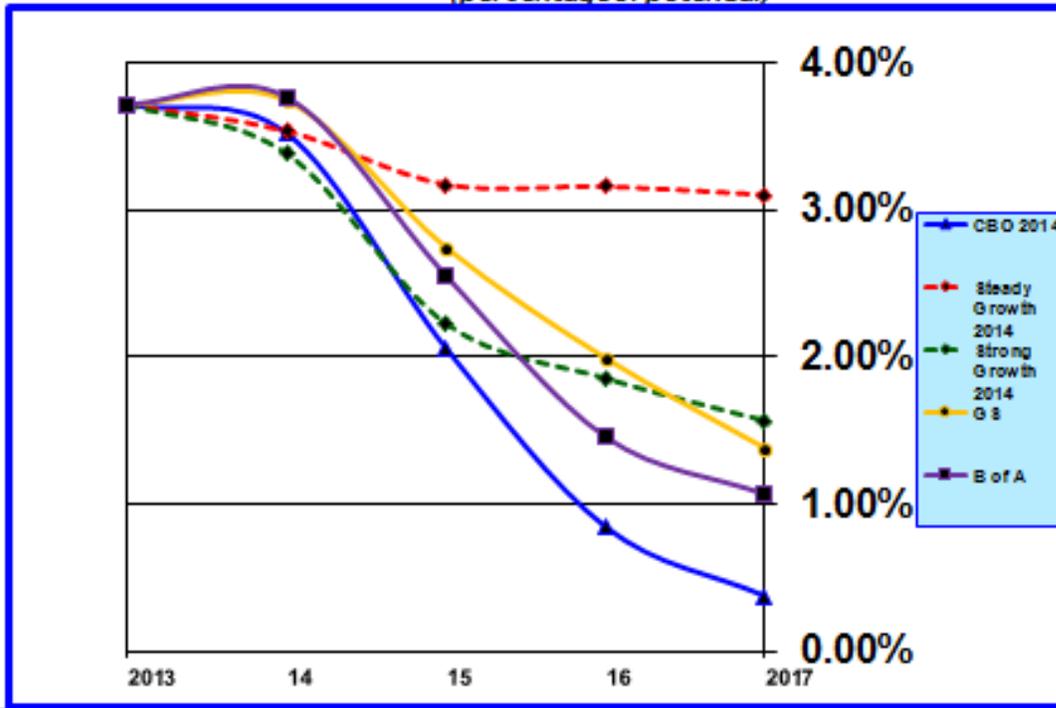
Because the output and employment gaps are highly correlated, full employment is about as far off as is achieving full potential real GDP. If this is not the case and the employment market is tightening rapidly, it is for the wrong reasons, namely that eligible workers are permanently leaving the labor force. Such an outcome would reduce potential real GDP and would be a very negative development for the U.S. economy.

Notwithstanding all the recent talk about a tightening labor market and the risk of an imminent inflation outbreak because of upward pressure on wages, history, analysis, and experience all strongly suggest that this is a phantom concern. Changes in inflation lag real economic activity which implies that inflation will remain subdued at low levels for a long time.

III. Recent Employment Trends

Top line employment data in August were weaker than expected. Payroll employment, after averaging a monthly gain of 226,000 over the first seven months of 2014, came in at only 142,000 in August. Household employment added only 16,000 jobs in August after averaging 252,000 monthly over the first seven months of the year. As a reminder, employment data surprises are not all that unusual because they are based

CHART 3 – Real GDP Output Gap
(percentage of potential)



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initially on samples and estimation methods. Household data, which has a large sampling error, is never revised, but payroll data will be revised many times. Thus, it is better to focus on trends than on a single month’s data. The eight-month average increase of 215,000 payroll jobs and 223,000 household jobs continues to reflect a rapidly improving labor market.

1. Payroll and Household Employment

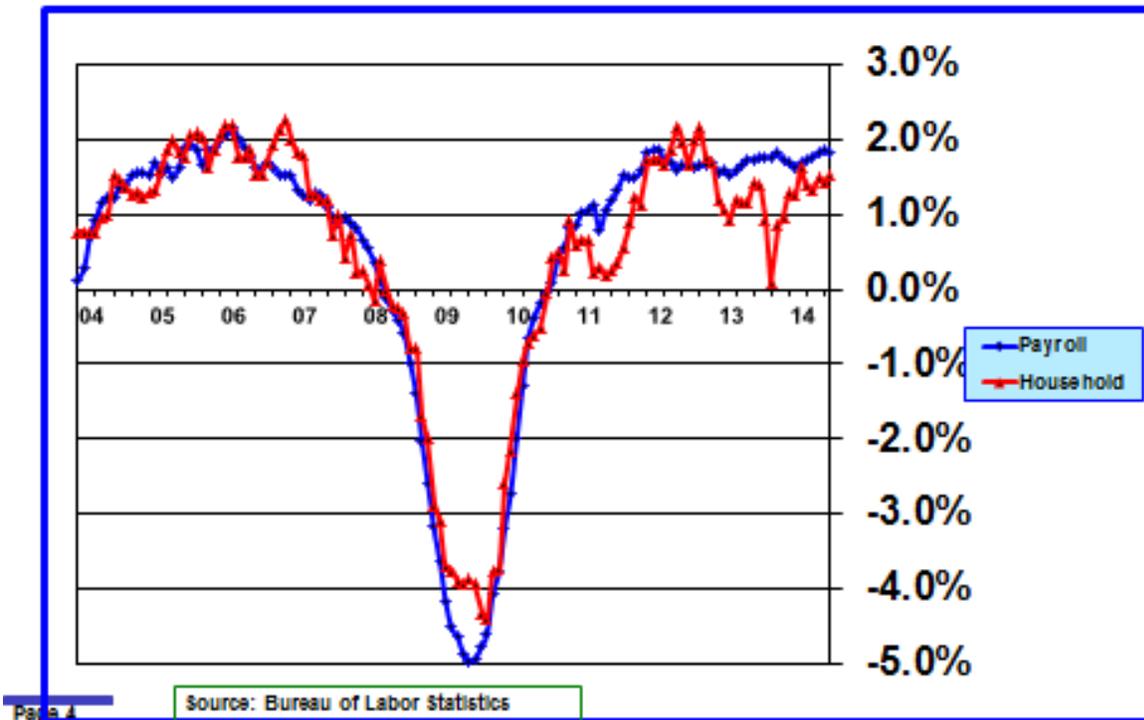
Employment trends can be observed more easily by viewing **Chart 4**, which shows the annual growth rates for both the payroll and household employment surveys on a year-over-year basis.

Chart 4 indicates that payroll employment is growing at an annual rate of 1.82 percent and household employment is growing at an annual rate of 1.52 percent. Employment growth is above CBO’s long-term labor force trend level of 0.5 to 0.7 percent, which is necessary for the unemployment rate to fall and the economy to return to full employment. As the labor market approaches full employment it is certain that growth will slow to the long-term trend level dictated by growth in the labor force.

2. Labor Force

Over extended periods of time growth in the labor force depends upon growth in the population eligible to work and on demographic and cultural factors. As can be seen in **Chart 5**, labor force growth

CHART 4 – Employment Growth
(annual rate of change)



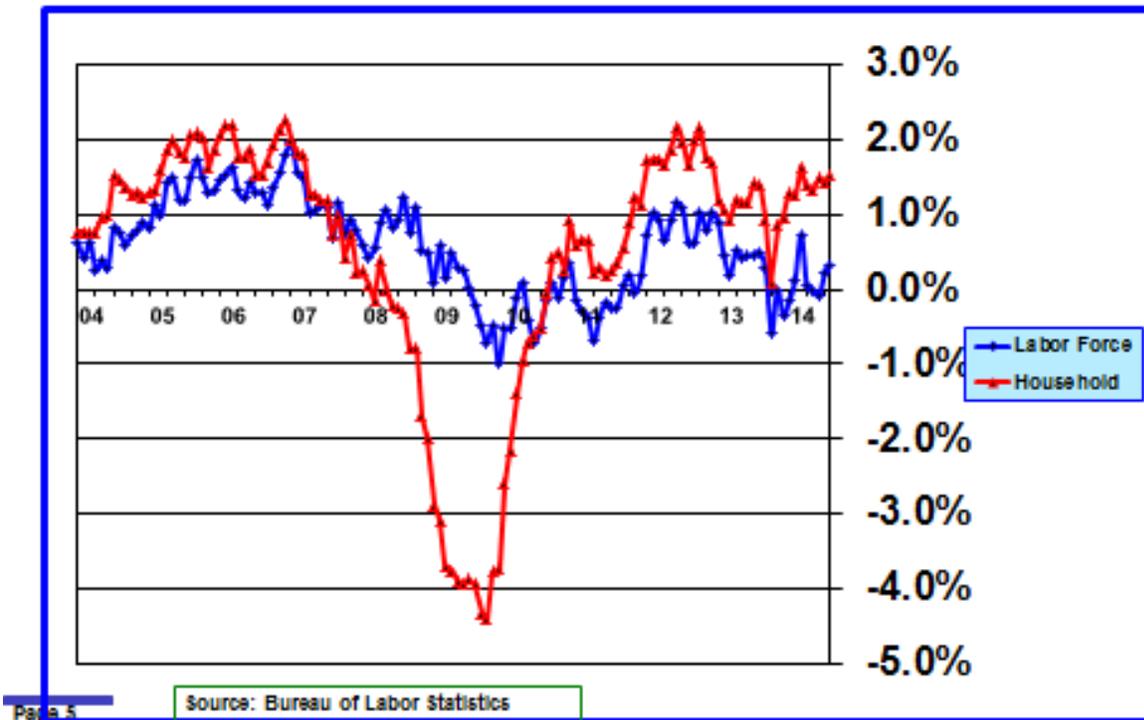
tends to exceed household employment growth during recessions and the reverse is true during economic expansions. The difference between the number of workers in the labor force and the number employed equals the number of unemployed workers — the U-3 measure of unemployment reported by BLS. Thus, when employment growth exceeds labor force growth, as typically occurs during economic expansions, the unemployment rate falls. Certainly, this has been the case since 2010.

Notice also that there is a moderate cyclical oscillation in labor force growth over the economic cycle, rising during expansions and falling during recessions. This oscillation is caused by changes in labor force participation.

Normally, labor force growth rises during expansions, as can be seen over the period 2004-2007, implying that participation is improving relative to its long-run trend. However, as can be seen in **Chart 5**, beginning in 2013 the growth rate in the labor force began to slow. Not only did it slow to CBO's long-term trend level of 0.5 to 0.7 percent, labor force growth has been less than the long-term trend level, rising at a rate of 0.16 percent annually since October 2012. This means that the labor force participation rate is declining more rapidly than the long-term assumptions underpinning CBO's estimate. In fact, over this 22-month period, the labor force participation rate has declined from 63.74 percent to 62.83 percent.

In recent months the apparent collapse in labor force growth and with it the plunge in the participation rate has engendered considerable debate. Slower or no growth in the labor force, if sustained for any length of time, would result in a smaller economy — both the level and the growth rate in real GDP would be less. In addition, there are monetary policy implications. If the decline in the participation rate is permanent (structural), rather than temporary (cyclical), the labor market will return to full employment at a lower

CHART 5 – Labor Force and Employment Growth
(annual rate of change)



level of employment. A tightening labor market could result in wage acceleration and unleash inflation if the Federal Reserve is slow to tighten monetary policy by raising interest rates.

3. Three Components of Labor Market Slack

As long as significant amounts of slack persist in the labor market there will be limited upward pressure on wage rates and on inflation. The question, however, is one of how much slack exists in the labor market. A related question is one of how fast that slack will disappear. If there is a great deal of slack and it will only decline slowly, then monetary policy should be very accommodative for an extended period of time. But, if slack is small and declining rapidly, then policy should be tightened sooner than later to prevent a potential surge in inflation. To get policy right it is important to find answers to the two questions of how much slack exists in the labor market and how fast is it likely to diminish. Unfortunately, there are no clear answers to either of these questions.

There are three components of labor market slack. The first is the U-3 *unemployment rate* reported monthly by BLS. This rate counts the number of workers who are eligible to work but who report they do not have a job but are looking for one. This is the measure that traditionally has been used to assess the degree of labor market slack. It is also the measure that the Federal Reserve targeted until the March FOMC meeting. The August U-3 unemployment rate was 6.15 percent, which was only marginally higher than CBO's potential short-term unemployment rate of 5.74 percent and CBO's potential long-term unemployment rate of 5.50 percent.

But there are two other components of the labor market that impact the amount of slack. The second component is the *participation gap*. This gap includes workers who are eligible to work but who are underemployed or have dropped out of the labor force and are not looking for work. Many of these workers will reenter the labor force or move from part-time to full-time employment as jobs become easier to find and employment slack diminishes. Such workers are often referred to as “discouraged”, although the connotation of “discouraged” in this context is considerably broader than the BLS’s definition of discouraged workers.

While there are various ways of counting discouraged workers, there is no universally accepted measure of the participation gap. The absence of an unequivocal metric has led to debate as to the actual number of discouraged workers who will eventually reenter the labor force. Some discouraged workers might never reenter the labor force or find a full-time job because they no longer have the necessary skills (skills mismatch) or employers are reluctant to hire them because they have been out of work for a long time (stigma).

BLS reports the U-6 unemployment rate, which provides partial, but not complete information about the participation gap. The U-6 rate adds underemployed workers, which includes involuntary part-time workers (4.7 percent of the labor force currently) and marginally attached workers (1.4 percent of the labor force currently), to the U-3 unemployment rate. The U-6 unemployment rate in August was 12.0 percent compared to 12.7 percent in March. The decline in the U-6 measure of unemployment from March to August was almost entirely due to the decline in the number of unemployed workers from 10.46 million to 9.51 million. The number of underemployed workers fell slightly from 9.58 million to 9.42 million.

Involuntary part-time workers are those who are working part time but want to have a full-time job. Marginally attached workers do not have a job currently and are not looking for one, but are available to work and have actually looked for work sometime during the previous 12 months. BLS includes those it defines as “discouraged” workers in its measure of marginally attached workers.

There is a third component of labor market slack and that is the *hours gap*. An hours gap exists when employed workers are working fewer hours than they would like to work. Much of this phenomenon is picked up in BLS’s U-6 measure of involuntary part-time workers. But the U-6 measure is probably incomplete to the extent that some workers do not report that they are involuntary part-time workers but who would be willing to work more hours. Typically, employers cut back on overtime and even on regular time during recessions before terminating employees. The reverse occurs as the economy improves as employers increase hours and employ more part-time workers before committing to full-time hires.

It is likely that each of these measures of labor market slack will have some impact on wage increases but that does not necessarily imply that each has similar relative importance.

While the decline in the U-3 unemployment rate implies a rapidly tightening labor market, measures of underemployment have not improved materially. Considerable slack remains in the labor market.

4. Unemployment Rate — Duration of Unemployment

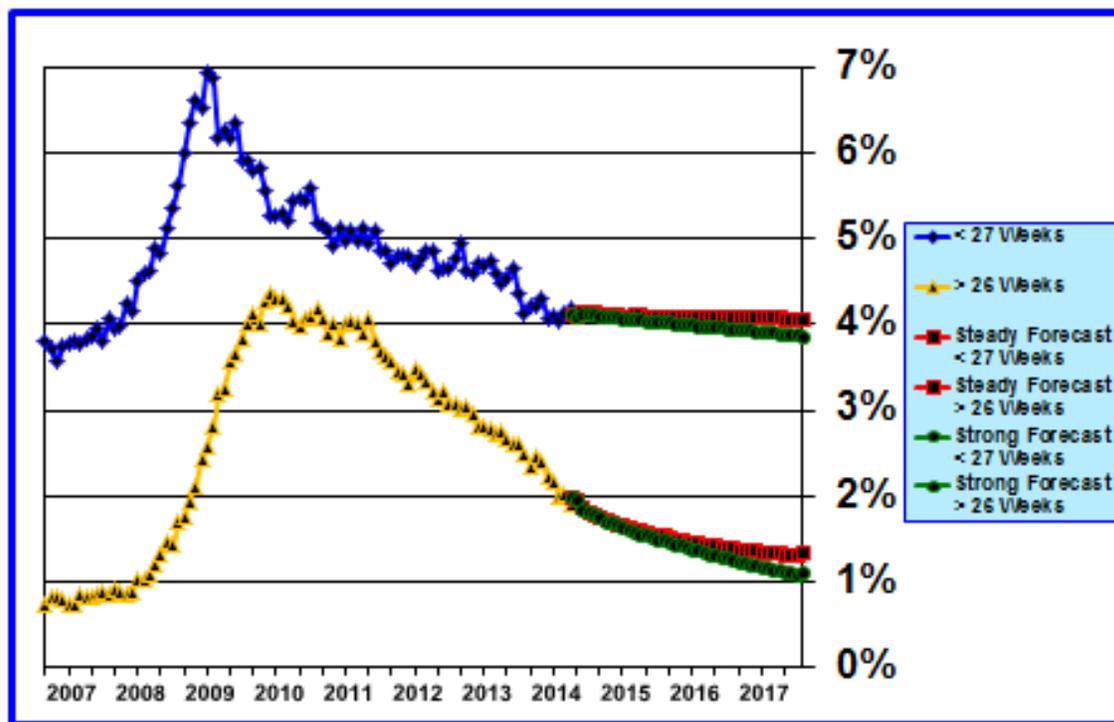
To add further complexity to the issue of how to measure labor market slack, BLS reports the duration of unemployment for several categories of the first component of labor market slack — U-3 unemployed workers.

Some argue that the measure of short-duration unemployment, defined as the percentage of the labor

force willing to work that has been unemployed for fewer than 27 weeks, is a better measure of labor market tightness than the U-3 total unemployment rate. The rationale behind this argument is that those unemployed for more than 26 weeks are less likely to find jobs either because their skills have atrophied (hysteresis) or because of stigma (employers are reluctant to hire long-term unemployed persons). Thus it is asserted, many of the long-term unemployed will eventually stop looking for work and drop out of the labor market and, furthermore, they will not return when it becomes easier to find a job. If that is the case, then the labor market is tighter than implied by the conventional U-3 unemployment rate.

Chart 6 divides the U-3 unemployment rate into two unemployment rates — one for short-duration unemployment and one for long-duration unemployment. The short-duration unemployment rate is almost back to its pre-Great Recession level. It averaged 3.81 percent in 2007 compared to 4.16 percent over the last eight months. In contrast, the long-duration unemployment rate averaged 0.81 percent in 2007 compared to 2.19 percent over the last eight months.

CHART 6 – Unemployment Rate – Duration of Unemployment: Actual and Forecasts



Page 6

Chart 6 also shows my forecasts for the short-duration and long-duration unemployment rates. The short-duration unemployment rate changes little in the forecasts indicating that it has, indeed, returned to a “normal” labor market level. However, the long-duration unemployment rate continues to decline, but very gradually. The sum of the two forecast unemployment rates equals the forecast total unemployment rate, which reaches 5.39 percent by December 2017 in the “*Steady Growth*” scenario (4.08 percent short-duration and 1.31 percent long-duration) and 4.98 percent in the “*Strong Growth*” scenario (3.89 percent short-duration and 1.09 percent long-duration).

Now, if the argument that the short-duration unemployment rate is a more reliable measure of inflation

risks has merit, then the recent trend in that rate implies that there is little remaining slack in the labor market. The implication is that the FOMC better get busy and start raising interest rates before inflation gets up a head of steam. At first blush the argument sounds plausible, if one accepts the assumption that the long-duration unemployed are not a factor in wage rate determination.

It is a hypothesis that thus far lacks definitive statistical proof. The presumed imminent risks are not visible in historical economic cycles. But, perhaps this time is different because elevated long-duration unemployment has not persisted for such an extended period of time in previous cycles.

Statistical analysis, which includes both the total unemployment gap and the short-duration unemployment gap separately, indicates that core PCE inflation should rise in coming months, but the increase is moderate and tops out at about 2.3 percent in 2015. Alternatively, statistical analysis which includes only the total unemployment gap, projects an increase in core PCE inflation to a peak of approximately 2.0 percent in 2015. **Table 9** below includes core PCE inflation forecasts for 2015, 2016, and 2017 for both statistical versions.

It is unclear which statistical specification of the core PCE inflation rate should result in better forecasts. Forecasts using only the total unemployment gap are more similar to those of **B of A** and **GS** than those that also include the short-term unemployment gap. Perhaps most importantly, federal funds rate and 10-year Treasury interest-rate forecasts are only a few basis points higher when the short-term unemployment gap is included in the forecast of core PCE inflation. This finding suggests that whether the short-term unemployment gap is considered or not considered in the forecast of core PCE inflation may have very little impact on the conduct of monetary policy.

Thus, although I do find evidence that the short-duration unemployment rate matters, its forecast impact on core PCE inflation is modest and its impact on interest rates is negligible. Both sets of forecasts are not materially different from existing consensus expectations.

Expect to hear more arguments about structural unemployment and inflation risks as the monetary policy debate shifts from tapering quantitative easing to speculating about the timing of interest rate increases. However, the initial flurry of discussion about the potential impact of the rapid decline in the unemployment rate and especially the decline in the short-term unemployment rate already appears to have ebbed. Perhaps that had to do with considerable analysis that pointed out flaws in the so-called linkage of the short-term unemployment rate to the inflation rate. Or perhaps the unexpected substantial decline in the 10-year Treasury rate from 3.04 percent at the beginning of 2014 to 2.59 percent on September 19 reinforced market expectations that inflation will remain subdued for a long time and will rise only gradually.

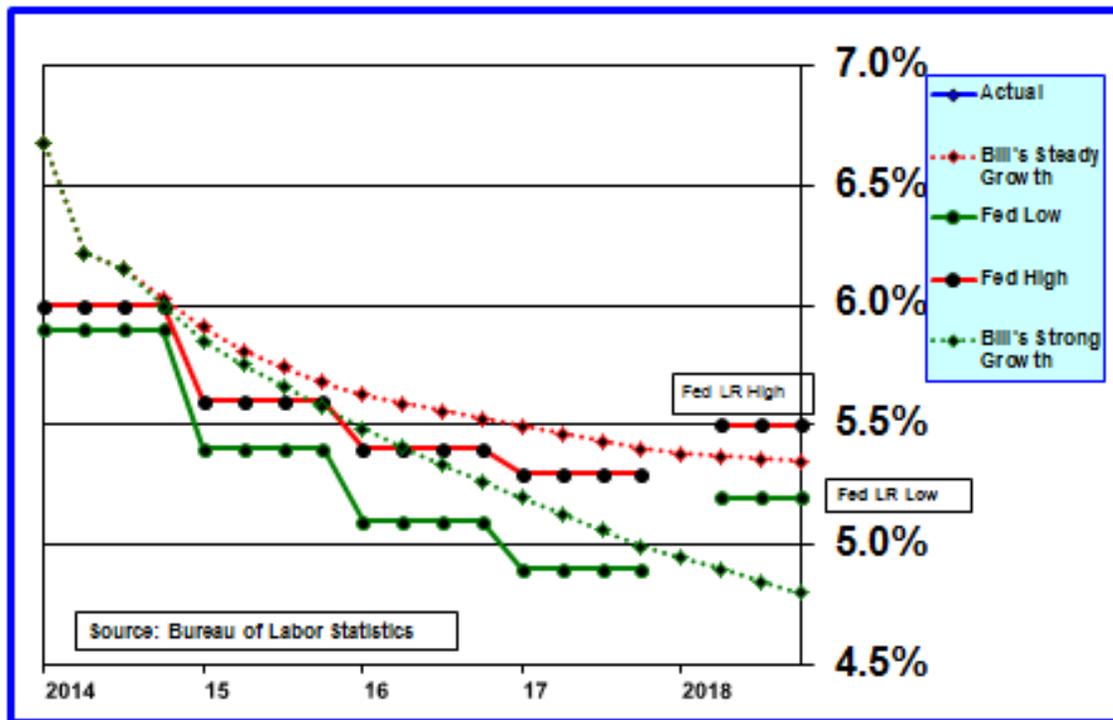
5. Outlook for the U-3 Unemployment Rate

The unemployment rate has declined from 6.68 percent at the beginning of 2014 to 6.15 percent in August.

Chart 7 shows the FOMC's high (red line and circles) and low (green line and circles) unemployment rate projections for 2014, 2015, 2016, and 2017.

I have included in **Chart 7** unemployment rate forecasts for both my "**Steady Growth**" (red dotted line and diamonds) and "**Strong Growth**" (green dotted line and diamonds) scenarios. The "**Steady Growth**" unemployment rate forecast tracks slightly above the FOMC's high unemployment rate projections. Note that the "**Steady Growth**" forecast is in the center of the FOMC's long-term stable unemployment rate range in 2018. The "**Strong Growth**" unemployment rate forecast tracks the higher

CHART 7 – Unemployment Rate
(quarterly average)



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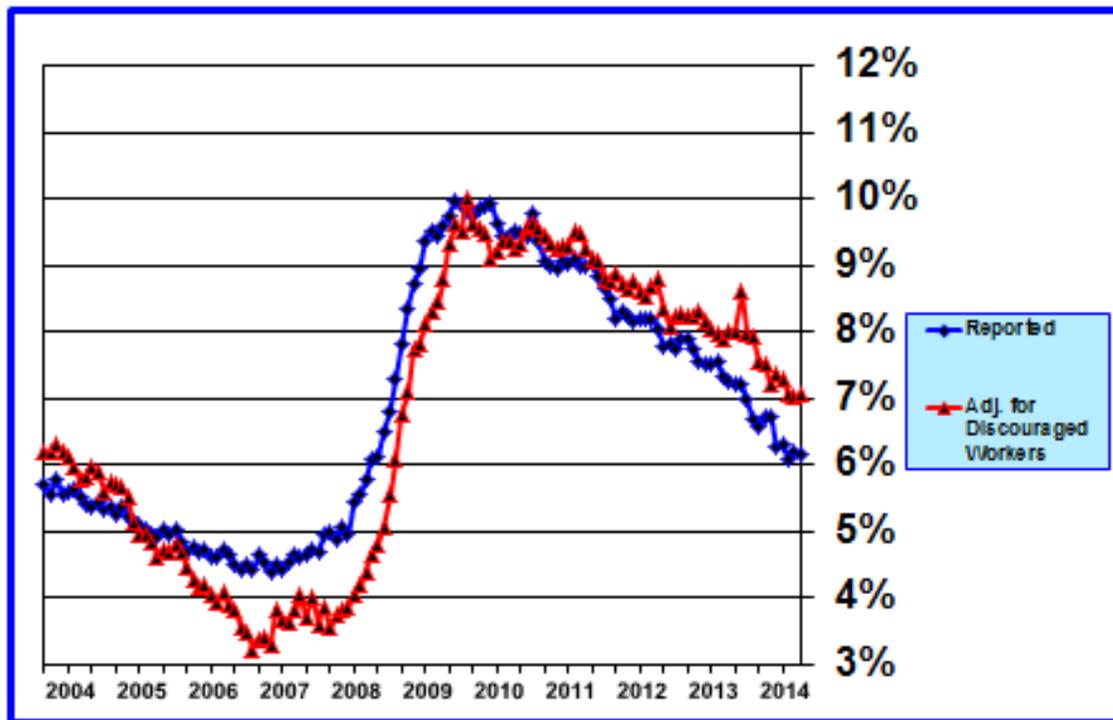
end of the FOMC’s range in 2014 and 2015 and then moves to the middle of the range in 2016 and 2017.

6. Discouraged Workers — Participation Gap

Chart 8a shows the historical relationship between the BLS U-3 unemployment rate and an alternative measure I calculate that includes an estimate of what the unemployment rate would be if discouraged workers are included. The alternative measure is adjusted for demographic trends, such as the aging of baby boomers. The difference in the two measures in August was 0.90 percent or 1.4 million discouraged workers who have dropped out of the labor force and are not counted as unemployed. Over the past 22 months, the number of “discouraged workers” has ranged from 512,000 to 2.2 million and averaged 1.2 million. The data clearly are highly volatile. That is because the data used to calculate the U-3 unemployment rate are volatile as pointed out in the discussion of the labor force above.

Again, the question under debate is whether “discouraged” workers will reenter the labor force as the economy improves or whether a portion of them will never return. There is no shared consensus as to the answer to this question. It appears from the August data that the number of discouraged workers might be shrinking, down about 750,000 since October 2013 to 1.4 million.

CHART 8a – Reported Unemployment Rate & Adjusted for Discouraged Workers



Page 3

7. Hours Worked — All Private Employees and Production & Non-Supervisory Employees — Hours Gap

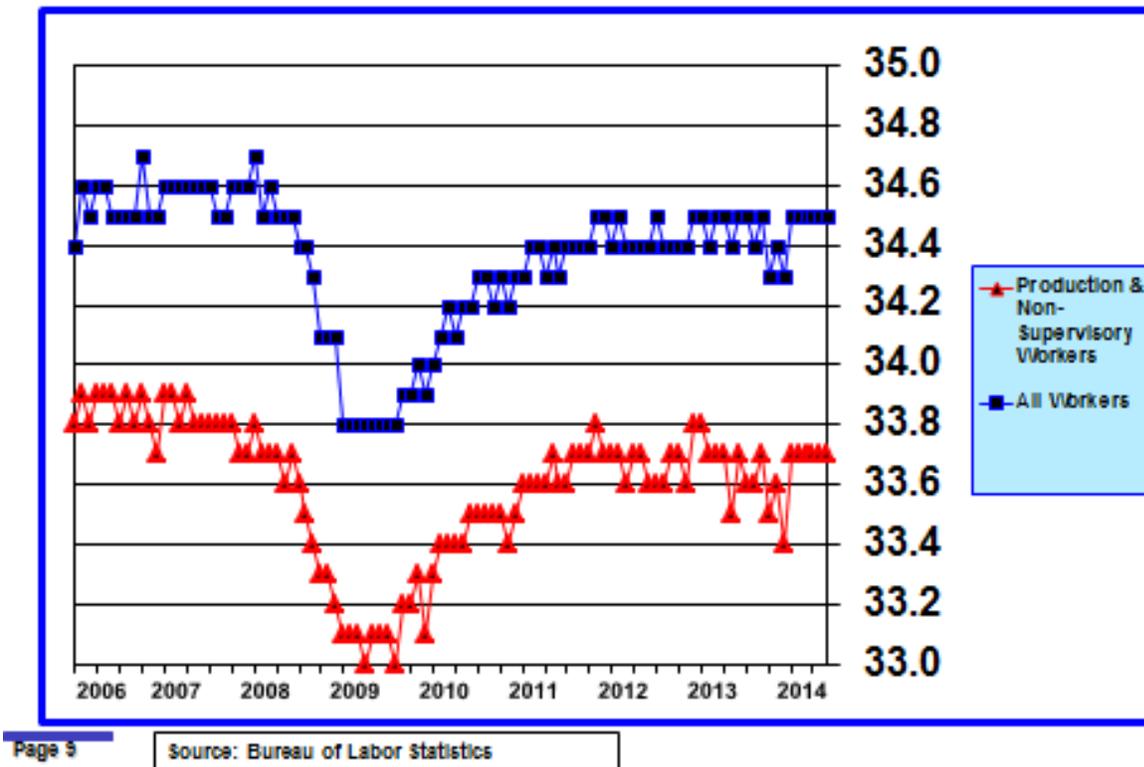
Average weekly hours are reported each month in the BLS Employment Situation Report for all private sector employees and for production and non-supervisory employees. The more inclusive “private sector employees” data series begins in March 2006; data for “production and non-supervisory employees” goes back to 1964.

Average weekly hours cover both full-time and part-time workers and include overtime hours. Hourly data for production and non-supervisory employees have trended downward over the 50 years these data have been reported as the proportion of part-time workers has increased. Hours worked also fluctuate cyclically as employers cut down on hours first when economic conditions deteriorate and only later terminate employees. The cyclical pattern is clearly evident in **Chart 8b** during the Great Recession. The rebound in hours worked following the Great Recession did not quite reach the pre-Great Recession level, which is indicative of a further increase in the proportion of part-time workers.

Secular trends and cyclical fluctuation patterns for both hourly data series are similar.

Average weekly hours worked for all employees dipped from 34.5 in November to 34.3 in February due to severe winter weather but returned to 34.5 in March and have remained at that level since then. Typically, a decline in the length of the work week is an indication of a weakening labor market as employers cut down on overtime and rely to a greater extent on part-time employees. The 12-month average peaked at 34.46 hours in November and has fallen only slightly to 34.45 in August. These data indicate the trend in

CHART 8b – Average Weekly Hours
(All Workers; Production and Non-Supervisory Workers)



hours worked is stable.

Average weekly hours worked for production and non-supervisory workers peaked at 33.8 in February and March 2013, dipped to 33.4 in February, but rebounded to 33.7 in March and have remained at that level since then.

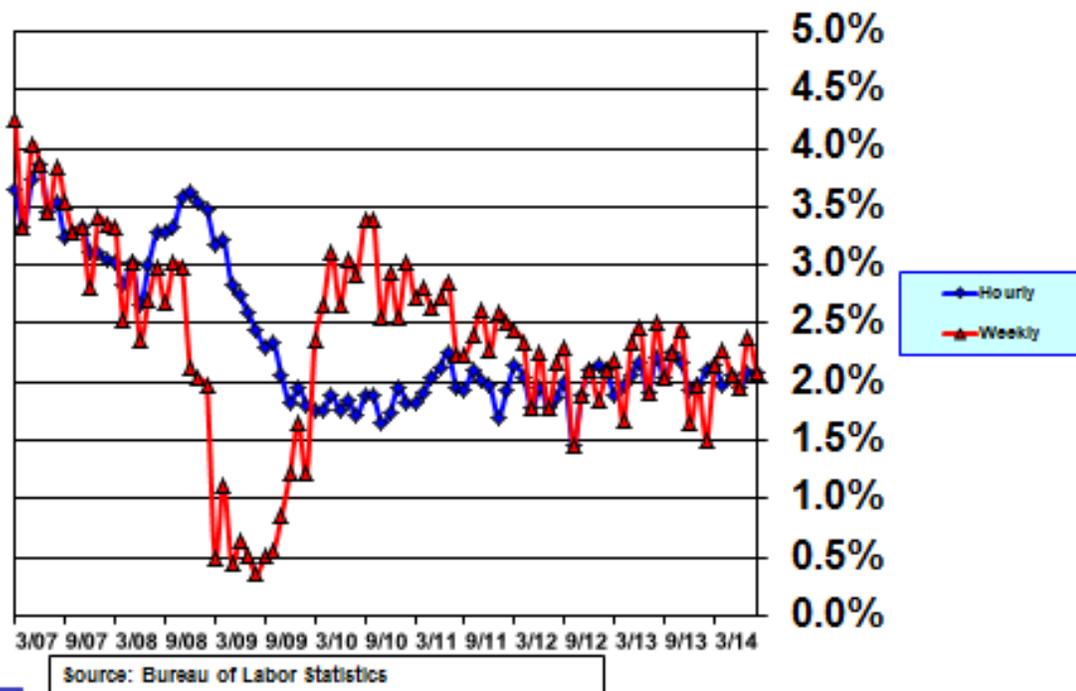
8. Growth in Hourly and Weekly Wages — All Private Employees and Production and Non-Supervisory Workers

Growth in hourly wages is an important measure of labor market strength. An increasing rate of growth in hourly wages would be evidence of a tightening labor market in which labor, particularly in scarcer job categories, is gaining more bargaining power. Given the uncertainty about just how tight the labor market is becoming, even small increases in wage rate growth could point to incipient inflationary pressures.

Weekly average wages fluctuate more than average hourly wages over time due to cyclical oscillations in the number of hours worked. This pattern is clearly evident in **Chart 9** with the plunge in average weekly wages for all private employees during the Great Recession and the rapid rise during the ensuing recovery. However, since the beginning of 2012, the growth rates for both hourly and weekly wages have been similar, which is indicative of relative structural stability in the labor market.

As can be seen in **Chart 9**, the rate of growth in hourly wages for all private employees has fluctuated in a narrow band in the vicinity of 2.0 percent for the last four years. This is good news because the

CHART 9 – Hourly and Weekly Wages – All Workers
(annual rate of change)



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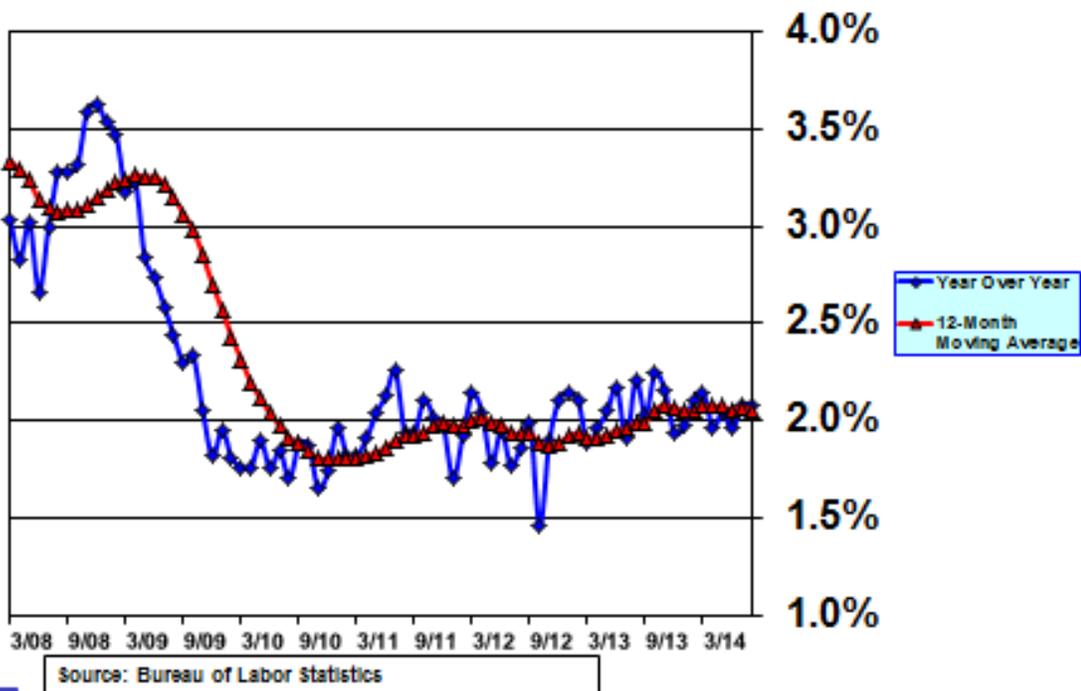
large output gap and high unemployment rate, which have persisted for several years, have not put further downward pressure on average wage rate growth for all private employees.

Chart 10 shows annual changes in hourly wage rates (diamonds and blue line) and a 12-month moving average (triangles and red line) for the same data series. The moving average smooths month-to-month changes and makes it easier to discern trends. The annual growth rate in hourly wages for all workers bottomed at 1.81 percent in January 2011. Over the last three and a half years, the growth rate has edged up to 2.06 percent, but has been stuck at that level since last October. The year-over-year change in the hourly wage rate was 2.08 percent in August and is not signaling an imminent upside breakout in the 12-month moving average.

Recently, attention has focused on another BLS wage rate data series, which shows that wages of production and supervisory workers have been rising over the last 22 months (see **Chart 11**). Production and non-supervisory workers comprise 82.7 percent of total private employees and consist predominantly of lower skill, lower paid jobs. Over the cycle wages of this subgroup are much more volatile, rising more during good times and falling more during bad times. Much of this cyclical volatility is caused by changes in the mix of jobs. The wage rate data series for all production workers is impacted to a much lesser extent by a changing job mix, which makes it a more stable and reliable indicator of wage trends.

This is the data series that those who emphasize potential inflation risks focus on. The assertion is that an upturn in wages for production and nonsupervisory workers leads an upturn in wages for all workers. **B of A** conducted extensive statistical analysis of this hypothesis and found no evidence to support it. There was no correlation, on a lagged basis, between this measure of wages and any other labor cost or inflation

CHART 10 – Hourly Wage Rate Growth – All Workers (annual year over year and 12-month moving average rates of change)



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measures. Indeed, **B of A** believes that this measure of wages “... *is arguably the least reliable of labor cost measures.*” That is because this data series does not calculate hourly wage rates directly but derives an estimate by dividing total earnings by the number of hours worked. **B of A** believes that the wage data for all workers is much more reliable and the employee cost index is an even better measure because it includes benefits, which amount to 30 percent of total compensation, as well as cash compensation and it uses fixed employment weights so that it is not affected by shifts in the mix of jobs over the cycle.

According to **B of A**, wage pressures are unlikely to develop for a considerable time.

First long-term unemployment matters. It is still elevated and is likely to diminish very slowly.

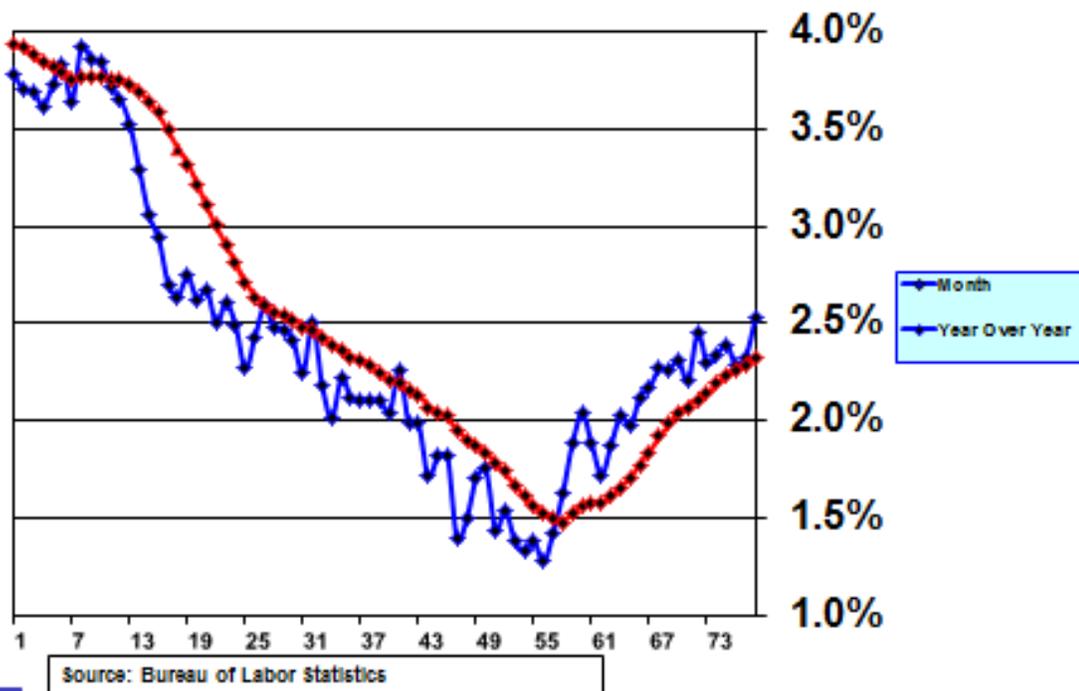
Second discouraged workers, those marginally attached to the labor force, and involuntary part-time workers are a source of excess labor supply that will maintain downward pressure on wages.

Third research indicates that wage and price inflation respond very slowly and with a lag to a tightening labor market.

Fourth at approximately a 2.0 percent current growth rate, rising wages would boost consumption and strengthen the economy without triggering inflationary pressures. Wage growth would need to approach 3.5 percent before there would be any material impact on inflation.

In any event, the annual rate of increase in the hourly wage rate for production and non-supervisory workers has risen from approximately 2.30 to 2.50 percent over the last ten months. Furthermore, the

CHART 11 – Hourly Wage Rate Growth – Production and Non-Supervisory Workers
(annual year over year and 12-month moving average rates of change)



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rate of increase is still below the historical level of 3.5 to 4.0 percent which typically accompanies full employment. It is at that level, and not before, that inflation becomes a concern.

As is discussed in **Section IV** below, personal and disposable income growth do not yet show clear signs of acceleration. Thus, even though there is some evidence that wages are beginning to rise, it is premature to conclude that inflation is a near-term concern. This also implies that a data-driven FOMC is more likely to take longer to raise the federal funds rate than to accelerate the timing of the first increase. And, that is exactly what the most recent FOMC policy statement and remarks by Chairman Yellen have made clear.

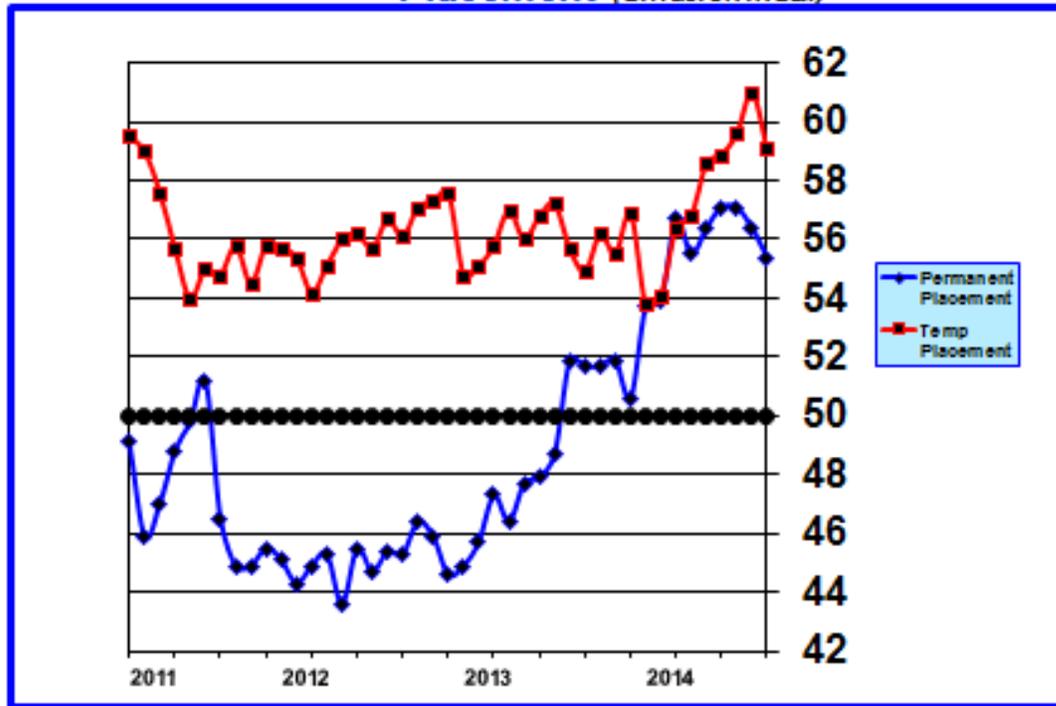
9. Temporary and Permanent Employment Surveys

ISI conducts a weekly survey of “Temporary” and “Permanent” placement companies’ employment activity and also a survey of “Temporary” and “Permanent” employee placement wage pressures.” Both surveys use a diffusion index methodology which means that a reading above 50 indicates increasing employment activity and increasing wage pressures.

Chart 12 shows that temporary employment placement activity has been relatively strong over the last three years, with no discernible trend until early this year when temporary placement activity began to accelerate. However, the rising trend may have been broken in September.

Permanent employment placement activity contracted steadily until the third quarter of 2013. Since

CHART 12 – Temporary & Permanent Employment Placement (diffusion index)



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Source: ISI Company Surveys

then activity has not only been rising but the pace increased during 2014 until August when activity softened slightly. These surveys provide solid evidence that conditions in the employment market have gotten considerably better in the last few months.

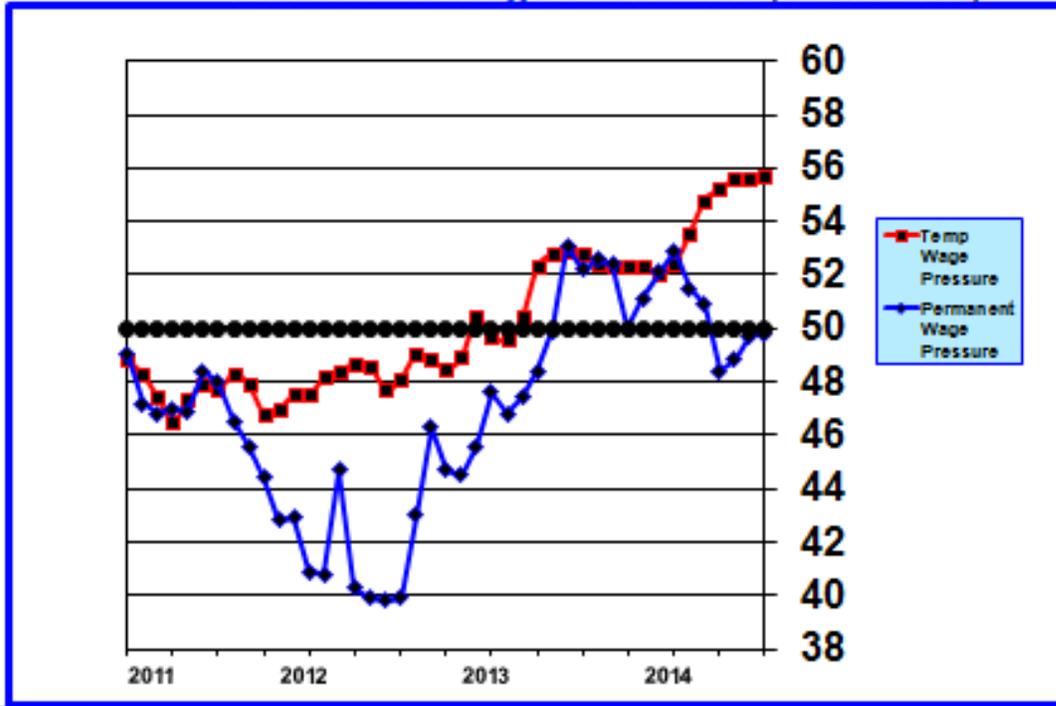
Chart 13 indicates that there was consistent downward pressure on temporary employee wages until the beginning of the third quarter of 2013. The same was true to an even greater extent for permanent employee. Wage pressures for permanent employees began in the fourth quarter of 2013, have moderated during 2014. In contrast, wage pressures for temporary workers continue to rise.

Both **Charts 12** and **13** are signaling that the labor market has improved in the last few months and support forecasts of accelerating real GDP growth in 2014. But neither chart supports a conclusion of a rapidly tightening labor market.

IV. Consumer Income and Spending

Interpreting personal income and spending data is always challenging. The data are revised substantially over time, which means that what might appear to be a trend when monthly data are first reported may well be revised away or reversed later on. In addition, policy anomalies can skew reported data from month to month, sometimes to a considerable extent. For example, at the end of 2012 personal income, consumption expenditures, disposable income were impacted by decisions to optimize tax burdens in anticipation of changes in federal tax rates. This led to a substantial increase in reported personal income in late 2012

CHART 13 – Temporary & Permanent Employment Placement Wage Pressures (diffusion index)



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Source: ISI Company Surveys

and a corresponding reduction in early 2013. Tax increases that took effect in January 2013 also negatively impacted disposal income.

The latest policy development that has had a substantial impact is the implementation of the Affordable Care Act, which has temporarily boosted both personal income and consumer spending. As a consequence, growth rates of both will increase temporarily and this will make it more difficult to interpret underlying trends.

Some, but not all, of these impacts are diminished by presenting the data in **Table 6** as 12-month moving averages. 12-month moving average data are presented in the three right-most columns of **Table 6**, while year over year data are presented in the three left-most columns.

1. Impact of the Affordable Care Act

Subsidies from the Affordable Care Act boosted personal income by \$19.3 billion in January, \$11.4 billion in February, and \$6.5 billion in March. Overall, these subsidies raised personal income \$37.2 billion in the first quarter.

Consumer spending initially increased \$40.5 billion due to increased Medicaid coverage and subsidies to pay for insurance premiums for low-income individuals and families. But this 0.9 percent boost to first quarter spending was subsequently reversed to 1.4 percent decline. However, there is reason to believe that the revisions went too far in the opposite direction and that health care spending will be revised upwards

Table 6
Percentage Change in Nominal Personal Income and Its Disposition for 2012, 2013, July 2014; 12-Month Moving Average for 2012, 2013, and July 2014

	2012 Pct. Change Dec 11-Dec 12	2013 Pct. Change Dec 12-Dec 13	Pct. Change July 13 - July 14	Pct. Change Dec 2012 12-Month Moving Average	Pct. Change Dec 2013 12-Month Moving Average	Pct. Change July 2014 12-Month Moving Average
Personal Income	8.96%	-2.07%	4.31%	5.19%	2.53%	2.82%
Compensation	6.74%	0.75%	4.92%	3.98%	3.06%	3.58%
Proprietors' Income	8.40%	3.44%	3.92%	10.24%	6.24%	3.84%
Rental Income	8.42%	10.03%	7.56%	10.43%	11.54%	9.67%
Asset Income	24.43%	-15.49%	1.58%	9.08%	1.40%	0.03%
Government Transfers	3.12%	2.14%	4.60%	1.73%	2.75%	3.41%
Less: <i>Personal Taxes</i>	9.73%	9.02%	5.36%	5.79%	12.47%	7.82%
Disposable Income	8.62%	-3.05%	4.22%	4.88%	1.55%	2.36%
Less: <i>Consumption</i>	3.79%	3.88%	3.60%	3.58%	3.58%	3.64%
Personal Saving	79.50%	-61.90%	15.74%	25.09%	-11.59%	-17.05%
Personal Saving Rate	6.88%*	5.41%*	4.95%*	7.17%	5.32%	5.01%
Adj. Personal Income [#]	8.81%	-1.06%	4.42%	5.03%	3.35%	3.31%

*Saving rate for last month in the 12-month period

[#]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.

in second quarter data.

Essentially, the impact of the Affordable Care Act on economic activity is like a tax rebate that is fully spent immediately. The increase in personal income is a transfer payment and was offset by a corresponding increase in consumer spending. Both measures increased in the first quarter and boosted the measured rate of growth in both cases. While these changes in income and spending are permanent, their impact in boosting growth rates is temporary. The impact is to temporarily raise growth rates in income and consumer spending by about one percentage point.

There will be additional impact during the second quarter, which should be nearly as great as in the first quarter, and then, again, at the start of 2015 and 2016, assuming enrollment increases further in each year.

Over the longer run, the Congressional Budget Office (CBO) estimates that full implementation of the Affordable Care Act could decrease labor force participation by as much as 1.5 to 2.0 percentage points as the current incentive to work until age 65 to retain employer health care benefits, until Medicare eligibility kicks in, is replaced by Affordable Care Act health coverage. CBO's assumption is that workers covered by the Affordable Care Act will retire sooner than they would without this coverage.

2. Percentage Changes in Personal Income and Disposable Income Y/Y for December 2012, December 2013, and July 2014 and 12-Month Moving Average for December 2012, December 2013, and July 2014

Table 6 shows data which compare same-month year-over-year percentage changes for December 2012, December 2013, July 2014, and also the 12-month moving averages for December 2012, December 2013, and July 2014.

Growth in personal income and disposable income was much weaker in 2013 than it was in 2012. This difference was due almost entirely to increases in tax rates at the beginning of 2013. Changes in the payroll tax rates in recent years have distorted the growth rate in personal income. That is because payroll taxes are netted from personal income. That doesn't affect the growth rate in personal income if the payroll tax rate remains constant. However, Congress reduced the tax rate in 2011 and then returned it to its original rate in 2013. The bottom line in **Table 6**, labeled "Adj. Personal Income", shows what the growth rate in personal income would have been in each period, if the payroll tax rate had never been changed.

Because timing of income recognition accelerated in December 2012 to minimize the consequences of 2013 tax increases, the best sense of trend can be seen from the December 2012, December 2013, and July 2014 12-month moving averages, adjusted for the change in payroll taxes. Adjusted personal income grew 5.03 percent in 2012, declined to 3.35 percent in 2013, and stabilized at a low level of 3.31 percent in July 2014. The decline in disposable income growth from 4.88 percent in December 2012 to 1.55 percent in December 2013 with a modest rebound to 2.36 percent in July 2014 was obviously much greater and reflects the impact not only of increased payroll taxes, but also the increase in personal income tax rates. While income growth was gyrating, consumption growth was relatively stable — 3.58 percent in 2012, 3.58 percent in 2013, and 3.64 percent through July 2014.

Beginning with January 2014 data, the effect of tax increases disappears in the year-over-year same-month comparisons and will phase out of the 12-month moving average over the next 12 months.

Although it is hard to draw any definitive conclusions from these noisy data, it appears that growth in nominal personal income, adjusted for tax rate changes, is stuck at a very low level. This seems consistent with the slow recovery of the labor market and relatively static wage growth.

3. Consumption

Moving average data in **Table 6** indicate that the growth rate in consumer spending has exceeded disposable income growth over the last two years, which means households have reduced their saving rate to maintain consumption.

Forecasters generally expect consumption growth to accelerate in 2014. This is an easy call because the drag on consumption growth from higher taxes has gone away. However, how much consumption growth accelerates beyond that will depend upon five additional factors. At least through July there is no evidence yet that consumption growth is accelerating.

First employment will need to continue increasing substantially each month. So far in 2014 employment growth is running about 20,000 ahead of 2013's monthly pace.

Second wage growth will need to rise. As the labor market tightens, this will eventually happen but there is a very good chance that hourly wage growth will remain at approximately 2.0 percent in

2014 or edge up, at most, to 2.25 percent. Although growth in hourly wages appears to be rising for production and nonsupervisory workers, this trend has yet to surface in the broader-based all employee wage survey.

Third the saving rate would have to continue to decline. It has already declined from 7.17 percent in 2012 to 5.01 percent in July 2014. The normal tendency, however, would be for households to rebuild savings as disposable income growth accelerates. This would result in a higher saving rate and slower growth in consumption. However, pent-up demand, coupled with increased consumer optimism and easier access to consumer credit, could lead to a further decline in the saving rate and an acceleration in consumption growth. Consumer optimism has recently improved modestly but remains at a low level. Credit conditions for revolving credit are easier, but access to mortgage and second equity credit remains tight.

Fourth increases in wealth need to continue. 2013 was a good year both in terms of significant increases in financial asset wealth and housing wealth. The lagged effects of wealth increases will support consumer spending in 2014. However, stock prices have increased more slowly so far in 2014 and housing price increases are slowing down.

Fifth as discussed above, consumer spending was boosted in the first quarter by implementation of the Affordable Care Act. This effect will continue at least through the second quarter.

All-in-all consumer spending seems likely to accelerate as 2014 wears on. However, consumer spending growth has fallen short of forecasts made at the beginning of the year. Forecasts for 2015 and 2016 have also been reduced but may still prove to be optimistic (see **Table 4**).

4. Nominal Disposable Income and Spending

Chart 14 shows the nominal rate of growth in disposable income and consumer spending from 2004 to the present. Growth rates are calculated as the rate of change in the 12-month moving average on a year-over-year basis. This method smooths timing anomalies, 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 nominal disposable income began slowing in late 2011 and declined from 5.0 percent in November 2011 to 1.0 percent in December 2013. Now, as the effects of the 2013 tax increases slowly exit from the moving average computation, disposable income growth has rebounded to 2.4 percent in July 2014.

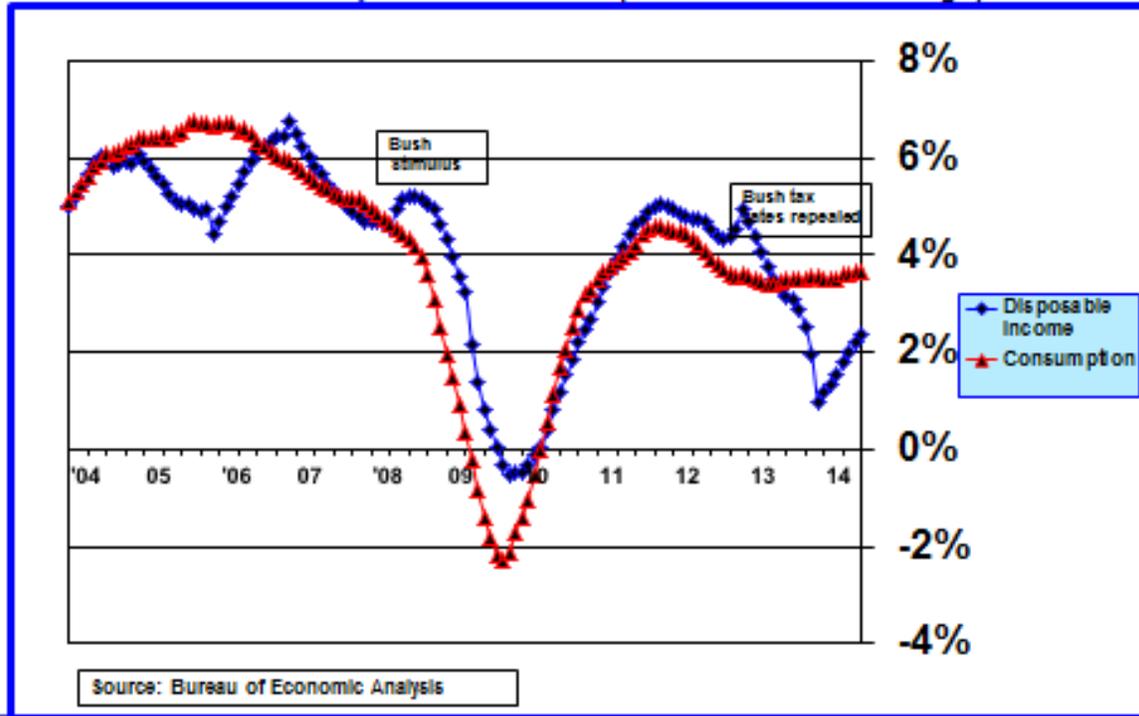
Chart 14 shows that growth in consumer spending, after peaking at 4.6 percent in October 2011, slowed to 3.4 percent in May 2013. Consumption growth has grown modestly to 3.6 percent over the last 16 months.

5. Outlook for Nominal Disposable Income and Spending

As can be seen in **Chart 15**, forecast nominal consumer disposable income growth continues to rise during the remainder of 2014 to 3.7 percent. After the end of the year, the effect of higher tax rates no longer impacts the growth rate.

Chart 15 shows the forecast for the “*Steady Growth*” scenario. The forecast for the “*Strong Growth*” scenario follows the same pattern, but the level of growth is higher. In the “*Steady Growth*”

CHART 14 – Nominal Disposable Income and Consumption Growth (12-month rate of change)



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scenario, nominal disposable income growth is 3.4 percent at the end of 2017 and nominal spending growth is 3.7 percent. Both growth rates are approximately 70 to 80 basis points higher in the “*Strong Growth*” scenario due both to stronger growth but also because of higher inflation.

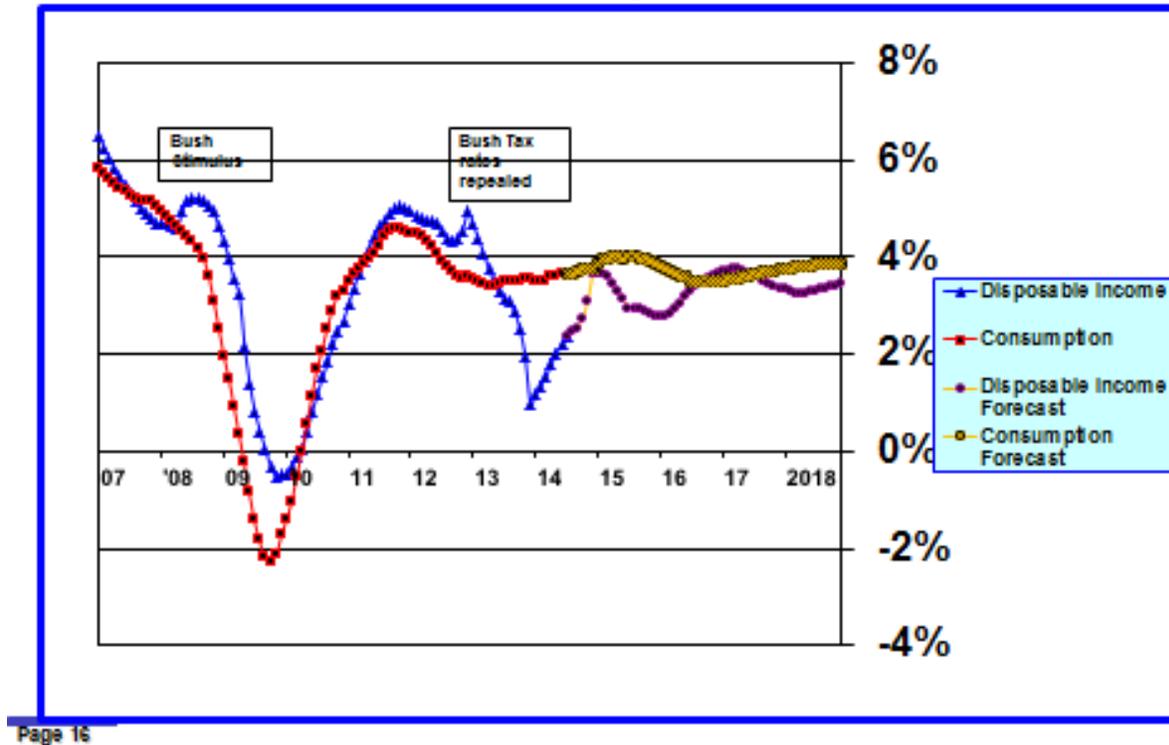
6. Real Consumer Spending Forecasts

Chart 16 shows forecasts for quarterly real consumer spending growth at an annualized rate.

Bill’s “*Steady Growth*” scenario forecasts much weaker real consumer spending growth in 2015, 2016, and 2017 than either **GS** or **B of A**, but converges to **GS**’s forecast in 2018. Bill’s “*Strong Growth*” forecast parallel’s **B of A**’s forecast and is actually above **GS**’s forecast after the middle of 2015 (also see Table 4).

In summary, at the beginning of 2014 there were four arguments for stronger consumer spending in 2014 and, therefore, strong real GDP growth. First, the tax rate increase shock will no longer be a factor. Second, households’ balance sheets have been cleaned up, which opens up borrowing capacity. Third, hiring is relatively strong and firing is declining as reflected by the decline in new unemployment claims. Fourth, there is some evidence that wage rates are beginning to rise and a tightening labor market should lead to a more rapid increase in wages. It is now evident that the forecast was too optimistic. First, households apparently did not reduce spending when tax rates went up so there was no reason to boost spending a year later. Second, consumer credit has been more readily available, rising at an annual rate of 6.7 percent year-over-year through June compared to 5.6 percent in 2012-2013. But, the much larger

CHART 15 – Forecast Nominal Disposable Income and Consumption Growth – Steady Growth (12-month rate of change)



category of residential home equity and mortgage credit has yet to rebound. Third, employment has been a positive factor, but, fourth, wages have yet to rise much.

GS expects real consumer growth to edge up to 2.5 to 3.0 percent in coming quarters due to strong employment growth, favorable revisions to health care spending data, and increases in stock and housing wealth. However, all-in-all growth in consumer spending has continuously fallen short of expectations. Accordingly, forecasts for 2015 and beyond, which have already been trimmed back, may still be too optimistic.

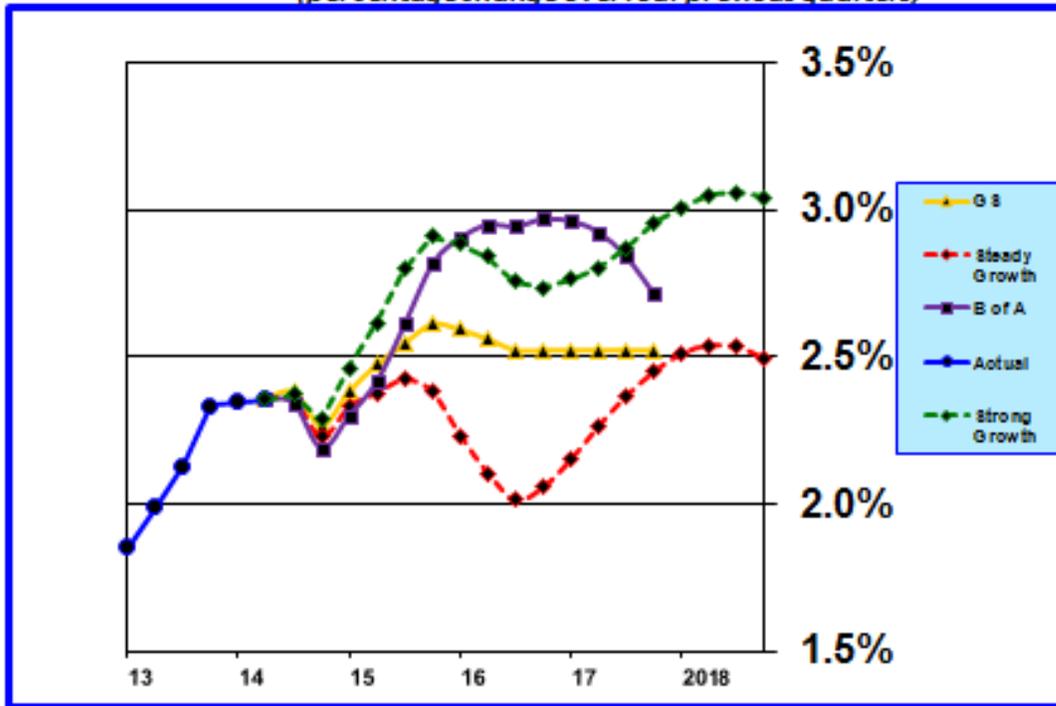
7. Consumer Confidence

Measures of consumer confidence have been mixed with some moving sideways during 2014 and some showing improvement. None have declined.

The **University of Michigan's** consumer sentiment index rose to 84.6 in September from 82.5 in August. This measure continues to oscillate in a narrow band and remains at a relatively low level compared to typical values recorded during an economic expansion. Expectations rose to 75.6 from 71.3, while current conditions were down slightly to 98.5 from 99.6. Both sub-indices have moved sideways this year.

According to the **Conference Board** consumer confidence increased to 92.4 in August, which is the strongest level since October 2007. The labor differential, which is considered to be a good indicator of the

CHART 16 – Real Consumer Spending Growth - Forecast
 (percentage change over four previous quarters)



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strength of the labor market, improved to -12.4 percent from -15.3 percent in July. This means that there are more who believe jobs are hard to get than those who believe jobs are easy to get, but the differential is narrowing.

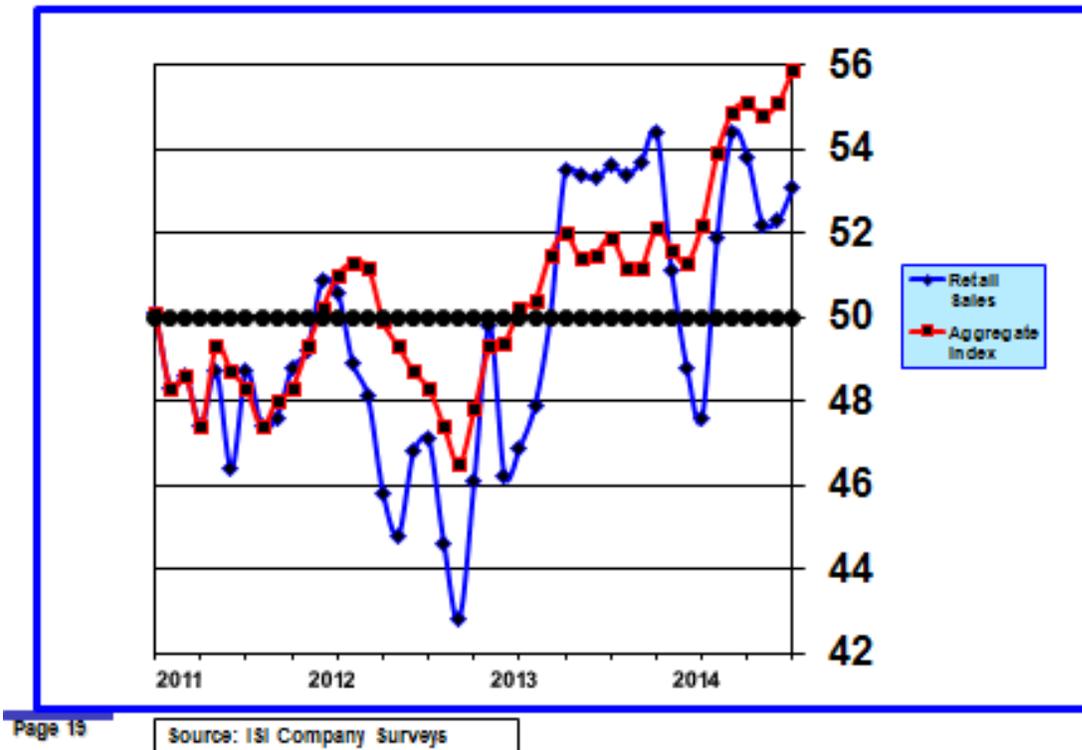
Rasmussen’s 7-day average consumer confidence measure rose once again to a post-Great Recession high of 108 in early September. It has touched that level several times in the last two years and each time has fallen back. This measure has now fallen to 102 as of September 15.

Chart 17 indicates that **ISI’s** weekly company surveys have now clearly broken out to higher ground and continue to improve. The significance of the recent breakout lies in the fact that it is the strongest this measure has been since 2006, well before the beginning of the Great Recession. The dip in retail sales, due to severe winter weather in early 2014, is clearly visible in **Chart 17**.

V. Business Activity

Business activity, both manufacturing and services, is positive but is indicative of a slowly growing economy. Business investment has been disappointing and actually declined in the first quarter, but may accelerate in coming months.

CHART 17 – Aggregate Index & Retail Sales (diffusion index)



1. Recent Developments

Until recently, manufacturing was one of the few bright spots in an otherwise lackluster economic recovery. Other indicators are now perking up, while manufacturing is getting stronger. The **ISM Manufacturing Index** is the traditional measure of manufacturing strength. That index remains firmly in expansion territory and has strengthened in recent months to 59.0 in August.

The ISM production sub-index rose to a very strong 64.5 in August. The new orders sub-index jumped to 66.7, while the employment index was a robust 58.1. Manufacturing remains a steady contributor to economic growth.

Similarly, the **ISM Non-Manufacturing Index** indicates steady expansion in services. The index was a strong 59.7 in August.

GSAI (Goldman Sachs Activity Index) was 64.7 in August, which continues the series of very strong months that began in November 2013. The employment index rose to a very robust 69.6 in August. A value above 50 means expansion. This measure indicates that business activity is not only strong but gaining momentum.

Small business optimism (**NFIB — National Federation of Independent Business**) has been inching upwards all year but remains well short of the level typical during the expansion part of the business cycle. The aggregate index reached 96.1 in August. Although this measure remains at an historically depressed level, it is now at the highest level since 2007. According to NFIB, "... from the small business

perspective, there continues to be no progress on their top problems: cost of health insurance, uncertainty about economic conditions, energy costs, uncertainty about government actions, unreasonable regulation and red tape, and the tax code.”

2. Shortfall in Private Investment Spending and Low Productivity

Private investment, which includes both residential and business investment, has grown at only a 0.2 percent annual rate over the last six years since the onset of the Great Recession. This compares to 3.5 percent annually over the previous 25 years from 1973 through 2007. Lack of investment has added a year to the age of the capital stock, which now averages 21.7 years.

Table 7 shows historical growth rates in private investment and forecasts for 2014, 2015, and 2016. (Note: private investment includes residential and nonresidential investment and net change in inventories. Data in **Table 5** exclude estimates of the net change in inventories, which accounts for the difference in the forecasts in **Tables 5** and **7**.) It is evident that **B of A’s** and **GS’s** forecasts of private investment growth in 2015 and 2016 greatly exceed the historical averages. There is no doubt that a capital investment boom is needed to catch up from the lack of investment over the last six years. But, recent investment deficiencies do not guarantee that an investment boom will materialize.

Table 7
Private Investment Growth Rates — Historical and Forecasts
(B of A, GS, Bill’s “Steady Growth”, and Bill’s “Strong Growth”)

	1973-2007	2008-2013	1973-2013	2014	2015	2016	2014-2023
Historical	3.53%	0.19%	3.03%				
B of A				5.55%	8.07%		
GS				5.11%	7.59%	7.38%	
Bill’s Steady Growth				5.67%	5.18%	2.56%	2.70%
Bill’s Strong Growth				6.01%	8.25%	5.60%	3.72%

There is a general belief that large corporations are awash in cash which could at any time be quickly put to work financing new investment initiatives. During the economic recovery much of this cash has been deployed into nonproductive uses such as share buybacks, dividends, and mergers and acquisitions. These activities fall into the category of financial engineering. They can boost share prices, but they do not contribute to expansion of economic activity.

In a world of repressed interest rates, courtesy of FOMC easy monetary policy, the risk-adjusted rate of return on capital is simply inadequate to prompt significant investment activity. This is a demand feature. But, it is reinforced on the supply side by tight underwriting standards that are a legacy of the Great Recession, tighter regulatory capital and liquidity requirements for banks, and closer prudential supervision.

In remarks to the American Economic Association in early January, former Federal Reserve Chairman, Ben Bernanke, noted that productivity recently has been disappointingly weak for reasons that are “not entirely clear.” He mentioned some possible reasons including the impact of the Great Recession on credit

availability, slow growth in sales revenues, mis-measurement, or unspecified long-term trends. Notably, he did not mention the possibility that the FOMC's own policy of depressing long-term interest rates may be contributing to the investment shortfall and miserable productivity gains.

The potential rate of real GDP growth depends importantly on the level of productivity. And, higher productivity depends on robust investment spending. However, both private and public investment spending has been extremely weak. In the case of private investment spending the depressed risk-adjusted rate of return on capital incents firms to deploy cash in financial engineering, which returns capital to investors, rather than pursue new capital projects. The shortfall of public investment is simply the result of budget deficit anxiety and significant cutbacks in government spending.

It is interesting that economists do not agree on the repressive effects of quantitative easing on capital investment. In fact, it is argued by many, including FOMC participants, that lower interest rates, particularly on safe assets, should induce greater investment spending. The mystery to them, as Chairman Bernanke notes, is finding a reason why this has not happened. What we do know with certainty is that quantitative easing depresses the long-term discount rate on financial assets and in so doing boosts their nominal value. Stock market investors do very well and paper wealth is created. However, this increase in paper wealth is not translating into greater capital investment.

To be fair, part of the rationale for quantitative easing is intentionally to create financial wealth with the expectation that this will increase consumer spending. Then, as consumer spending increases, sales revenues will improve and firms will be less hesitant about investing cash and borrowing funds to finance capital investment projects. In this way, it is argued, quantitative easing helps accelerate economic recovery.

But, as is so often the case in economics, the supply and demand dynamics are complicated and what appear to be simple logical explanations of what should happen overlook or misunderstand the complexity of these dynamics. But with the passage of time we can assess outcomes and look back and better understand consequences of policy actions.

It may turn out that quantitative easing, which is intended to accelerate economic recovery, has contributed in a meaningful way to a sustained lower potential rate of real GDP growth by discouraging investment necessary to boost productivity. So, although FOMC officials may not understand why the long-run potential rate of growth is declining, they have acknowledged the reality by steadily reducing the median of the central tendency range of long-term real GDP projections from 2.7 percent in January, 2011 to 2.1 percent at the March, 2014 meeting. That low value is consistent with CBO's analysis and mine as well. But, unless investment activity increases significantly, even today's lowered expected potential rate of real GDP growth could prove to be too optimistic.

3. GS's Case for Much Higher Nonresidential Capital Investment Spending Has Yet to Materialize

GS has been more optimistic than I have been that investment spending will increase substantially over the next few years. While **GS** has been too optimistic, I have been too pessimistic. There is little difference in forecast investment growth in 2014, shown in **Table 7**, between **GS** and myself. **GS's** forecast investment growth in 2015 is similar to Bill's "*Strong Growth*" scenario, but greatly exceeds Bill's forecast in 2016. While **GS** has been premature in expecting higher investment growth, it continues to expect strong growth to kick in as the economy improves and slack diminishes.

GS has supported its optimism with detailed analysis.¹

In its analysis, **GS** cited four factors that impact business investment spending: (1) increased economic activity and less fiscal drag; (2) reduced market and policy uncertainty; (3) market value of capital assets exceeds replacement value; and (4) mean-reversion — underinvestment should be followed by catch up investment. **GS** has created a capital expenditure leading indicator based on surveys of capital spending intentions. It has also constructed a forecast model based on the following variables: (1) current consumption growth; (2) one-year lagged consumption growth; (3) policy uncertainty index; (4) stock market price-to-book ratio; and (5) investment's share of total GDP.

Collectively, these two analytical methodologies pointed to acceleration in nonresidential investment spending to approximately 7 percent in 2014. But first quarter results were not kind to **GS's** analysis. **GS** has now revised its growth forecast and expects business investment spending to grow 5.1 percent in 2014. What this about face points out is that models based on past patterns do not necessarily result in good predictions, especially if structural changes have occurred in the economy. Again and again during the recovery from the Great Recession, forecasts have turned out to be overly optimistic as past cyclical patterns have proved to be unreliable forecasting guides.

Both **GS** and **B of A** have accepted the reality that 2014 will not be the year that investment spending takes off. But both remain optimistic about 2015 and 2016. Hopefully, their optimism will prove accurate, but a healthy dose of skepticism is in order.

Indeed, three cautions are in order. First, growth in consumer spending is a critical catalyst. The increased growth rate in consumer spending **GS** forecasts is by no means certain. It will depend upon the strength of the labor market and gains in wages. Second, the predictive reliability of **GS's** forecast model diminishes quickly over time. Third, as is the case for all forecasts based on models fitted with historical data, the reliability of the forecast depends upon the historical structural relationships remaining essentially unchanged in the future. The model does not accommodate potentially significant structural changes such as more restricted access to credit or less attractive expected rates of return on investment relative to the cost of financing. Thus, if the relationships in the model have changed in fundamental ways, the model will have little predictive power.

The explanation of much weaker than expected business investment spending may simply be, as GaveKalDragonomics recently opined: “... *with demand growth still just muddling through, it is too early to bank on a significant rebound in capex growth.*” GaveKal noted that the most reliable indicator of investment spending is corporate revenue growth which leads investment spending growth by two quarters. While profit growth has been very strong, revenue growth has not. This measure is not included in **GS's** analysis. GaveKal observed that there was no pickup in revenue growth in first quarter corporate earnings reports and concluded that “lackluster” capital spending growth is likely to continue.

VI. Monetary Policy and Interest Rates

The FOMC met on September 16 and 17. Contrary to speculation that the FOMC would change the “considerable time” language, the Committee made no substantive changes to its monetary policy statement.

¹Kris Dawsey. “Keeping the Faith in Cap-ex Recovery,” US Economics Analyst, Global Investment Research, The Goldman Sachs Group, Inc., Issue No: 14/10, March 7, 2014.

1. FOMC Assessment of the Economy

In the September statement the FOMC noted that “... *economic activity is expanding at a moderate pace.*” With respect to the labor market, the Committee noted that “*the unemployment rate is little changed.*” It reiterated what it said in July that “...*a range of labor market indicators suggests that there remains significant underutilization of labor resources.*” As for inflation, the Committee simply acknowledged that “*Inflation has been running below the Committee’s longer-run objective.*”

While the overall tone was constructive about progress, the language in the statement made it clear that the Committee remains concerned about the significant amount of slack that remains in the economy and particularly in the labor market.

2. FOMC Policy Statement

There were no substantive changes in the policy statement.

As expected the Committee stated that purchases of Treasury securities and mortgage-backed securities will terminate in October.

3. FOMC Economic Projections

Member economic projections for 2014, 2015, and 2016 were updated at the September FOMC meeting and projections were added for 2017 (see **Table 8**).

- **GDP** projections were reduced for 2014 and 2015. The 2017 GDP projection is quite modest and not much above the longer-run range, which was also reduced a bit. The FOMC no longer can be accused of being overly optimistic as has been the case for most of the time since the Great Recession ended.
- **Unemployment rate** projections were marked to market with small reductions. The range for 2017 is actually below the longer-run full-employment range. This means that FOMC members expect the economic expansion to be mature by 2017 and it implies that tight monetary policy might be in order, although the interest rate projections, usually referred to as “the dots,” don’t indicate that to be the case since the average federal funds rate projected for 2017 is slightly below the longer-run average rate.
- **PCE Inflation** projections changed little. Importantly, the initial projection range for 2017 is little different from the longer-run 2.0 percent target.
- **Core PCE Inflation** projections changed little and converge with PCE Inflation projections in 2017.
- **Federal Funds Rate** projections rose in 2015 and 2016 and are near the longer-run steady state rate in 2017. Although Chair Janet Yellen downplayed the significance of the dots, absent other substantive news in the policy statement, many interpreted the increases as implying that rates will move up a little faster. However, the forward yield curve did not change much and remains below the trajectory implied by the dots.

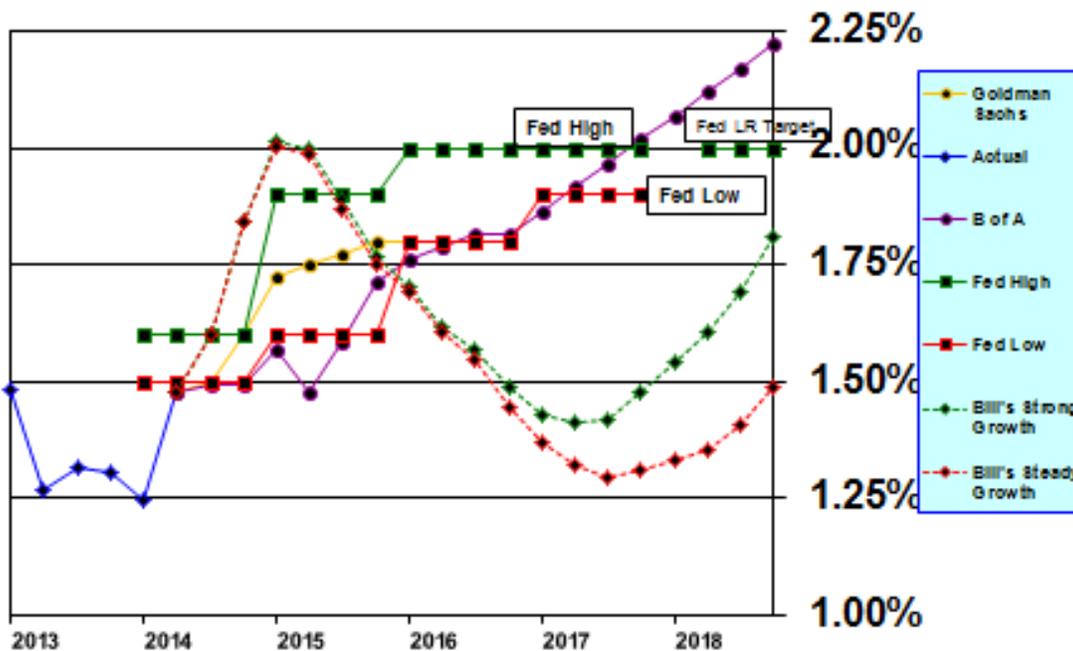
Table 8
Economic Projections of Federal Reserve Board Members And Federal Reserve Bank Presidents, June 2013

Variable		Central Tendency				
		2014	2015	2016	2017	Longer Run
Real GDP %	Sep	2.0 - 2.2	2.6 - 3.0	2.6 - 2.9	2.3 - 2.5	2.0 - 2.3
	June	2.1 - 2.3	3.0 - 3.2	2.5 - 3.0		2.1 - 2.3
	Mar	2.8 - 3.0	3.0 - 3.2	2.5 - 3.0		2.2 ? 2.3
	Dec	2.8 - 3.2	3.0 - 3.4	2.5 - 3.2		2.2 - 2.4
	Sep	2.9 - 3.1	3.0 - 3.5	2.5 - 3.3		2.2 - 2.5
	June	3.0 - 3.5	2.9 - 3.6			2.3 - 2.5
	Mar	2.9 - 3.4	2.9 - 3.7			2.3 - 2.5
	Dec	3.0 - 3.5	3.0 - 3.7			2.3 - 2.5
Unemp. Rate %	Sep	5.9 - 6.0	5.4 - 5.6	5.1 - 5.4	4.9 - 5.3	5.2 - 5.5
	June	6.0 - 6.1	5.4 - 5.7	5.1 - 5.5		5.2 - 5.5
	Mar	6.1 - 6.3	5.6 - 5.9	5.2 - 5.6		5.2 - 5.6
	Dec	6.3 - 6.6	5.8 - 6.1	5.3 - 5.8		5.2 - 5.8
	Sep	6.4 - 6.8	5.9 - 6.2	5.4 - 5.9		5.2 - 5.8
	June	6.5 - 6.8	5.8 - 6.2			5.2 - 6.0
	Mar	6.7 - 7.0	6.0 - 6.5			5.2 - 6.0
	Dec	6.8 - 7.3	6.0 - 6.6			5.2 - 6.0
PCE Inflation %	Sep	1.5 - 1.7	1.6 - 1.9	1.7 - 2.0	1.9 - 2.0	2.0
	June	1.5 - 1.7	1.5 - 2.0	1.6 - 2.0		2.0
	Mar	1.5 - 1.6	1.5 - 2.0	1.7 - 2.0		2.0
	Dec	1.4 - 1.6	1.5 - 2.0	1.7 - 2.0		2.0
	Sep	1.3 - 1.8	1.6 - 2.0	1.7 - 2.0		2.0
	June	1.4 - 2.0	1.6 - 2.0			2.0
	Mar	1.5 - 2.0	1.7 - 2.0			2.0
	Dec	1.5 - 2.0	1.7 - 2.0			2.0
Core PCE %	Sep	1.5 - 1.6	1.6 - 1.9	1.8 - 2.0	1.9 - 2.0	
	June	1.5 - 1.6	1.6 - 2.0	1.7 - 2.0		
	Mar	1.4 - 1.6	1.7 - 2.0	1.8 - 2.0		
	Dec	1.4 - 1.6	1.6 - 2.0	1.8 - 2.0		
	Sep	1.5 - 1.7	1.7 - 2.0	1.9 - 2.0		
	June	1.5 - 1.8	1.7 - 2.0			
	Mar	1.6 - 2.0	1.8 - 2.1			
	Dec	1.6 - 2.0	1.8 - 2.0			
Federal Funds %	Sep	.29	1.40	2.81	3.67	3.79
	June	.30	1.20	2.53		3.78
	Mar	.30	1.13	2.42		3.88
	Dec	.34	1.06	2.18		3.88
	Sep	.40	1.25	2.26		3.93
	June	.43	1.34			4.01
	Mar	.55	1.30			4.01
	Dec	.61	1.47			4.04

4. Prospects for PCE Inflation

Core PCE inflation was 1.47 percent in July and total PCE inflation was 1.56 percent (see **Chart 18**). Core PCE inflation currently is well below the FOMC’s target level of 2 percent. Inflation has firmed slightly since the start of the year. However, there is no indication that inflation is poised to accelerate. This is confirmed by a variety of forecasts shown in **Chart 18** and **Table 9**.

CHART 18 – Core PCE Inflation Forecasts
(percentage change over previous 12 months)



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Chart 18 compares my core PCE forecast for the “*Steady Growth*” and “*Strong Growth*” scenarios with the FOMC’s projections and **GS**’s and **B of A**’s forecasts.

Table 9 shows **B of A**’s and **GS**’s core PCE forecasts and the FOMC’s high and low core PCE projections. It also shows my core PCE forecasts for my “*Steady Growth*” and “*Strong Growth*” scenarios. In addition, CPI forecasts are shown for Global Insight, Economy.com, and Blue Chip.

As can be seen in **Table 9** (**Chart 18** shows historical core PCE price index data and data from **Table 9** in graphical form), forecasts of the core PCE inflation index indicate that inflation should edge up slowly in 2014 from its 2013 fourth quarter level of 1.3 percent to between 1.5 and 1.8 percent, which is consistent with the FOMC’s 2014 central tendency projection range of 1.5 to 1.6 percent. **GS**’s and **B of A**’s 2015 forecasts track the FOMC’s projection range. My forecasts are higher in 2014 and slightly above the top end of the FOMC’s projection range. In 2015 my “*Steady Growth*” and “*Strong Growth*” forecasts based on only the long-term employment gap track the middle of the FOMC’s projection range, but my forecasts based on both the short-term and long-term employment gaps track slightly above the FOMC’s target of 2.0 percent. In 2016 and 2017 my forecasts based only on the long-term employment gap are

Table 10
Core PCE Inflation Forecasts — B of A, GS, Bill’s “Steady Growth”, Bill’s “Strong Growth” and FOMC High and Low*

Core CPE	2014	2015	2016	2017	2018
B of A	1.5	1.7	1.8	2.0	2.2
GS	1.6	1.8	1.8		
Global Insight#	1.9	1.6	1.6	1.9	2.0
Economy.com#	1.9	2.2			
Blue Chip#	2.0	2.1	2.2	2.3	2.4
Bill’s Scenarios					
Steady Growth LT Unemp	1.8	1.75	1.45	1.3	1.5
Strong Growth LT Unemp	1.8	1.8	1.5	1.5	1.8
Steady Growth ST & LT Unemp	1.8	2.25	2.05	1.9	2.05
Strong Growth ST & LT Unemp	1.8	2.3	2.1	2.0	2.3
FOMC — High	1.6	1.9	2.0	2.0	
FOMC — Low	1.5	1.6	1.8	1.9	

*Inflation rates are average for the fourth quarter of the year.

#CPI: generally is 0.3% to 0.4% higher than PCE.

slightly below the FOMC’s forecast range, while the forecasts that are based upon both the short-term and long-term employment gaps tracks above the top end of the FOMC’s range.

Generally speaking, all forecasts move toward 2.0 percent over time. There appears to be negligible risk of deflation and limited risk of a significant upside breakout in inflation above the 2.0 percent target.

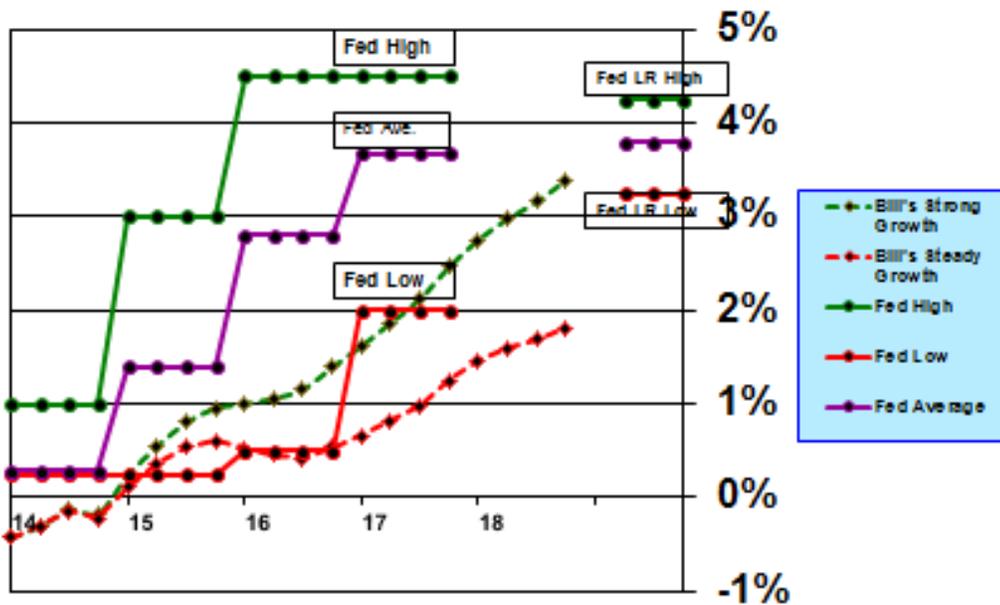
Note that inclusion of the short-duration unemployment rate, which is already close to its long-run normal full-employment level, raises the core PCE inflation forecast by about 50 basis points in 2018. This analysis does not indicate that inflation risks are significant enough for the FOMC to alter the course it has been on. Rather, it reinforces the need to continue to monitor all relevant measures of employment, wages, and inflation and to exercise patience in determining when and how fast to tighten monetary policy.

5. Federal Funds Rate

Chart 19 shows the FOMC’s central tendency range for high and low projections for the federal funds rate for 2014, 2015, and 2016. The purple line (circles) is the average of projections for the current 17 FOMC members (5 governors and 12 presidents). The FOMC’s projections imply that the first increase in the federal funds rate will take place during 2015. However, the median expected federal funds rate is 1.50 percent by the end of 2015 — the average is 1.40 percent. The median end of 2015 projection was only .75 percent as recently as last December’s FOMC meeting.

Most analysts expect the first federal funds rate increase to occur at the June 2015 FOMC meeting to a range of .25 to .50 percent. It has been suggested that the FOMC would raise the federal funds rate range 25 basis points every other FOMC meeting. However, to reach a median of 1.50 percent by the end of 2015 would require the federal funds rate to be raised at every remaining meeting during 2015. The median rate

CHART 19 – Federal Funds Rate Forecast



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at the end of 2016 is 3.0 percent, which would require the federal funds rate range to be raised 25 basis points at six of the eight 2016 FOMC meetings. This is a somewhat more aggressive trajectory than the language in the FOMC’s policy statement implies. But Chair Janet Yellen discounted the importance of the dots and emphasized in the press conference that FOMC policy actions would be data dependent and not on a rigid schedule.

Both **B of A** and **GS** now expect the first federal funds rate increase to occur at the June 2015 FOMC meeting. Indeed, almost all analysts have zeroed in on this date.

My “*Steady Growth*” and “*Strong Growth*” forecasts are shown by the red dotted line (diamonds) and green dotted line (diamonds) in **Chart 19**. My forecasts are consistent with a June 2015 initiation of rate increases. However, my forecasts suggest that the pace of tightening should occur more slowly than implied by FOMC-member dots. My forecast indicate that by the end of 2015 the federal funds rate range should be either .50 to .75 percent or .75 to 1.00 percent rather than 1.25 to 1.50 percent, as implied by the dots. Depending upon how quickly the employment and output gaps, my forecasts indicate that it will take to 2018 for the federal funds rate to normalize in my “*Strong Growth*” scenario and longer than that in my “*Slow Growth*” scenario, primarily because actual GDP growth is too slow to close the output gap.

6. Long-Run Neutral Federal Funds Rate When the Economy is at Full Employment

As the time for the first increase in the federal funds rate nears, the market will focus increasingly on what the level of the *long-term neutral rate* should be. FOMC members' estimates of the neutral rate range from 3.25 percent to 4.25 percent. The median is 3.75 percent and the average is 3.79 percent. The neutral rate is composed of the rate of inflation plus the real rate of interest. Because all members agree that the long-run rate of inflation will be 2.00 percent, this necessarily implies that members believe the real rate of interest will be between 1.25 percent and 2.25 percent.

The neutral rate increases with a higher rate of growth in the labor force and a higher level of productivity. Understanding this should rule out a 2.25 percent real rate for two and possibly three reasons. First, between 1997 and 2007 the nominal federal funds rate averaged 3.82 percent and the PCE inflation rate averaged 1.98 percent. Thus, the real rate was 1.84 percent, already well below 2.25 percent. Second, all agree that labor force growth in the future will be slower, which implies that the real rate should be lower than the 1.84 percent 1997-2007 average. Third, if productivity is lower in the future because of insufficient investment, that would put further downward pressure on the neutral rate. I estimate that for each one percentage point difference in productivity the neutral rate is affected by 0.66 percent. When all of this is put together it points to a long-run neutral real rate that is probably lower than 1.50 percent. My estimate in my "**Strong Growth**" scenario is 1.00 percent. It is much lower in the "**Steady Growth**" scenario. That implies that the neutral nominal long-run federal funds rate would be between 3.00 percent and 3.50 percent (or considerably lower in the "**Steady Growth**" scenario), assuming long run PCE inflation is 2.00 percent.

It should be understood that when the economy is not at full employment, which has been the case since 2007, the neutral real rate is much lower than 1.0 to 1.5 percent. In fact it has been negative for several years and remains negative at the current time. There are several ways of estimating the neutral rate given deviations from employment and inflation targets. **GS** estimates that the neutral rate currently is between -1.2 and -2.1 percent. My estimate is -1.8 percent, which falls within **GS's** range. Of course, it is not possible to push nominal rates low enough when the zero-boundary is binding, which is why highly accommodative nonconventional monetary policy has been warranted for the last several years.

7. 10-Year Treasury Rate

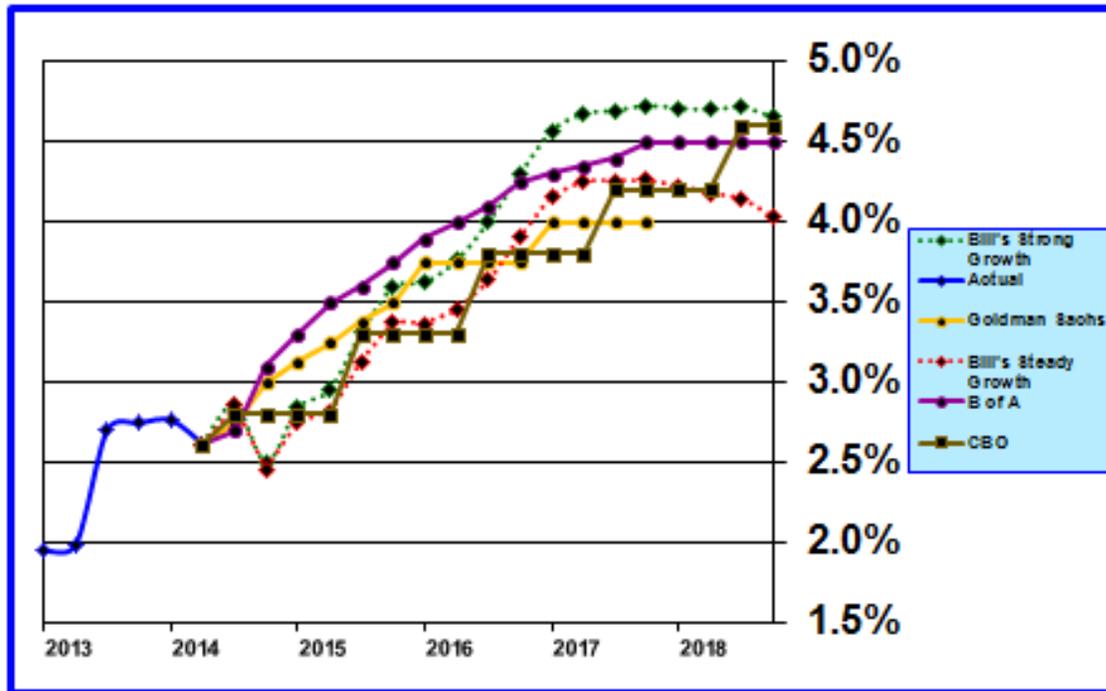
Chart 20 shows forecasts for the 10-year Treasury rate for my "**Steady Growth**" (red dotted line and diamonds) and "**Strong Growth**" (green dotted line and diamonds) scenarios. **GS's** forecast is also shown (yellow line and circles) as is **B of A's** (purple line and circles) and **CBO's** (brown line and squares).

As can be seen in **Chart 20**, my 10-year forecast for the "**Steady Growth**" scenario fluctuates in the vicinity of 3.0 percent through the middle of 2015. After the middle of 2015, the 10-year rate moves up gradually to 4.00 to 4.25 percent by the end of 2018. This is consistent with the pathways forecast by **B of A** and **GS**. The forecast for the "**Strong Growth**" scenario tracks the pattern of the forecast for the "**Steady Growth**" scenario but rises a little faster reaching approximately 4.75 percent by the end of 2018 and follows a pathway very similar to **CBO's** forecast.

What is important to note is that none of these forecasts indicates a surge in the 10-year rate, but rather a steady upward movement as the employment and output gaps gradually diminish.

There is one potential disconnect in the inflation and 10-year Treasury rate forecasts. A long-term inflation rate of 2.0 percent and a long-term interest rate of 4.75 percent imply a 2.75 percent real rate of

CHART 20 – 10-Year Treasury Rate Forecasts



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interest, which would be considerably higher than the historical average. This suggests that the interest-rate forecasts may be too high, or the inflation forecast is too low, or timing lags are involved in the sense that either the inflation rate will move higher or the 10-year rate will move lower after 2018. My own analysis suggests that the third explanation is the relevant one. The real 10-year Treasury yield falls from 2.51 percent in the “*Steady Growth*” scenario in 2018 to 1.66 percent in 2023 and the real yield falls in the “*Strong Growth*” scenario from 2.79 percent to 1.63 percent over the same period. This also implies that once the economy returns to full employment, inflation will not spiral out of control, even in the “*Strong Growth*” scenario, and nominal long-term interest rates will not materially exceed 5.0 percent.

8. Why Are Long-Term Interest Rates Declining?

Since the beginning of 2014 the 10-year Treasury yield has declined 50 basis points. At first blush this appears to be inconsistent with expectations that growth will improve in coming months and that inflation will edge up. There are several possible explanations for this phenomenon.

One explanation has to do with increased pension fund demand for yield. This is simply a supply-demand argument. If demand is increasing and supply is limited, yields must fall.

Another explanation is that the ten-year yield should reflect the full-employment neutral federal funds rate. Increasingly, the market has come to expect that rate will be lower than previously anticipated because inflation is well under control and because real economic growth expectations have diminished. As a result the neutral full-employment federal funds rate is now expected to be lower and that expectation

has pulled down the 10-year Treasury yield.

Yet another risk is the decrease in uncertainty and improved financial conditions in recent months, which reduces the risk premium.

Other reasons include China's reported increase in its purchases of long-duration Treasury securities, which would have the same supply implications as pension fund purchases; geopolitical tensions in the Ukraine leading to safe haven investments in U.S. securities; declining inflation and bond yields in Europe; a more rapid decline in the federal budget deficit; and there are others.

What is common to all of these explanations is that they all point in the same direction — lower long-duration Treasury yields.

VII. Fiscal Policy Developments

Congress has done little on the fiscal policy front in recent months. It has not passed any of the appropriations bills to implement the fiscal years 2014 and 2015 budget agreement reached earlier this year. This means that as the start of fiscal year 2015 on October 1 looms, Congress once again will have to pass a continuing resolution. If it does not, the government would shut down. But, neither political party has any appetite for letting this happen.

As for other fiscal issues, Congress put together a temporary fix in the summer for the highway trust fund, but it expires at the end of the year. It has still not acted on tax extenders, which expired at the end of 2013. Tax reform, although much talked about, will not see action until the next Congress. Perhaps the noisiest recent issue involves tax inversions. But, Congress is also unlikely to take action on that issue until next year. However, it is possible that Democrats might demand action on tax inversions during the lame duck session following the November mid-term elections as a condition for passing either appropriations bills for fiscal 2015 or, more likely, yet another continuing resolution. Tax inversions could also be tied to renewal of tax extenders.

Congress has postponed nearly all tax and spending issues until December. It will be interesting to see how these issues are resolved in the context of the existing spending cap compromise. It will not be easy to reach resolution.

1. CBO's Forecast of the Ten-Year Budget Deficit

In August CBO updated its 10-year outlook for federal revenues, spending, and the deficit.

- Fiscal year 2014 budget deficit rose from \$492 billion to \$506 billion, primarily due to lower expected corporate tax receipts
- Ten-year cumulative budget deficit declined \$422 billion, driven by the impact of lower interest rate projections on debt servicing costs, partially offset by lower tax revenues due to slower economic growth

CBO also revised its economic projections.

- Real GDP growth for 2014 was reduced to reflect actual slower growth realized so far in 2014
- Potential annual real GDP growth was marked down by an average of 5 basis points annually, which lowered 2024 potential real GDP by \$183 billion, or 0.9 percent; slower employment growth accounted for half of the reduction and lower productivity accounted for the other half
- Forecast employment participation was reduced slightly in 2017 and 2018 and is forecast to decline from the current 62.8 percent level to 61.0 percent by the end of 2024
- 3-month Treasury bill rates stabilize at 3.50 percent and 10-year Treasury note rates reach a stable level of 4.70 percent compared to 5.00 percent in CBO’s February forecast

Declining budgetary deficits in the short run have taken the pressure off Congress to deal with longer run fiscal issues — in particular, how to fund burgeoning entitlements. Based upon CBO budget deficit projections, which assume certain expiring expenditures will be extended, there will not be serious pressure on Congress to deal with entitlement spending reforms for another five to ten years.

Chart 21 shows that the budget deficit as a percentage of nominal GDP bottoms out in fiscal 2015 at approximately 2.5 percent. Thereafter CBO forecasts that the deficit will rise to about 3.7 percent by 2023. The deficit increases more rapidly in the “*Slow Growth*” scenario to 3.8 percent in 2023 because nominal GDP grows more slowly. Faster nominal GDP growth in the “*Strong Growth*” scenario results in a budget deficit of 2.7 percent in 2023.

CHART 22 – Publicly Held Federal Debt
(percentage of end-of-fiscal-year nominal GDP)

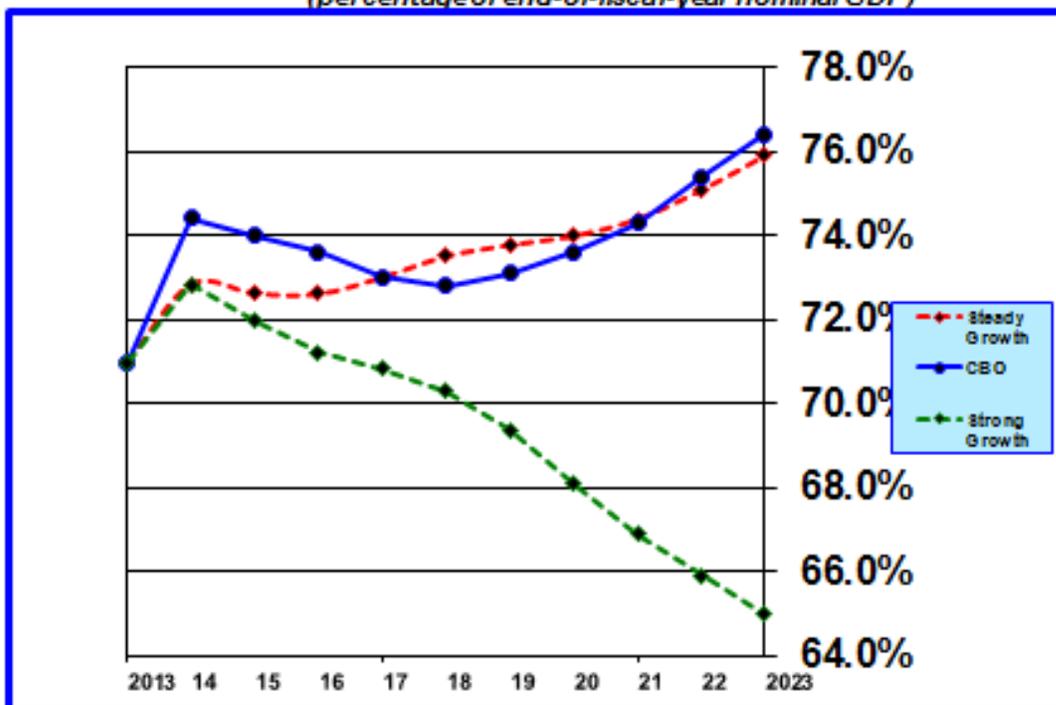
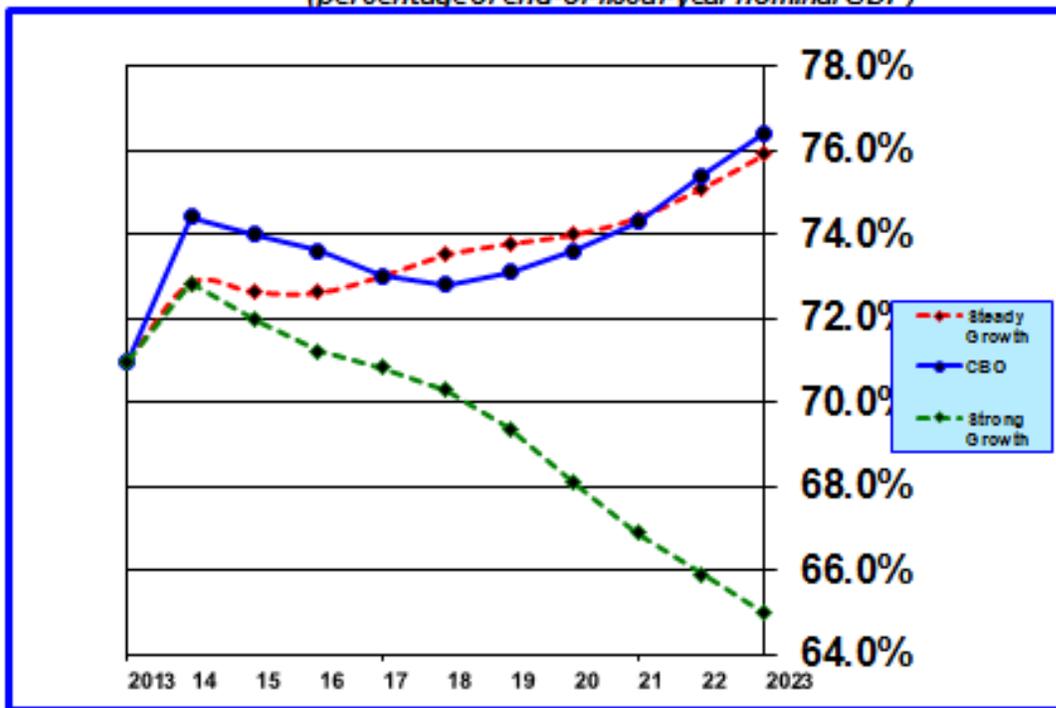


Chart 22 shows the progression of publicly held federal debt as a percentage of nominal GDP over time. CBO’s projection, which is based upon current law, indicates that after a short period of stability, publicly held debt as a percentage of nominal GDP begins to climb and the rate of increase accelerates as time passes. This outcome is a direct consequence of demographics and entitlement programs. Everyone knows that eventually something will have to be done to contain entitlement spending, but it presents an extremely difficult challenge politically. For that reason Congress is likely to continue to delay coming to grips with entitlement spending. The best outcome would be to deal with entitlement spending in conjunction with comprehensive tax reform.

CHART 22 – Publicly Held Federal Debt
(percentage of end-of-fiscal-year nominal GDP)



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The decline in the public debt ratio in the “*Strong Growth*” scenario has to do with faster growth in nominal GDP not only because growth is stronger, which reduces the size of annual budget deficits, but also because inflation is higher, which increases nominal GDP.

2. Fiscal Year 2015 Budget and Continuing Resolution

Although Congress earlier this year agreed to detailed spending caps for fiscal years 2014 and 2015, no appropriation bills have been passed. The federal government is currently operating under a continuing resolution, which covers the 2014 fiscal year which ends on September 30. A new continuing resolution will be needed for fiscal year 2015 or the government will be forced to shut down on October 1.

House Appropriations Committee Chairman Hal Rogers recently released a draft continuing resolution which would fund the government until December 11, 2014. This means that a lame duck session of

Congress after the mid-term congressional elections will have to revisit funding for fiscal year 2015.

While Roger's draft would continue most funding at their current levels, there a few additions. The Export-Import bank would be re-chartered, but only through June 30, 2015. \$88 million is added to address Ebola; \$59 million is included for disability claims at the Department of Veterans Affairs; and the Temporary Assistance for Needy Families program would be extended. The draft continuing resolution does not address supplemental funding for immigration or respond to the Islamic State. To keep within the overall spending cap, a small across-the-board cut would be applied to other spending.

Democrats have been threatening to tie corporation tax inversions to the continuing resolution but that initiative is more likely to wait until the continuing resolution comes up for renewal in December.

3. Infrastructure Funding

Federal transportation infrastructure funding authorized by legislation entitled "Moving Ahead for Progress in the 21st Century" was set to expire on September 30, 2014. Temporary funding has been provided through the end of 2014 for the highway trust fund to avoid insolvency. In general, transportation spending is not a partisan issue. However, as with many spending initiatives these days, the challenge has been in finding sources of funding and that is where partisan differences surface.

4. Tax Extenders

About 60 tax breaks (called tax extenders) expired at the end of 2013. The Senate has approved legislation that would extend almost all of the tax extenders through the end of 2015. The cost is estimated to be \$85 billion over ten years with most of it occurring in 2014 and 2015. The Senate legislation does not include funding offsets.

The House Ways and Means Committee has focused on making a few of the extenders permanent. For example, the House passed legislation to make the research and development tax credit permanent. Finding revenue sources to cover the cost of these tax breaks stands in the way of reaching quick agreement. The betting is that tax extender legislation will become law, although not all of the extenders will survive, and that at least part of the cost will be offset. That is because there is bipartisan interest in many of the extenders. Because of the complexity, if legislation ultimately passes, that will not likely occur until the lame duck session of Congress in December.

5. Tax Inversions

Tax inversions have been around for a long time as a way for U.S. companies to reduce their federal income taxes. Tax inversions occur when U.S. companies move part of their operations and earning capacity to their foreign affiliates. Once an inversion has been established, U.S. corporations pay U.S. taxes on the earnings of their foreign affiliates only if they repatriate those earnings to the U.S. Because corporate tax rates in many foreign countries are lower than the U.S. 35 percent corporate tax rate, there is incentive not to repatriate earnings unless the cash is needed.

Over the last few years two developments have increased the attractiveness of tax inversions. First, corporate tax rates in many other countries have declined which has increased the size of the tax-rate

differential. Second, low interest rates have made it financially attractive to borrow funds to finance domestic operations and investment rather than repatriate earnings and pay the tax differential.

An increasing number of companies have been establishing tax inversion in recent months. Public notice rose considerably when Burger King acquired Tim Hortons, a Canadian company, and announced that it was moving taxable business activity to Canada.

Many more companies could establish tax inversions than have done so to date. The major impediment appears to be reputation risk. It is “unpatriotic” not to pay U.S. taxes. The Democrats thought this issue might help them in the mid-term elections because Republicans tend to be identified by the public as defenders of big business. So far, however, this does not seem to have taken hold as an election “wedge” issue.

On September 22, Secretary of the Treasury, Jacob Lew, announced new rules intended to make it more difficult for U.S. companies to relocate business activities in foreign countries for tax purposes. The rules would not impact already established inversions. There is substantial doubt that existing statutes permit the Treasury Department to limit tax inversion activity by regulatory means. If the rules were applied retroactively, there is no doubt that a legal challenge would be initiated immediately with a high probability of success. It appears, therefore, that the Treasury action is an attempt to discourage further inversions and force those who may wish to do so to litigate and suffer negative public relations stigma by doing so. It may be an effective political strategy, if not an entirely legal one.

In due course, the problem posed by tax inversions is only likely to be resolved in conjunction with comprehensive corporate tax reform that reduces the corporate tax rate while simultaneously eliminating many of the existing preferences, such as tax inversions, that reduce the amount of federal taxes corporations currently pay.

VIII. APPENDIX: Outlook — 2014 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 2014 U.S. and global economic outlook and risks to the outlook were contained in the *December Longbrake Letter; 2013 Forecast Assessment and 2014 Outlook* and are included below without any changes. As events unfold during 2014, this will enable the reader to track my analytical prowess. Beginning in February I will add current assessments follow each item with the following identifiers: “+” tracking forecast; “-” not tracking forecast; “?” too soon to know.

1. U.S.

- **2014 real GDP Q4/Q4** growth projections range from 2.9% to 3.4%; the FOMC’s projection range is 2.9% to 3.1%. **2014 real GDP Y/Y** growth projections range from 2.5% to 3.1%. (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.) Growth should improve gradually over the course of the year. I expect real GDP growth to track the lower end of the Y/Y range in 2014.
 ✓ + Y/Y forecast range has been reduced to 2.1% to 2.2%; the FOMC revised its projection range to 2.0% to 2.2%
- **Real GDP output gap** will remain very high, but will close a little faster during 2014.
 ✓ - CBO updated its output gap analysis in August 2014; 2013 Q4 gap was 3.72%; CBO’s projected 2014 Q4 gap is 3.52%; I expect the year-end output gap to be between 3.4% and 3.55%; the gap is closing, but not as rapidly as expected
- **Potential structural rate of real GDP growth** has declined significantly in recent years. I expect potential growth to be about 1.5% in 2014, which means the output gap could close by approximately 1.0%. Potential GDP growth is likely to rise slowly in coming years to between 2.1% and 2.4%.
 ✓ - CBO expects 2014 potential growth to be 1.6%; my estimate has risen to 2.1%
 ✓ + My future potential growth range remains between 2.0% and 2.35% and most other forecasts now fall within this range
- **Productivity** should rise as growth improves and investment increases, but should still fall well short of the historical 2.1% average.
 ✓ + Productivity is up 1.1% over the last 12 months.
- **Employment** should grow about 190,000 per month in 2014, about the same as in 2013.
 ✓ - payroll employment averaged 215,000 monthly over the first eight months of 2014, which is a little stronger than expected; household employment averaged 223,000 over the first eight months of 2014
- **Employment participation** will not rebound in 2014, which will contribute to a more rapid decline in the unemployment rate; the secular demographic decline will be offset by a small reduction in discouraged workers.
 ✓ + the participation rate in August was 62.8% the same as in December 2013
- **Unemployment rate** should edge down to about 6.5%. A lower rate is not very likely unless discouraged workers do not re-enter the labor force or more exit the labor force.

- ✓ - *the unemployment rate was 6.15% in August and will probably be about 6.0% by the end of the year*
- **Nominal consumer disposable income**, measured on a Y/Y basis will rise about 2.0% with employment growth and a small increase in the nominal wage rate. Because of the depressing effect of increased taxes in 2013 on disposable income growth, the Q4/Q4 growth rate should be a much higher 2.9%.
 - ✓ - *the 12-month moving average was 2.4% in July and I project it to be 3.7% by the end of the year (note that income and consumption data were revised substantially in July)*
- **Nominal consumer spending growth** on the Y/Y basis will grow at a faster rate of approximately 3.3% (Q4/Q4 growth rate would also be about 3.3%, as spending was not affected materially by increased tax rates in 2013).
 - ✓ + *the 12-month moving average was 3.6% in July and I project it to be 3.7% by the end of the year*
- **Household personal saving rate** will decline slightly as growth in spending exceeds growth in disposable income.
 - ✓ + *the 12-month moving average of the saving rate was 5.01% in July compared to 5.32% in 2013*
- **Stock prices**, as measured by the S&P 500 average, should rise about 5%.
 - ✓ + *through September 19, S&P 500 average is up 8.8% year to date*
- **Manufacturing** growth will continue to be relatively strong and the PMI index will exceed 50.
 - ✓ + *August ISM index was above 59 and has been above 50 the entire year*
- **Business investment** spending growth should improve to about 5 to 6% as employment and consumer spending growth gathers momentum.
 - ✓ + *business investment spending is on track to grow 6.0% in 2014*
- **Residential housing investment** should rise about 10% and contribute 30 to 40 basis points to real 2014 GDP growth; residential housing starts should rise 20 to 25%.
 - ✓ - *residential investment spending decreased 5.3% in the first quarter and increased 7.2% in the second quarter and is now projected to increase 6% or less in 2014*
 - ✓ - *total housing starts are up 4.9% over the first eight months of 2014 from the 2013 average; residential housing starts are up 0.3%*
- **Residential housing prices** should rise about 5% in 2014, more slowly than 2013's 10% increase.
 - ✓ + *Housing prices were up at an annual rate of 4.2% in the first half of 2014 according to data compiled by the Federal Housing Finance Agency*
- **Trade deficit** should rise slightly as economic growth improves because imports should grow more quickly than exports. The **dollar's value** should decline modestly on a trade-weighted basis.
 - ✓ + *trade deficit was 2.80% in July compared to the 2013 trade deficit of 2.79%, but should rise later in 2014 as consumer spending strengthens*
 - ✓ - *the value of the dollar has risen 1.7% so far in 2014*
- **Monetary policy** — the Federal Reserve will end quantitative easing by mid-year and will clarify forward guidance.
 - ✓ - *the FOMC is on a course to end quantitative easing in October*

- ✓ + the FOMC eliminated the 6.5% unemployment threshold and clarified forward guidance to embrace a broader set of labor market indicators and to emphasize that rate increases will occur slowly after the initial increase takes place
- **Inflation** will rise slightly in 2014 but will remain well below the FOMC's 2% objective at least through 2016.
 - ✓ + core PCE inflation was 1.51% in July compared to 1.34% in December;
 - ✓ + total PCE inflation was 1.62% in July compared to 1.24% in December
- **Federal funds rate** is not likely to increase before mid-2015 and might not increase until late 2016 or early 2017. The 10-year Treasury rate is likely to fluctuate in a range between 2.5% and 3.5% in 2014.
 - ✓ + federal funds rate is likely to increase in mid-2015
 - ✓ + the 10-year Treasury rate was 2.59% on September 19, which is at the lower end of the expected range
- **Fiscal policy** will be significantly less contractionary in 2014, decreasing real GDP growth by about -0.4%; the **federal budget deficit** will decline to 3.0% by the end of 2014.
 - ✓ + federal budget deficit is on track to decline to 2.9% by the end of the fiscal year and 2.8% by the end of the calendar year

2. Rest of the World

- **Global growth** is likely to improve to 3.5% in 2014 from 2.9% in 2013.
 - ✓ - growth is on track to reach 3.2% in 2014
- **European growth** will be positive but will fall short of the ECB's forecast of 1.1%.
 - ✓ + Euro area growth is on track to reach 0.8% in 2014
 - ✓ + Euro area inflation was 0.3% year over year in August; core inflation was 0.9%
- **European financial markets** are likely to remain relatively calm thanks to the activist role of the European Central Bank; the May European parliamentary elections could lead to a new round of turmoil.
 - ✓ + all is quiet so far, but financial conditions may have eased to the maximum possible extent
- **European banking union** will do little to solve deep-seated European and Eurozone structural problems; ECB stress tests will contribute to slow credit expansion.
 - ✓ ? institutional structures to implement the banking union have been put in place; however, critics say the plan is fraught with uncertainties and weaknesses
 - ✓ + private bank loans have contracted 2.2% over the last year
- **European political dysfunction, populism and nationalism** will continue to worsen gradually.
 - ✓ + Italy recently replaced its prime minister without triggering new elections; established parties seem intent on postponing new elections for as long as possible
 - ✓ + Eurosceptic parties are gaining momentum
- **U.K. growth** will continue to be robust as the housing and debt bubble continue to build.
 - ✓ + GDP growth is on track to reach 3.0% in 2014
- **China's GDP growth** will slow below 7% as economic reforms are implemented.
 - ✓ forecasters expect full year growth to come in at 7.2%; however, economic data was very disappointing in August

- **China's leadership** will focus on implementing *economic reforms* and will overcome resistance and maintain stability.
 - ✓ ? *it's really too early to make a call; however, investor anxiety is increasing in the wake of weaker than expected data reports*
 - **Japan's** economic resurgence is likely to falter by the end of 2014, as Abenomics' third arrow of economic reforms fails to raise the level of potential growth sufficiently to overcome negative population growth.
 - ✓ + *market skepticism has increased; third arrow market reforms have yet to have significant impact*
 - ✓ + *GDP growth is expected to reach 1.3% in 2014*
 - ✓ + *inflation is running at 2.7%, which is above the 2.0% target, but when the effect of higher taxes is stripped out, inflation is only about 1.0%*
 - **Emerging market countries** on balance will experience greater growth, as long as the U.S. and European economies do better in 2014; countries heavily dependent upon commodities exports for growth will do less well as will also be the case for countries with large balance of payments deficits.
 - ✓ + *emerging markets countries with large balance of payments deficits are under pressure that will stunt 2014 growth*
3. **Risks** — stated in the negative, but each risk could go in a positive direction. “+” means risk not realized; “?” means risk may be developing; “-” means risk realized
- **U.S. potential real GDP growth** falls short of expectations
 - ✓ - *Q1 real GDP growth fell well short of expectations; full year growth estimates have been revised sharply lower, however, an improving trend in growth over the remainder of 2014 is likely*
 - **U.S. employment growth** is slower than expected; the *participation rate* continues to decline
 - ✓ + *participation rate remains unchanged over the first eight months of 2014*
 - ✓ + *employment growth is slightly higher than expected*
 - **US. Unemployment rate** falls less than expected
 - ✓ + *unemployment rate has fallen more than expected*
 - **U.S. productivity** does not improve
 - ✓ - *productivity is rising at a 1.1% annual rate over the last 12 months*
 - **Real U.S. consumer income and spending** increase less than expected
 - ✓ + *consumer income and spending are increasing at a slightly faster rate than expected*
 - **U.S. financial asset prices** rise more than expected posing increased bubble risks
 - ✓ + *stock prices are up but valuations appear reasonable*
 - **Growth in U.S. residential housing investment and housing starts** is less than expected
 - ✓ - *housing formation hit a new low in last year's fourth quarter; starts have been disappointing and are only 4.9% above 2013's average; full year residential investment forecasts have been revised lower*
 - **U.S. residential housing price increases** slow more than expected
 - ✓ + *prices are rising at about a 4% annual rate*

- **U.S. private business investment** does not improve as much as expected
 ✓ + *business investment is on track to rise about 6.0% in 2014; forecasts have been revised down slightly*
- **U.S. manufacturing growth** slows
 ✓ + *manufacturing activity has strengthened*
- **U.S. trade deficit** widens and the **value of the dollar** falls
 ✓ + *the trade deficit has been stable and the value of the dollar has increased slightly*
- **U.S. monetary policy** spawns financial market uncertainty and contributes to financial instability
 ✓ + *financial conditions continue to ease*
- **U.S. inflation** falls, rather than rising, and threatens deflation
 ✓ + *Inflation has risen slightly but remains well below the 2.0% target*
- **U.S. interest rates** rise more than expected
 ✓ + *long-term rates have fallen approximately 50 basis points so far in 2014*
- **U.S. fiscal policy** is more restrictive than expected and the **budget deficit** falls more than expected
 ✓ + *the budget deficit is on track to reach 2.9% for the fiscal year and 2.8% for the calendar ? slightly lower than expected*
- **U.S. state and local spending** does not rise as fast as expected
 ✓ + *state and local spending is rising slowly*
- **Global GDP growth** does not rise as fast as expected
 ✓ - *2014 growth is now forecast to be 3.2% compared to 3.5%*
- **Europe** slips back into recession
 ✓ ? *second quarter GDP growth was near zero*
- **Europe** — financial market turmoil reemerges
 ✓ + *financial conditions continue to ease, but bank lending continues to contract*
- **Europe** — political instability and social unrest rises more than expected threatening survival of the Eurozone and the European Union
 ✓ ? *Euro-skeptic parties continue to gain strength*
- **U.K. growth** falters as housing bubble collapses
 ✓ + *2014 GDP growth is on track to reach 3.0%; Scotland voted against independence*
- **Chinese** leaders have difficulty implementing **economic reforms**
 ✓ ? *too early to determine but crisp policies to deal with the underperformance of state owned enterprises have not yet been developed*
- **China's growth** slows more than expected
 ✓ - *full year GDP growth is likely to slow to 7.2%; housing prices are declining, but visible signs of acute stress are absent*
- **Japan** — markets lose faith in Abenomics
 ✓ ? *Abenomics is at a critical juncture ? stock price appreciation has stalled; the yen is no longer appreciating in value; the trade deficit is larger than expected, GDP growth during the first half of 2014 was disappointing as the impact of the increase in the consumption tax was greater than expected*

- Severe and, of course, unexpected *natural disasters* occur, which negatively impact global growth
✓ + nothing of consequence has happened
- *Middle East oil supply* is disrupted and oil prices rise sharply
✓ + oil prices have declined a little
- **New — Russia's annexation of the Crimea and Civil Unrest in Ukraine**
✓ - political tensions between Russia and member nations of NATO have risen; Russia's economy has slowed and sanctions appear to be hurting European economies

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