



**Our
Perspectives:**
Commentary on the economy & regulatory
policies affecting financial companies

**Barnett
Sivon &
Natter P.C.**
ATTORNEYS at LAW
WASHINGTON, DC

The Longbrake Letter*

Bill Longbrake

May, 2015

First quarter U.S. real GDP growth came in at a paltry 0.2 percent according to the Bureau of Economic Analysis's "Preliminary Estimate." If that were not bad enough, updated economic activity reports promise to push growth well down into negative territory when the "Advance Estimate" is released at the end of May.

Where is the much expected benefit of lower oil prices? When data do not fit expectations the knee-jerk reaction is to look for excuses. Was it bad weather, the west coast dock strike, faulty seasonal adjustment methodology, the strong dollar, consumer reluctance to spend potentially temporary gas expense savings, or something else? Federal Open Market Committee members expressed some concern but on the whole were quick to blame "transitory" factors. With recent strong employment growth and falling unemployment, faith in the belief that growth in the economy should be accelerating is very strong.

But, a close examination of the data cannot explain away all of the unexpected weakness. Of course, it is entirely possible that the weakness could disappear when data are revised in the future. This has happened before — it takes upwards of five years before GDP data are complete and accurate. But, what if the apparent weakness is real and not simply an artifact of transitory factors and incomplete data?

There are serious disconnects in key economic trends. Until March and April's jobs reports, employment and hours worked had been surging with the consequent greater than expected decline in the unemployment rate. But, given the strength of the labor market, consumption should be stronger and there should at least be some upward movement in wage growth. However, the rate of increase in hourly wages for all employees remains stuck at 2.1 percent, where it has been anchored for five years, and shows absolutely no signs of break out to the upside.

There are other seemingly contrary facts. Real GDP growth is much weaker than expected and is inconsistent with strong employment growth. The two phenomena do link but in an unhealthy fashion. The connector is nonfarm business productivity which declined 0.1 percent in 2014 and was -1.9 percent in the first quarter.

So, a lot more people are working and working more hours, but growth in consumer incomes is being held back by meager wage growth. Real economic growth is being stunted by a lack of productivity. If

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

these imbalances do not correct, employment growth will inevitably slow considerably and growth will be disappointingly lower than most expect.

There are three potential culprits behind the emerging long-run trend of slower growth in the U.S. economy. The first is *secular stagnation*. It involves very low or negative real rates of interest. Secular stagnation leads to a persistent output gap and/or slow economic growth. A second culprit is *lack of private business and governmental investment spending*. It is related to the first but can also be driven by noneconomic forces such as political agenda and uncertainty. A third culprit is a *change in expectations* about the future that leads to a change in behaviors on a current basis. Such changes can be self-fulfilling. For example, an expectation of low or declining inflation may be interfering with the tendency of wages to rise when the labor market tightens. Employers lack pricing power and resist wage increases. Employees become less demanding for increases in nominal wages because they are less concerned about losing inflation-adjusted spending power.

Other forces have been unleashed which eventually may pose significant challenges for the U.S. economy. One force is the sudden and substantial decline in energy prices. This change is likely to persist for a long time. While this should benefit consumer spending over time, that outcome is not evident in recent data. The near term consequence has been a substantial rise in the saving rate. This will probably change over time and as it does increased consumer spending will boost economic activity. What is evident in recent data is a substantial decline in energy-related business investment. So, at least during the first quarter the negative effects of the decline in oil prices have outweighed the positive effects.

Another recent development of consequence involves the 20 percent appreciation of the dollar on a trade-weight basis. This is making U.S. exports, which account for 13 percent of real GDP, less competitive and imports, which account for 16 percent of real GDP, more attractively priced. This will harm U.S. companies that depend on exports for a substantial part of their business and will depress earnings of companies with substantial international operations. It will also take business away from companies that are unable to compete with cheaper foreign alternative goods and services. On balance, the appreciation of the dollar should reduce 2015 real GDP growth by about 0.5 to 0.6 percent. In addition, the price effects of a strong dollar will depress core inflation by as much as 0.5 percent over the next several quarters and will probably overwhelm modest upward pressure stemming from an improving economy. Overall, the impacts of a stronger dollar on growth and inflation will occur gradually but will probably have a fairly negative impact over time.

Another development whose long-run consequences are not yet fully evident is the effect of excess global capacity and super-loose global monetary policies involving quantitative easing, which has forced U.S. interest rates down to levels that would probably not otherwise prevail.

I. Secular Stagnation and Financial Instability

Secular stagnation tends to be a condition of mature economies although it is not an automatic outcome.

Secular stagnation is characterized by a low and declining real rate of interest which reflects an excess of desired saving over desired investment. This condition results in a persistent output gap and/or slow economic growth.

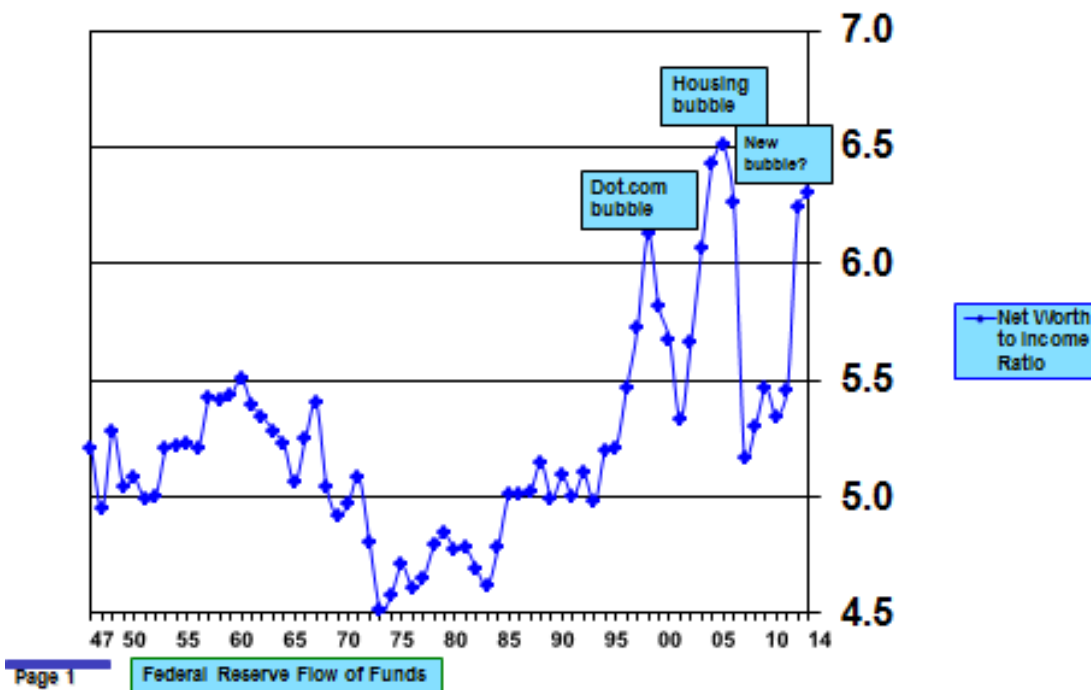
- Low real interest rates crowd out low return, riskier investments.
- Productivity slows because of diminished investment activity.

- Real economic activity grows more slowly.
- Incomes rise less rapidly along with slower economic growth and this depresses growth in consumption.
- A persistent output gap is highly deflationary.
- The excess between desired saving and desired investment goes into speculation and drives price bubbles in financial and real assets.
- Asset price speculation benefits the rich; low productivity penalizes the poor by holding down wage increases, and collectively both phenomena drive increasing income and wealth inequality.

Price bubbles can drive economies to full employment, temporarily. But this outcome is not sustainable, because bubbles are inherently unstable and eventually burst. A pattern of price bubbles and boom and bust will persist for as long as intended saving exceeds intended investment.

Chart 1 shows the ratio of consumer net worth to disposable income. Historically, the ratio fluctuated between 4.5 and 5.5. However, it rose to 6.13 during the dot.com investment bubble and then to 6.51 during the housing bubble. The ratio has surged once again to 6.30 in the fourth quarter of 2014, a level consistent with the two previously acknowledged bubbles. Are we heading into yet another bubble?

CHART 1 – Consumer Net Worth to Disposable Income
1947 - 2014



1. Natural Rate of Interest

It is conventional wisdom that when the economy is at full employment and booming the Federal Reserve should raise the federal funds rate. When unemployment is high and the output gap is large the Federal Reserve should lower the federal funds rate. The rationale is that by changing the cost of money, the Federal Reserve can either stimulate or discourage investment and spending and in so doing boost or dampen economic activity. The objective of monetary policy is to promote full employment at low and stable rates of inflation and dampen cyclical fluctuations.

While the federal funds rate is one of many **market rates of interest**, it is the one traditionally that the Federal Reserve manipulates in its attempt to modulate economic activity over the business cycle. Because the level of long-term interest rates depends upon the current short-term interest rate, the federal funds rate, and future expected values of the federal funds rate, the Federal Reserve can influence interest rates across the maturity spectrum by setting the current value of the federal funds rate and signaling its future intentions.

Policy risk arises if the Federal Reserve's implementation of monetary policy results in setting the **market rate of interest** at a level that is above or below the **natural rate of interest**. But because the natural rate is unobservable it is difficult to know when the market rate of interest differs from the natural rate. To understand why divergence between the two rates leads to policy risk, it is important to know what the natural rate of interest is and why, when it differs from the market rate of interest, policy risk is triggered and can build to troublesome levels if the divergence between the market rate and the natural rate is large and persists for a long period of time.

Investment, Saving and the Natural Rate of Interest. The natural rate of interest is that rate of interest at which **intended investment** and **intended saving** balance. This is the same concept as the intersection of a demand and supply curve for a product, such as sugar, which determines its market price.

After the fact, or **ex post** in economic jargon, investment and saving are always equal. But realized investment and saving may not be what investors and savers intended, which is an **ex ante** concept in economic jargon. Because intended investment and intended saving are not directly observable it follows that the natural rate of interest cannot be known with certainty.

According to theory, if the expected return on an investment in a productive asset is greater than the natural rate of interest, that investment should be undertaken. A saver has a choice between current and future consumption. A low interest rate encourages current consumption; a high interest rate encourages saving and a deferral of consumption. The **equilibrium natural rate of interest** occurs at the rate that induces enough savings — **supply of funds** — to fund investments — **demand for funds** — whose expected returns exceed the equilibrium rate of interest.

Since the natural rate of interest is not observable, actual decisions are based upon the market rate of interest. But, if the market rate of interest is different from the natural rate, some decisions will be "incorrect". This initiates policy risk and its magnitude will depend on the size, direction, and persistence of the divergence between the natural and market rates of interest. *Because the Federal Reserve controls the market rate of interest, it can become the source of policy risk by setting a market rate of interest that is inconsistent with the natural rate of interest.*

What Happens When the Market Rate and Natural Rate of Interest Diverge? When the market rate of interest is set below the natural rate of interest, money is said to be cheap and investments

will be funded whose expected rates of return are below the natural rate of interest but above the market rate of interest. While this is intuitively obvious, the macroeconomic implications are less obvious.

Economic growth depends upon investment in new productive assets. When money is too cheap investment will occur not only in productive assets but also in less productive assets such as building roads and bridges to nowhere. But when money is cheap it will also flow into existing investments with the result that the prices of existing assets are bid up. This can happen directly into real assets, such as real estate, or indirectly into financial assets, such as stocks and bonds. Prices of existing assets, then, inflate above “fair” value.

This is the phenomenon that **Hyman Minsky** described in his **financial instability hypothesis**. A market rate set below the natural rate leads to speculation and in the extreme to Ponzi finance and unsustainable bubbles. Minsky’s financial instability hypothesis posits three levels. The first level is “**normal finance**” where investments are made based on expected cash flows from the investment sufficient to cover payment of principal and interest on the debt that finances the investment. This is the level that is consistent with a market rate of interest that equals the natural rate of interest. The second stage is “**speculative finance**” where investment cash flows are sufficient to cover principal repayment but insufficient to cover interest payments, thus requiring perpetual refinancing. The third stage — the bubble stage — is “**Ponzi finance**” where cash flows from investments are insufficient to cover both principal and interest. Asset prices are bid up to unsustainable levels which eventually lead to a bust.

Cheap money and debt leverage are a deadly combination as we have seen from experience. They combine to facilitate speculative and Ponzi finance. Profits accrue to speculators rather than to investors in new productive assets with the result that funds are diverted into existing assets and away from new productive assets. A quick buck can be made through speculation while returns on productive investments are uncertain and are only realized over a long period of time. This misallocation of profits is contributing to a worsening of income inequality, because the fruits of speculation flow to wealthy investors. Moreover, it should not come as a surprise that private investment growth, as measured in the national income accounts, began to decline in 2006 well before Lehman collapsed in September 2008. The 2006 to 2008 period was clearly one in which Minsky’s “Ponzi finance” held full sway.

Thus, a market rate of interest that is below the natural rate of interest will lead over a period of time to the misallocation of funds into speculative activity involving existing assets. Investments in new productive assets will be neglected with the consequence that growth in the stock of capital will slow or even decline. Growth in the stock of capital is necessary to raise productivity. So, it follows, that slower growth in the capital stock or even shrinkage in the capital stock will depress productivity. Lower productivity results in decreasing the structural potential real rate of GDP growth.

When bubbles burst, asset values fall back to levels consistent with the natural rate of interest. But the nominal value of debt remains unchanged. This forces bankruptcies. The provision of copious amounts of liquidity by the Federal Reserve at cheap market rates can forestall contagion and a downward and lethal debt-deflation spiral. But, this kind of market stabilization intervention can also slow the process of right-sizing the stock of nominal debt relative to the stock of assets fairly valued at the natural rate of interest. The overhang of too much debt serves as a barrier to new investment. This phenomenon is probably an explanation, at least in part, for the on-going depressed level of new business formation. In any event, debt overhang is correlated with depressed or negative growth in the stock of capital. And, slower growth in the capital stock or shrinkage depresses productivity and the structural rate of real GDP growth.

Monetary Policy Can Contribute to Reducing the Structural Potential Real Rate of GDP Growth. Monetary policy's role is to drive the market rate of interest down when the economy is underperforming. The objective is to stimulate investment and consumer spending. But, if the market rate is set too low and is maintained at too low a level for too long, it will prompt misallocation of investment into price speculation involving existing assets. This policy risk is not trivial and is inherent in the Federal Reserve's recent monetary policy. *The question worth pondering is whether monetary policy has migrated from serving as a cyclical stabilizing influence to contributing to a permanently lower level of potential real GDP growth.*

Recovery in real economic activity and employment following the Great Recession has been disappointingly lethargic given the Federal Reserve's exceptionally easy monetary policy. And, recovery has been accompanied by some troublesome trends. For example, income equality is worsening according to an updated study by Emmanuel Saez and Thomas Piketty.¹ At the same time corporate profit margins have escalated to all-time highs. Productivity is extremely depressed.

2. Financial Markets — Risk Mispriced

Monetary policy has intentionally depressed interest rates since late 2008 with the objective of stimulating consumption and investment. I discussed in the section above how artificially depressed interest rates can lead to speculation in assets rather than new productive investment. But, there is another consequence.

Administered interest rates, particularly when the zero bound is binding, as it has been since 2008, provide a high degree of certainty to investors and extract risk from the marketplace. The Federal Reserve's quantitative easing program, by purchasing large quantities of long-duration U.S. Treasury and mortgage backed securities, not only depressed long-term interest rates, it also reduced duration risk. By reducing the supply of low risk long-duration securities, the Federal Reserve forced investors to search for yield and this depressed the credit spreads on riskier categories of long-duration securities. In short, risk has systematically been underpriced.

In today's financial markets, replete with a plethora of derivatives that are intended to help investors manage risk but also increasingly serve as direct investments, mispricing of risk can create serious potential problems. Measurement of risk for volatility derivatives, such as VIX or the CBOE Volatility index, have become distorted by the Federal Reserve's extended period of zero-interest-rate policy (ZIRP). When risk measures are depressed artificially, value at risk models permit greater use of leverage. This is not a problem until the mispricing of risk corrects, as it surely will once the Federal Reserve begins to normalize monetary policy. What is potentially troublesome is that investors might not be able to adjust hedge ratios quickly enough as policy normalizes and this could prompt extreme market volatility and perhaps even forced liquidation of positions at a loss — the classic fire sale phenomenon that characterizes bursting bubbles.

3. Financial Markets — Lack of Liquidity

Related to the mispricing of risk is reduced market liquidity in traditionally highly liquid securities. Liquidity has been reduced not only by the Federal Reserve's large scale asset purchase program, i.e., quantitative

¹Annie Lowrey. "The Rich Get Richer Through the Recovery," *New York Times*, September 10, 2013. The share of income of the top 1% was 22.5% in 2012 compared to 19.7% in 2011 and matched the highs that preceded the Great Depression and Great Recession. The top 1% has "captured" about 95% of the aggregate increase in income since the end of the Great Recession.

easing, it has also been reduced by the liquidity requirements imposed by the Dodd-Frank Act on financial institutions. The problem is especially severe for mortgage backed securities because the outstanding stock of mortgages has declined \$1.3 trillion to \$9.4 trillion since the housing bubble burst.

In addition to a reduced supply of liquidity and the mispricing of risk, the institutional structure of the dealer market is much weaker than prior to the Great Recession. Simply put dealers are less willing today to perform the traditional market making role of supporting risk. This implication is that when volatility strikes there may be little ability of the private market to perform a stabilizing role. Not all would be lost as the Federal Reserve can serve as lender of last resort. But, Federal Reserve intervention would invoke the “Fed Put” and perversely that would encourage potentially imprudent risk taking.

My sense is that financial markets are more fragile today than commonly understood or acknowledged. As the Federal Reserve normalizes monetary policy the risk of potentially violent market spasms is not trivial.

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

Annualized first quarter real GDP growth in the “Advance Estimate” was a very disappointing 0.2 percent (see **Table 1**). Subsequent data releases indicate that the “Preliminary Estimate” is likely to be negative. Merrill Lynch/Bank of America (**B of A**) currently expects first quarter real GDP to be revised down to -1.2 percent.

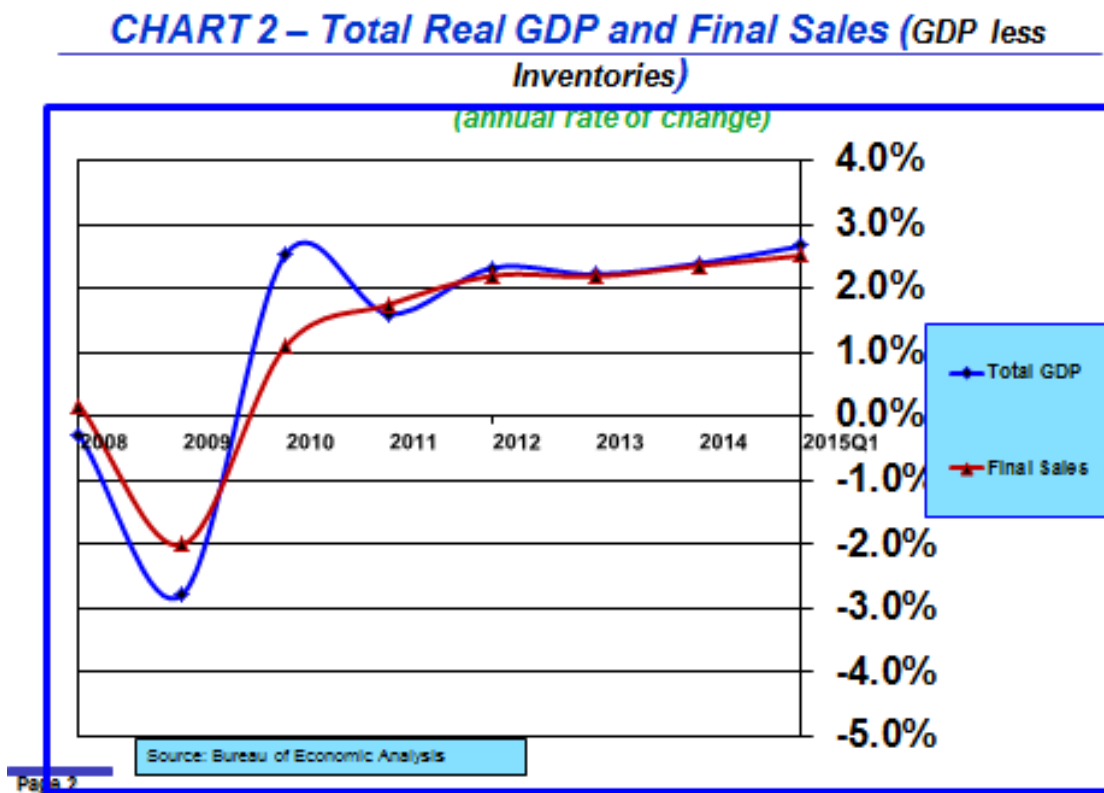
Table 1
Composition of 2015 and 2014 Quarterly GDP Growth

	First Quarter 2015 Advance Estimate	First Quarter 2015 Preliminary Estimate	First Quarter 2015 Final Estimate	Fourth Quarter 2014 Final Estimate	Third Quarter 2014	Second Quarter 2014
Personal Consumption	1.31%			2.98%	2.21%	1.75%
Private Investment						
Nonresidential	-.44%			.60%	1.10%	1.18%
Residential	.04%			.12%	.10%	.27%
Inventories	.74%			-.10%	-.03%	1.42%
Net Exports	-1.25%			-1.03%	.78%	-.34%
Government	-.15%			-.35%	.80%	.31%
Total	.25%			2.22%	4.96%	4.59%
Final Sales	-.49%			2.32%	4.99%	3.17%
Private GDP	-.34%			2.67%	4.19%	2.86%
Private GDP — Net Exports	.91%			3.70%	3.41%	3.20%

1. Alternative GDP Measures

Total real GDP growth covers all transactions but can hide important trends in underlying components. For this reason it is useful to study three alternative measures.

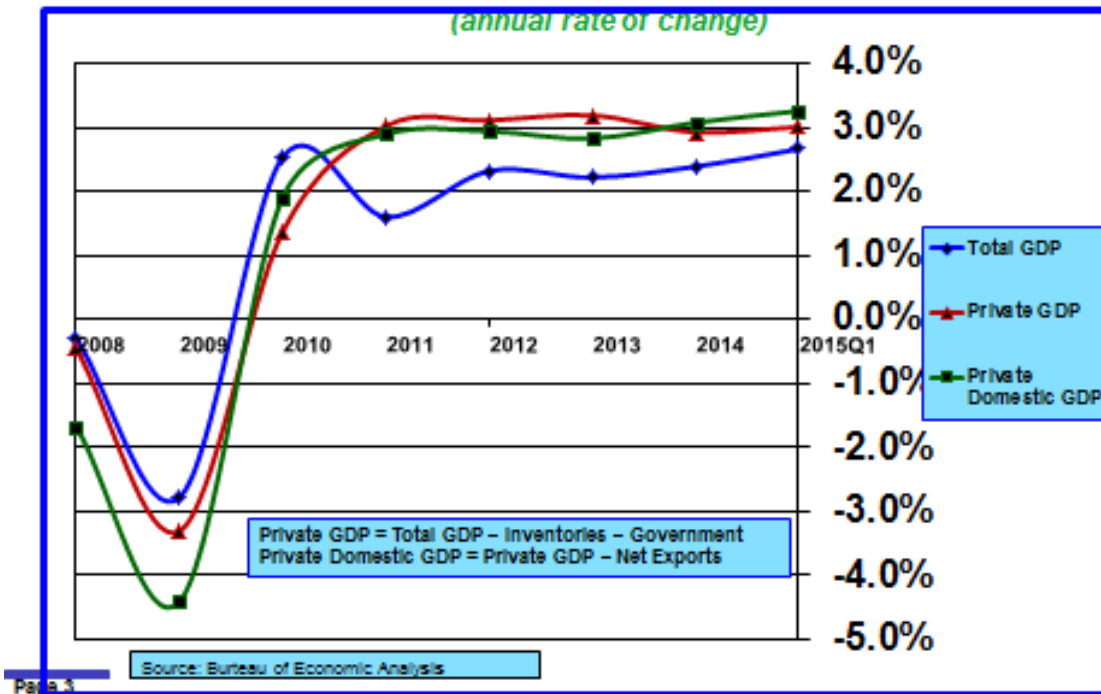
“*Final Sales*” eliminates the impact of changes in inventories. Over time inventories grow at approximately the same rate as total GDP. Inventories, generally speaking, are the difference between what an economy produces (total GDP) and what is being purchased (“Final Sales”). When purchasing slows, but production does not, inventories will grow faster than normal. When that happens, usually within a quarter or two, production slows and inventory accumulation moderates or even becomes negative. The ebb and flow of inventory accumulation imparts additional volatility to total GDP relative to “Final Sales.” This relationship can be seen in **Chart 2**. Volatility is particularly pronounced during and just following the Great Recession.



“*Private GDP*” eliminates both inventories and government expenditures from total GDP. This measure is more stable from quarter to quarter and provides a better sense of what is going on in the nongovernmental part of the economy. As is evident in **Chart 3**, growth in this GDP measure is stronger than in total GDP, except when government spending escalates during a recession in economic activity.

“*Private Domestic GDP*” is a third alternative measure of real GDP. I consider it to be the best alternative measure because it includes only the transactions that are occurring in the domestic nongovernmental economy. As can be seen in **Chart 3**, this measure of GDP, which accounts for approximately 85 percent of total real GDP, has been remarkably stable over the last four years and reveals a strong and moderately improving trend in economic activity in the domestic economy from 2.89 percent in 2011 to

CHART 3 – Total Real GDP, Private GDP, and Private Domestic GDP (annual rate of change)



3.36 percent in the four quarters ending with the first quarter of 2015.

2. Statistical Quirks Can Create a Misleading Picture

GDP growth rates are calculated by annualizing quarterly rates of change. This methodology can introduce volatility from quarter to quarter if there are timing differences in data reports or if there are systematic anomalies in seasonal adjustment factors. For example, the Department of Defense at times has shifted the timing of its expenditures from one quarter to the next. This happened most recently in the third and fourth quarters of 2014.

Because the Bureau of Economic Analysis (BEA) reports quarterly data, which it then annualizes, it is important to purge seasonal variations from the data so that trends can be discerned. Unfortunately, there is evidence that the seasonal adjustment methodology is not entirely effective, which has resulted in a systematic under-reporting of data in the first quarter and an over-reporting in the remainder of the year. Annualizing quarterly data amplifies such errors. In a recent report, economists at the Federal Reserve Bank of San Francisco found that when they removed residual seasonal variation from first quarter 2015 real GDP, the rate of growth was 1.8 percent rather than the published 0.2 percent rate.²

Seasonal quirks can be eliminated by looking at four quarter rates of change rather than at annualized quarterly rates of change. **Table 2** shows the differences in the two methodologies for the last several

²Glenn D. Rudebusch, Daniel Wilson, and Tim Mahedy. "The Puzzle of Weak First-Quarter GDP Growth," Federal Reserve Bank of San Francisco Economic Letter 2015-16, May 18, 2015.

Table 2
Real GDP Growth — Quarterly Annualized Compared to Four-Quarter Moving Average

	Quarterly Annualized	Four-Quarter Moving Average
2012:1	2.3	1.8
2012:2	1.6	2.0
2012:3	2.5	2.3
2012:4	0.1	2.3
2013:1	2.7	2.1
2013:2	1.8	2.0
2013:3	4.5	1.8
2013:4	3.5	2.2
2014:1	-2.1	2.3
2014:2	4.6	2.5
2014:3	5.0	2.6
2014:4	2.2	2.4
2015:1	0.2	2.7

quarters.

When growth is viewed from the vantage point of a four-quarter moving average, it appears that a gradual improving trend remains intact, notwithstanding the abysmal quarterly data for the first quarter of 2015.

3. 2015 Q1 GDP — Advance Estimate

Just about every component of the first quarter “Advance Estimate” was disappointing.

Personal consumption advanced only 1.31 percent compared to 2.98 percent in the fourth quarter of 2014.

Totally missing was any spending benefit from the plunge in oil prices. This might simply be due to a response lag. Spending falls because of the decline in gas prices but the extra cash is saved rather than spent on other goods and services. This behavioral pattern has been observed in the past when tax rebates were not spent immediately upon receipt but eventually were spent over the next several months. **GS** conducted an analysis which indicates that consumer spending should have been 0.5 percent to 1.0 percent higher in the first quarter.

My statistical analysis indicates that in July 2014 oil prices had no impact on the saving rate. However, by March 2015 the decline in oil prices had boosted the saving rate by 0.46 percent. Note, assuming that the rate of growth in disposable income is constant, an increase in the saving rate is consistent with a slowing in nominal consumption growth by the same percentage.

The boost in the saving rate is already beginning to subside and will reach zero by December and then will subtract approximately 25 basis points from the saving rate during the first half of 2016. This swing of 70 basis points in the saving rate translates into a difference of 0.5 percent in nominal GDP growth.

GS's analysis also indicates that only one-fourth to one-half of the benefit of lower gas prices should have occurred during the first quarter. Consequently, **GS** is very confident that consumer spending will accelerate in coming quarters.

Net exports subtracted -1.25 percent from real GDP growth. This was primarily the result of the 19.0 percent increase in the value of the dollar over the last 12 months. Unfortunately, updated trade data for the first quarter will result in a substantial increase in the negative impact on real GDP growth to -1.75 percent.

Nonresidential business investment contributed -0.44 percent to first quarter real GDP growth. This decline was caused mainly by a plunge in energy-related investment.

All in all, even though faulty seasonal adjustments probably overstated weakness in first quarter real GDP growth, the strong dollar and low oil prices contributed significantly.

4. GDP Forecasts for Q1 and Q2

Table 3 shows forecasts/projections for the first and second quarters of 2015 and for the full years 2015 through 2018.

B of A expects -1.2 percent growth in the first quarter. This is a substantial decrease from the 0.2 percent reported in the "Advance Estimate."

Both **B of A** and **GS** expect real GDP growth to rebound to 2.5 percent in the second quarter. Other estimates range from 2.1 percent (Global Insight) to 2.9 percent (Blue Chip). Relative to the expected decline in the first quarter, this forecast rebound is very disappointing.

Second quarter real GDP growth should benefit from a pickup in consumer spending, stronger housing construction and the flow through benefits on spending from last year's strong employment gains. Offsets will probably include subdued business investment and weaker manufacturing activity due to the strong dollar and lower energy prices, both of which have negatively impacted the competitiveness of U.S. exports.

5. GDP Forecasts for 2015-2018

As **Table 3** and **Chart 4** show, most forecasters expect GDP growth to be about 2.5 percent in 2015 and then to be near 3.0 percent in 2016 and 2017 before falling back to the mid to low 2's in 2018. Forecasts for 2015 have been lowered considerably based on the weak first quarter performance.

While my forecast for 2015 is similar to the consensus view, my forecasts for 2016 — 2018 are much lower. There are several reasons. First, I expect consumer spending to be weaker than the consensus for

Table 3
Real GDP Growth Forecasts — B of A, GS, Global Insight, Economy.com, Blue Chip, Bill's "Steady Growth", Bill's "Strong Growth" and FOMC High and Low Projections

	2015	2015	2015	2015	2016	2017	2018
	Q1	Q2	Q4/Q4	Y/Y	Y/Y	Y/Y	Y/Y
B of A	-1.2	2.5	2.3	2.4	3.0	2.7	2.2
GS		2.5	2.2	2.4	2.8	2.8	2.6
Global Insight		2.1		2.3	2.9	2.8	2.6
Economy.com		2.6		2.6	3.5	3.0	
Blue Chip		2.9		2.5	2.8	2.7	2.6
Bill's Steady Growth			1.9	2.4	2.3	1.9	1.8
Bill's Strong Growth			2.15	2.5	2.5	2.1	2.0
FOMC — High [#]			2.7 [#]		2.7 [#]	2.4 [#]	2.4 [#]
FOMC — Low [#]			2.3 [#]		2.3 [#]	2.0 [#]	2.0 [#]

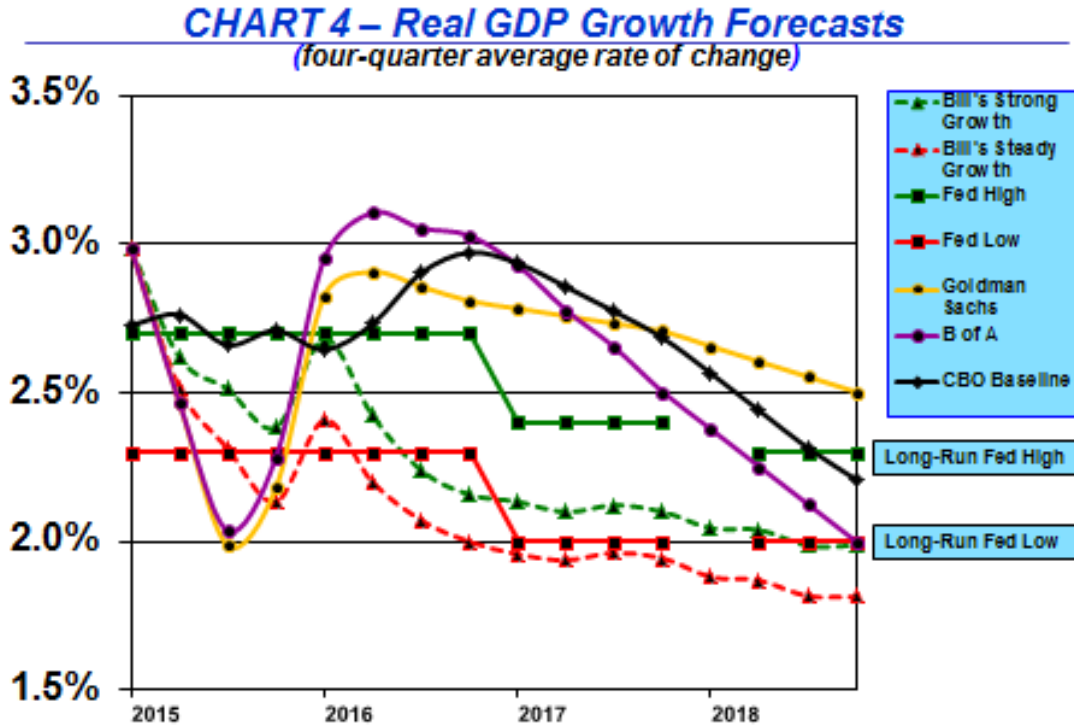
[#]Measured from Q4 to Q4

two reasons: slower employment growth and slower growth in nominal disposable income. Second, I do not expect business and residential investment to be as strong as the consensus. As I have explained in previous letters, low or negative real interest rates discourage investment. Monetary policy driven liquidity goes into debt-leveraged price speculation in existing assets rather than financing new investment. Most forecasters have ignored this economic principle and have assumed that investment growth rates would rise as the economy strengthened. While it would be better if other forecasters had been right and I had been wrong, my expectation of weak investment growth, and therefore weak real GDP growth, continues to be borne out. Third, sustained weak investment growth depresses productivity and that not only reduces real GDP growth but also slows increases in nominal disposable income and therefore in consumption. Though not much talked about, productivity is missing in action and show little likelihood of getting better.

Consumer Spending. Retail sales have been weaker than expected for five consecutive months. However, as can be seen in **Table 4**, **GS** and **B of A** both forecast strong acceleration in consumer spending growth from 2.5 percent in 2014 to 3.25 percent to 3.4 percent in 2015. Given the depressed level of consumer spending in the first quarter, consumers need to get going. Yet, April data were uninspiring and consumer confidence fell.

GS and **B of A** remain optimistic that consumer spending will accelerate during the remainder of 2015 because of rapid growth in employment and lower gas prices. Other forecasters, including myself, are considerably less optimistic with forecast spending growth in 2015 between 2.5 percent and 2.8 percent.

Forecast consumer spending growth rises to between 2.8 percent and 3.5 percent in 2016 and then slows to between 2.65 percent and 3.0 percent in 2017. Further slowing occurs in 2018 as the transitory benefit of lower oil prices dissipates and as employment growth begins to slow. My forecasts are low relative to others for the reasons stated above.



Page 4

Table 4
Consumer Spending Growth Rate Y/Y Forecasts — B of A, GS, Global Insight, Economy.com, Blue Chip, Bill's "Steady Growth" and Bill's "Strong Growth"

	2012	2013	2014	2015	2016	2017	2018
Actual	1.72	2.34	2.50				
B of A				3.40	3.27	2.65	2.20
GS				3.25	3.54	2.75	2.31
Global Insight				2.60	3.50	3.00	
Economy.com				2.50	2.80	2.70	2.60
Blue Chip				2.80	3.20	2.90	2.90
Bill's Steady Growth				2.66	1.82	2.25	1.89
Bill's Strong Growth				2.81	2.08	2.44	2.22

Residential Investment. Forecasts for growth in residential investment are shown in **Table 5**. In spite of a tepid 1.3 percent increase in residential investment in the first quarter, GS expects residential investment growth to be about 7 percent in 2015 and then accelerate to about 13 percent in 2016 and 2017 and 11 percent in 2018. **B of A** has been less optimistic. It reduced its 2015 forecast for residential investment growth 5 percent to 3 percent, but still expects residential investment growth to rise to about 8.5 percent in both 2016 and 2017. Then residential investment growth falls to 4 percent in 2018.

As each quarter rolls by the much expected acceleration in housing investment has failed to materialize.

Table 5
Real Private Business Investment (Residential and Nonresidential) Growth Rate Y/Y
Forecasts — B of A, GS, Bill’s “Steady Growth” and Bill’s “Strong Growth”

	2012	2013	2014	2015	2016	2017	2018	Ave. 1947-2014
REAL PRIVATE BUSINESS INVESTMENT								
Actual	8.30	4.68	5.39					3.80*
B of A				2.73	5.26	5.91	4.35	
GS				2.99	6.17	6.85	6.58	
Bill’s Steady Growth				2.98	2.71	2.55	2.55	
Bill’s Strong Growth				3.30	3.77	2.94	2.81	
REAL NONRESIDENTIAL INVESTMENT								
Actual	7.19	3.05	6.32					2.55*
B of A				2.63	4.49	5.24	4.44	
GS				2.07	4.47	5.28	5.25	
REAL RESIDENTIAL INVESTMENT								
Actual	13.51	11.90	1.59					-1.34*
B of A				3.14	8.56	8.62	3.98	
GS				6.91	13.12	12.75	11.24	

*Average 1999-2014; real private business investment = 1.55% for 1999-2014

This is a bit of a mystery because the overhang of excess supply has long since disappeared and household formation has begun to rise. For these reasons forecasters expect housing to emerge at any minute from the doldrums. So, they simply keep pushing forward strong housing acceleration. It is getting to the point, however, that some are pondering whether fundamental structural changes have occurred in the housing market which will limit the extent to which housing investment rises as the economy improves. Stringent underwriting standards and changes in household formation and, thus, in housing demand, may not be as transitory as forecasters expect.

Nonresidential Investment. Forecasts for growth in nonresidential investment are shown in **Table 5**. Based upon first quarter results, **GS** has reduced its 2015 forecast business investment growth from 4.0 percent to 2.1 percent. Similarly, **B of A** has reduced its 2015 forecast from 4.9 percent to 2.6 percent. Both forecasters expect stronger investment growth in 2016, 2017, and 2018 in a range of 4.5 percent to 5.25 percent. However, unless real interest rates move to a much higher positive value, these forecasts are likely to prove to be too optimistic.

Private Business Investment. Private business investment includes inventory accumulation in addition to residential and nonresidential investment. My forecast for 2015 is consistent with other forecasts. My below consensus forecasts in 2016, 2017 and 2018 result from my more pessimistic outlook for nonresi-

dential investment, which I believe will continue to be depressed by low real interest rates and slower real GDP growth.

Government Investment. Government investment spending is divided between federal and state/local investment spending. State and local government spending accounts for 61.2 percent of the total.

Table 6 shows actual total government investment growth for 2012, 2013, and 2014, and forecasts for 2015 through 2018. Relative to the 68-year average growth of 2.68 percent annually the actual results and forecasts are quite pessimistic. But the pessimism is warranted by the political constraints that have been imposed on government spending in recent years. Forecasts for 2015-2018, including my own, are consistent with the 1.14 percent rate of growth in government investment spending over the last 16 years. However, as is already turning out to be the case in 2015, even these low rates of growth may prove to be too optimistic.

Table 6
Government Investment Growth Rate Y/Y Forecasts — B of A, GS, Bill’s “Steady Growth” and Bill’s “Strong Growth”

	2012	2013	2014	2015	2016	2017	2018	Ave. 1947-2014
Actual	-1.28	-2.01	-0.16					2.68*
B of A				0.63	1.07			
GS				0.40	1.19	1.25	1.25	
Bill’s Steady Growth				0.38	1.16	1.26	1.21	
Bill’s Strong Growth				0.55	1.30	1.34	1.36	

*1999-2014 average growth rate = 1.14%; federal = 2.12%; state & local = 0.54%

Inflation-adjusted state and local spending is up 1.05 percent over the last year, but declined at an annual rate of -1.5 percent in the first quarter. **GS** cites three reasons to expect relatively weak state and local government spending growth in coming quarters. First, state revenue growth will be weak due both to slow economic growth and voter resistance to tax increases. Second, most states plan only modest budgetary increases, which is directly related to weak revenue growth and balanced budget requirements. Third, a growing proportion of state and local expenditures are allocated to health and other social benefits, which are not counted as spending in the national income accounts — they are transfer payments.

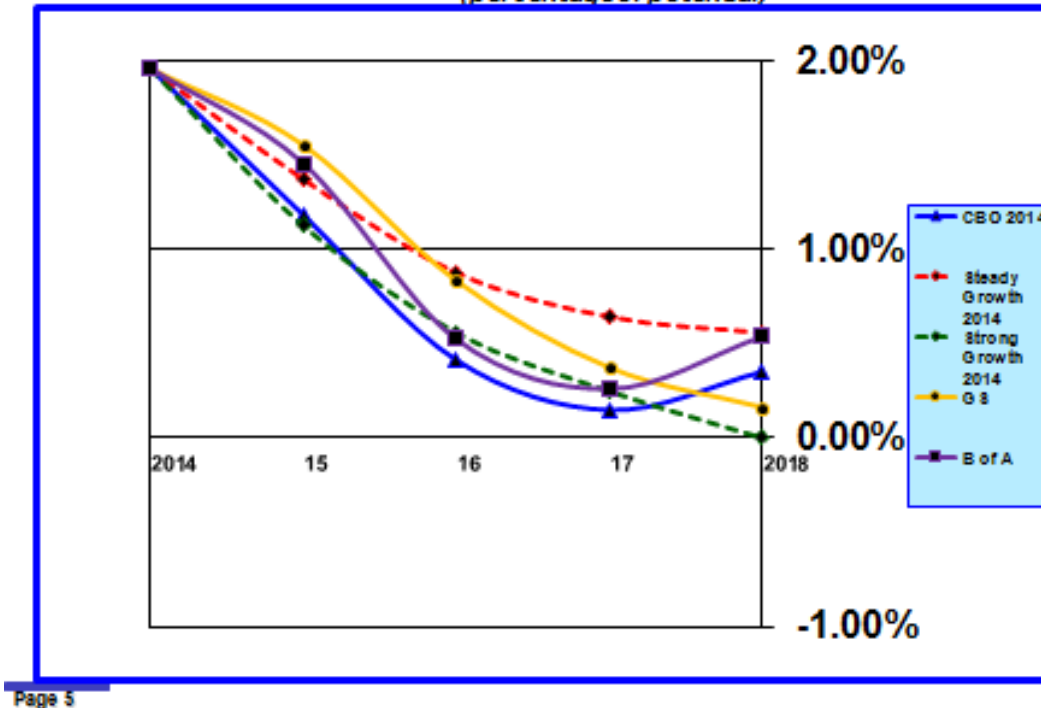
6. GDP Output Gap

Generally, most forecasters expect the real GDP output gap, which was 2.0 percent at the end of the fourth quarter, to close rapidly during 2015 and 2016. The only exception is my “*Steady Growth*” scenario, but even in that scenario the gap falls to less than 1 percent by the end of 2016. (See **Chart 5**.)

All output gap forecasts, including my own, are now tightly clustered and agree that the gap should largely disappear within the next six to eight quarters. This is so even though my real GDP forecasts are lower. That is because my estimates of potential real GDP growth are also lower because of slowing

CHART 5 – Real GDP Output Gap

(percentage of potential)



employment growth and depressed productivity gains.

III. Employment

Employment growth has moderated since the beginning of the year but remains relatively strong. But, as I will discuss below, weaknesses remain in the labor market.

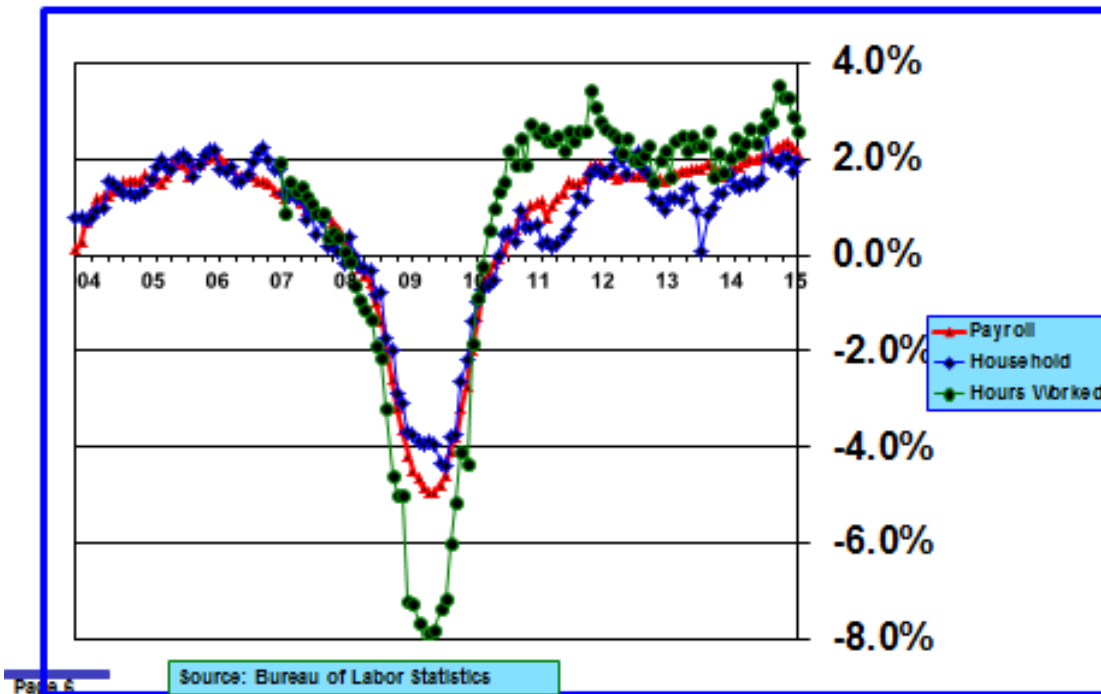
1. The Good News

As can be seen in **Chart 6**, employment growth was strong in 2014 but has moderated somewhat over the first four months of 2015. Payrolls grew 3,116,000 during 2014 — a 2.27 percent increase. Payroll employment grew a further 775,000 in the first four months of 2015 bringing the 12-month rate of growth down to 2.16 percent.

Household employment grew 2,770,000 in 2014 — a 1.92 percent increase. Through April 2015, the 12-month rate of growth remains 1.92 percent. The unemployment rate fell from 6.69 percent in December 2013 to 5.56 percent in December 2014 and was 5.44 percent in April. Notably, the current unemployment rate is not much different than CBO's long-term noninflationary level of 5.38 percent.

Hours worked by all employees grew 3.53 percent during 2014 as the average length of the workweek stretched from 34.3 to 34.6 hours. However, the 12-month rate of change in hours worked slowed to 2.59

CHART 6 – Employment Growth
(annual rate of change)



percent in April and the length of the workweek edged down to 34.5 hours.

Chart 7 shows that the length of the workweek rose for all workers and for production and nonsupervisory workers during 2014 but has edged down about 0.1 hour for both groups so far in 2015. Total hours worked rose 3.47 percent for production and nonsupervisory workers and hours worked by all employees increased 3.53 percent during 2014, due primarily to a larger proportion of full time jobs but also to increasing overtime work. Over the last 12 months through April 2015 the rate of increase in hours worked has slowed to 2.22 percent for production and nonsupervisory workers and 2.59 percent for all workers.

Thus, while growth in total hours worked remains strong, growth is slowing.

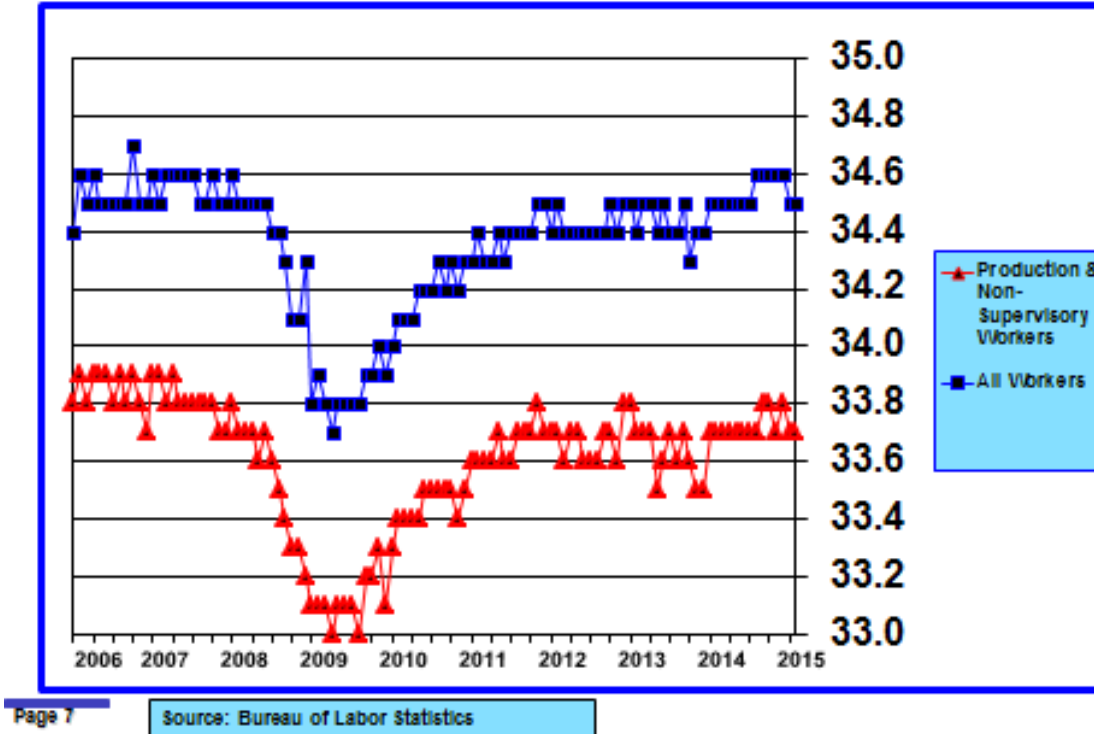
Strong growth in total hours worked is important because when the length of the workweek is expanding take-home pay grows more rapidly than implied by simply looking only at payroll and household employment growth. This is typical of periods of economic expansion, as **Chart 7** indicates for the period from 2010 to the present.

If analysts looked no further, it would be easy to conclude that the labor market is fast approaching full employment.

2. Disappointing News

Although employment growth has been strong, the drop in the unemployment rate to 5.44 percent in April paints a rosy picture of the health of the labor market that is not corroborated by other labor market

CHART 7 – Average Weekly Hours
(All Workers; Production and Non-Supervisory Workers)



measures.

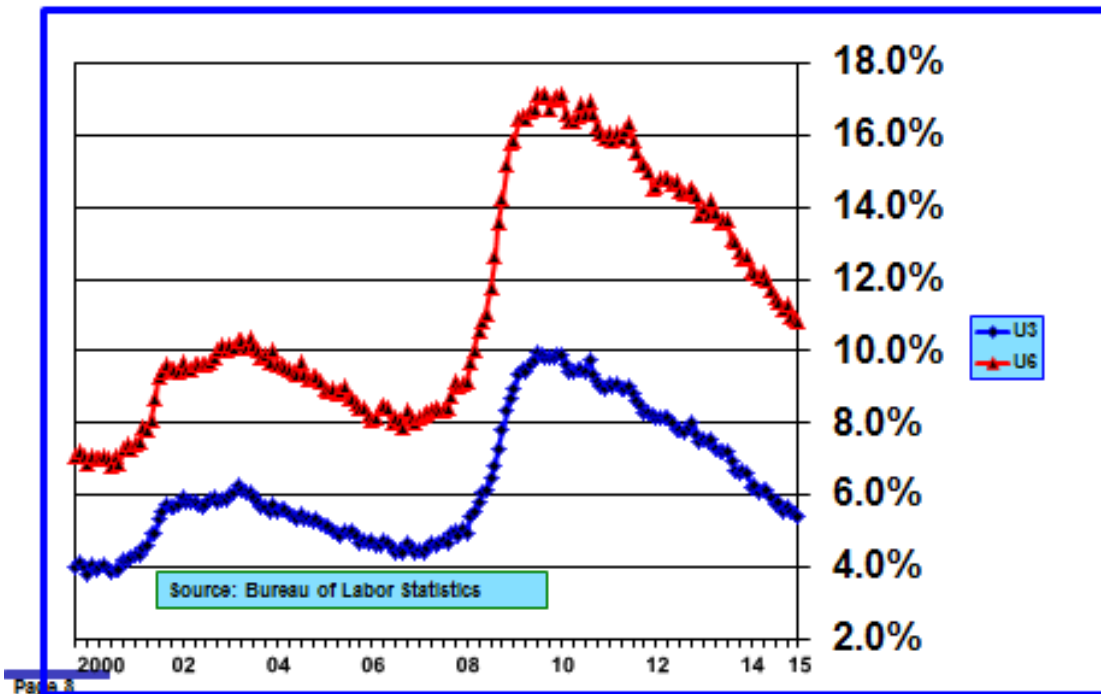
a. Unemployment Rates — U-3 and U-6

First of all, the conventional unemployment rate, which the Bureau of Labor Statistics refers to as the “U-3” measure, is nearing the level that generally prevails when the economy is buoyant. But, the broader “U-6” measure of unemployment, which adds those who are working part-time for economic reasons and those marginally attached to the labor force to the U-3 measure, is still well above the 8 percent to 9 percent range that historically has prevailed when economic activity is strong (see **Chart 8**). The U-6 unemployment rate fell from 13.06 percent in December 2013 to 10.83 percent in April 2015. It is heading in the right direction but has yet to return to a level consistent with full employment. Historically, during economic expansions improvement in the U6 unemployment rate has lagged improvement in the U3 unemployment rate. However, allowing for this lagged relationship, the U-6 unemployment rate should be 10.55 percent instead of 10.83 percent. So, the U6 rate is actually improving somewhat more slowly than would be expected based on the recent improvement in the U3 rate.

b. Long-Term Unemployment

Another labor market indicator that is still registering weakness is the long-term unemployment rate, defined as the percentage of the labor force that has been unemployed for 26 weeks or longer. When the short-term unemployment rate (those unemployed less than 26 weeks) averaged 3.8 percent in 2006

CHART 8 – U-3 and U-6 Unemployment Rates



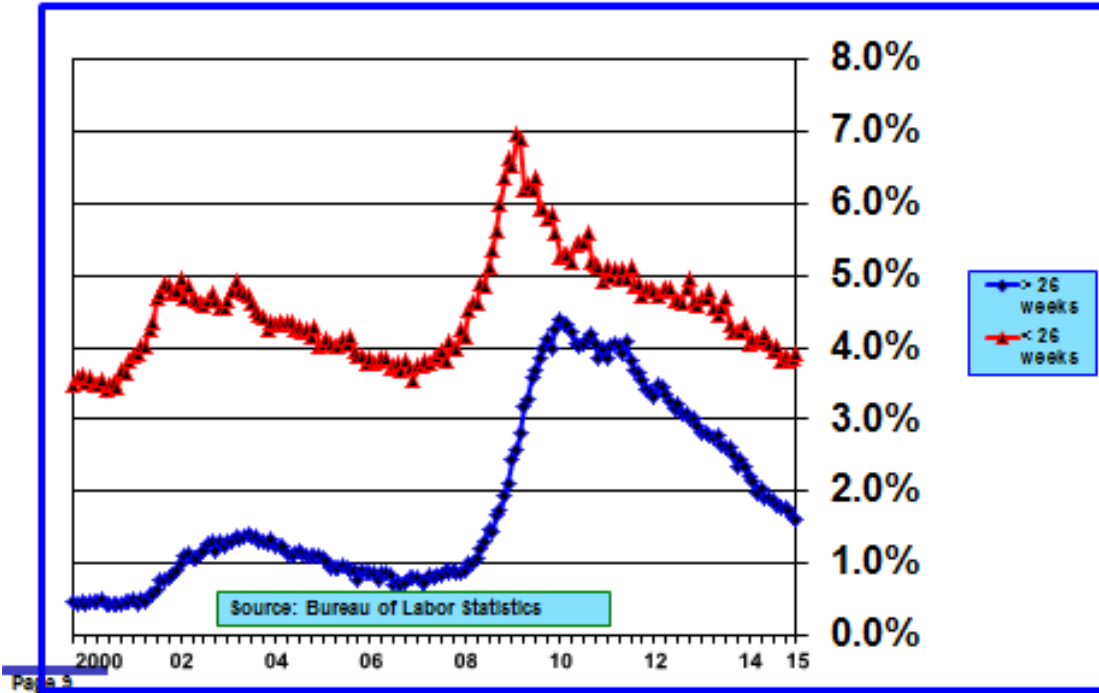
and 2007 just prior to the onset of the Great Recession, the long-term unemployment rate averaged 0.8 percent. In April 2015 the short-term unemployment rate was 3.9 percent, which was nearly identical to the pre-Great Recession average. However, the long term unemployment rate was 1.6 percent, which was considerably above the full-employment level of 0.8 percent. As can be seen in **Chart 9**, the long-term unemployment rate fell from 2.5 percent in December 2013 to 1.6 percent in April 2015. Thus, this metric is improving rapidly but still has a ways to go to equal the pre-Great Recession average of 0.8 percent.

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

The **labor-force-participation ratio** and the **employment-to-population ratio** are also important measures of the health of the labor market. The **employment-to-population ratio** measures the percentage of people eligible to work who have a job, while the **labor force participation rate** is the percentage of those in the labor force who are either working or would like to work but are counted as unemployed. The numerators of both of these measures are based on the U-3 measure of unemployment. The difference in the numerators of the two ratios is the number of unemployed workers — those who say they are looking for work — based upon the U3 definition of unemployment. Trends in both measures are shown in **Chart 10**.

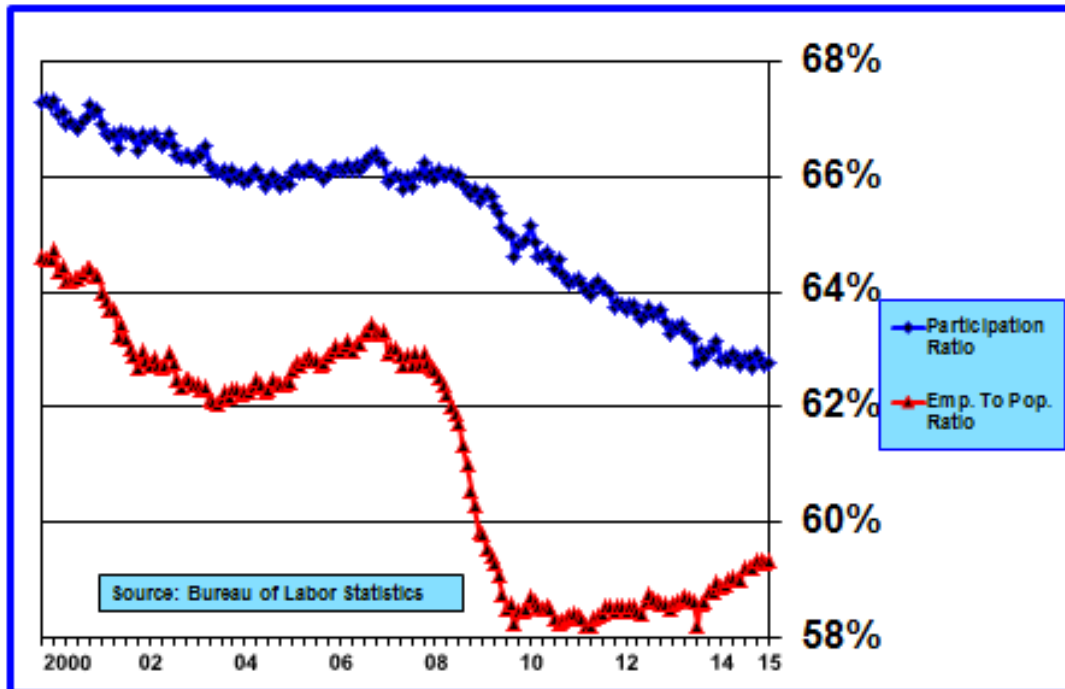
When the Great Recession hit, the employment-to-population ratio plummeted from 62.9 percent in December 2007 to 58.2 percent in December 2009. What is troubling is that the recovery in this ratio has been anemic. It was 59.3 percent in April 2015 compared to 58.6 in December 2013. What this means

**CHART 9 – LT (>26 weeks) and ST (<26 weeks)
Unemployment Rates**



Page 9

CHART 10 – Labor-Force-Participation and Eligible-Employment-to-Population Ratios (U-3 Measure)



Page 10

is that most of the 10.5 million jobs created since December 2009 have accommodated approximately 7.9 million new entrants into the labor force who are willing to work. The difference of approximately 2.6 million is unemployed workers who have become reemployed. But, the number of unemployed workers has fallen by 6.5 million over this same period. What accounts for this 3.9 million discrepancy? All of them have left the labor force, but the question is one of whether they have left permanently or are simply discouraged and will enter the labor market in the future as employment prospects improve. The discrepancy was 4.2 million in December 2014 which suggests that 300,000 discouraged workers might have reentered the labor force during the first four months of 2015. If this is the case, then there remains a large unaccounted number of discouraged workers that might reenter the labor force in coming months as the labor market strengthens.

The **participation ratio** is measured by adding the number of unemployed workers to the numerator of the employment-to-population ratio. When the Great Recession hit, the participation ratio fell from 66.0 percent in December 2007 to 64.6 percent in December 2009. What is concerning is that the participation ratio has continued to decline, although it stabilized during 2014. It was 62.7 percent in December 2014 compared to 62.8 in December 2013. The ratio improved to 62.8 in April 2015.

Over the longer term, the aging of the labor force should continue to put downward pressure on the participation ratio; however, this measure has declined more than can be explained by demographic shifts alone. The discrepancy involves workers who have become discouraged and have simply dropped out of the labor force.

d. Discouraged Workers

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

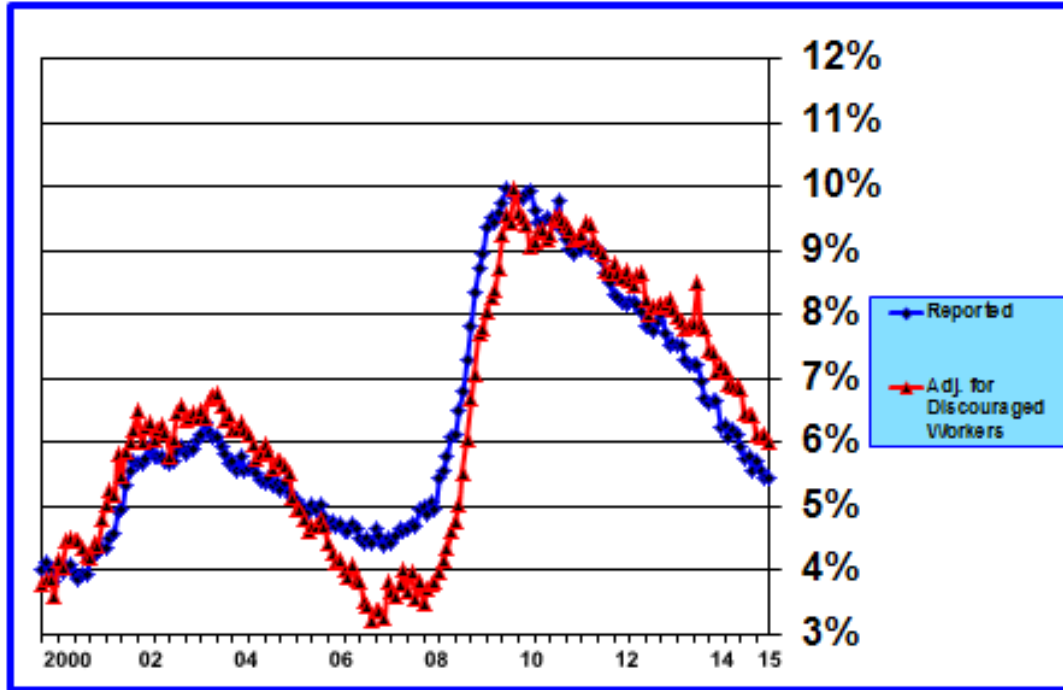
In recent months the unemployment rate has declined much more than expected, partially because employment growth has been stronger. But the question remains as to what extent the U-3 measure of unemployment might be artificially depressed by omission of discouraged workers, who may reenter the labor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

Chart 11 shows my alternative unemployment measure, which adjusts for discouraged workers. In April 2015, my alternative unemployment rate was 6.02 percent compared to BLS's reported rate of 5.44 percent for the U-3 unemployment rate. This difference of 0.58 percent amounts to approximately 915,000 discouraged workers or approximately one-quarter of the 3.9 million "missing" workers. To the extent that this is a reasonable estimate, it means that the other three-quarters have permanently left the labor force due to demographic shifts in the composition of the labor force, such as the increasing percentage of retirees.

In December there were 4.2 million missing workers of which I estimated that 1.4 million were discouraged. Both of these totals have improved by approximately the same amount since December. This suggests that the remaining 915,000 discouraged workers could reenter the labor force in coming months but this is far less likely to occur for the remaining 3.0 million missing workers.

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

CHART 11 – Reported Unemployment Rate & Adjusted for Discouraged Workers



Page 11

All of this implies that the U-3 measure of unemployment, which has nearly reached CBO's long-term full employment potential rate of unemployment of 5.38 percent, probably overstates the strength of the labor market.

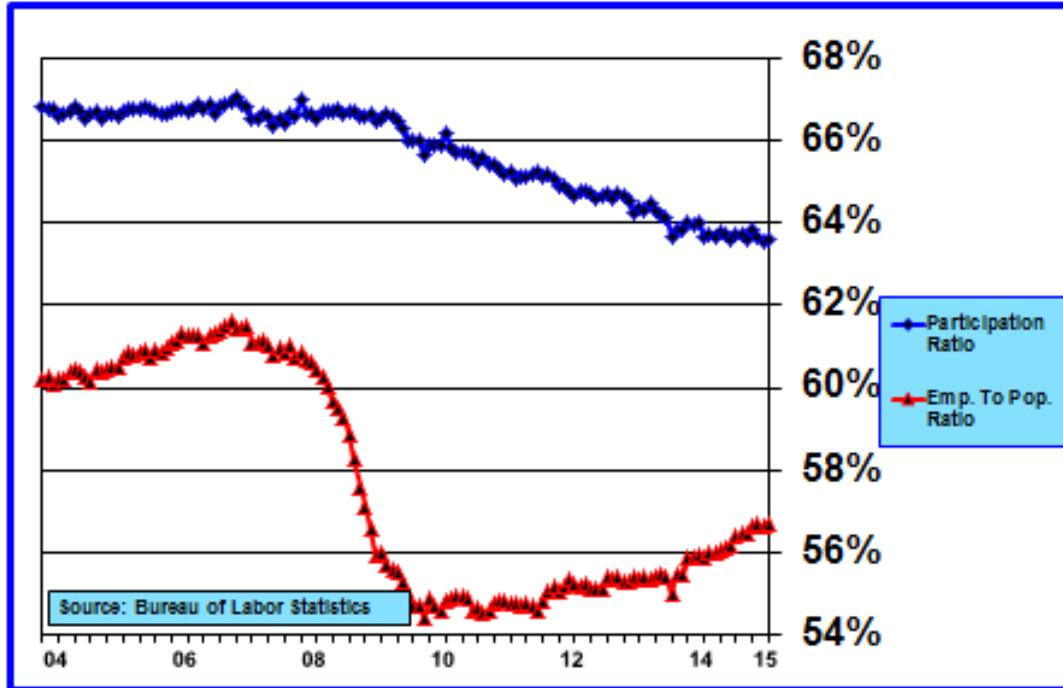
e. Employment-to-Population and Labor Force Participation Ratios (U-6 Definition of Unemployment)

The **labor-force-participation ratio** and the **employment-to-population ratio** can be adjusted to the U-6 measure of unemployment. The numerators of both of these revised measures are based on the U-6 measure of unemployment. The difference in the numerators of the two ratios is the number of unemployed workers — those who say they are looking for work — plus those working part-time for economic reasons and marginally attached to the labor force, based upon the U-6 definition of unemployment. Trends in both measures are shown in **Chart 12**.

When the Great Recession hit, the U-6 employment-to-population ratio plummeted slightly from 60.8 percent in December 2007 (U-3 = 62.9 percent) to 54.4 percent in December 2009 (U-3 = 58.2 percent). The decline for the U-6 measure of the employment-to-population ratio was larger than the decline in the U-3 measure and reflected the substantial increase in people working part-time for economic reasons (increase of 4.5 million) and marginally attached workers (increase of 926,000) during and just following the Great Recession.

This U-6 ratio has improved a little more rapidly than the U-3 measure over the last 16 months as the number of working part-time for economic reasons (-1,186,000) and those marginally attached to the labor

CHART 12 – Labor-Force-Participation and Eligible-Employment-to-Population Ratios (U-6 Measure)



Page 12

force (-312,000) have declined. The ratio was 56.72 percent in April 2015 (U-3 = 59.35 percent) compared to 55.48 in December 2013 (U-3 = 58.63 percent). The U-6 measure has improved 1.24 percentage points compared to 0.72 percentage points for the U-3 ratio.

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

The U-6 participation ratio, like the U-3 measure, has also continued to decline, although it showed signs of stabilizing. It was 63.61 percent in April 2015 (U-3 = 62.76 percent) compared to 63.82 in December 2013 (U-3 = 62.84 percent).

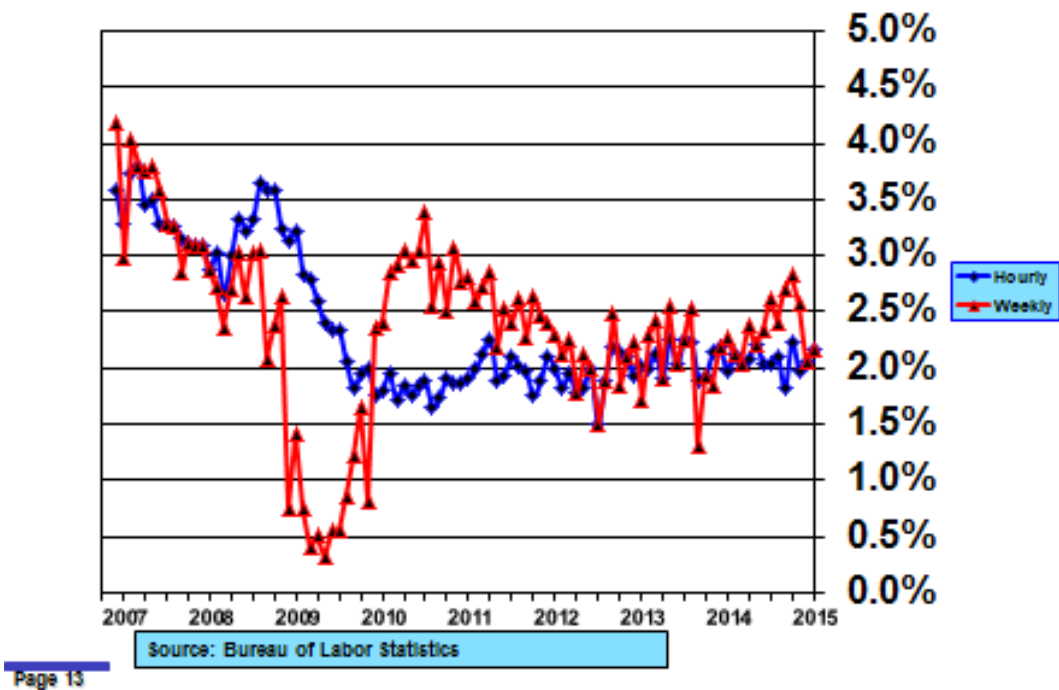
f. Wage Rate Growth

Growth in hourly wages is an important measure of labor market strength. An increasing rate of growth would be evidence of a strengthening labor market in which labor, particularly in scarcer job categories, is gaining more bargaining power.

As can be seen in **Chart 13**, the rate of growth in hourly wages for all workers has fluctuated in a narrow band in the vicinity of 2.0 percent for the last five years. In a way this is good news because the large output gap and high unemployment rate, which have persisted for several years, have not put further

downward pressure on wage rate growth. But, it has become increasingly concerning that wage growth has not shown any sign of acceleration as the U-3 unemployment rate has dropped to close to CBO's long-term full employment level of 5.38 percent.

CHART 13 – Hourly and Weekly Wages – All Workers (annual rate of change)



Page 13

Hourly wages grew 2.18 percent over the last 12 months. This is not what market watchers had expected and offsets to some extent the optimistic picture painted by many other aspects of recent employment reports.

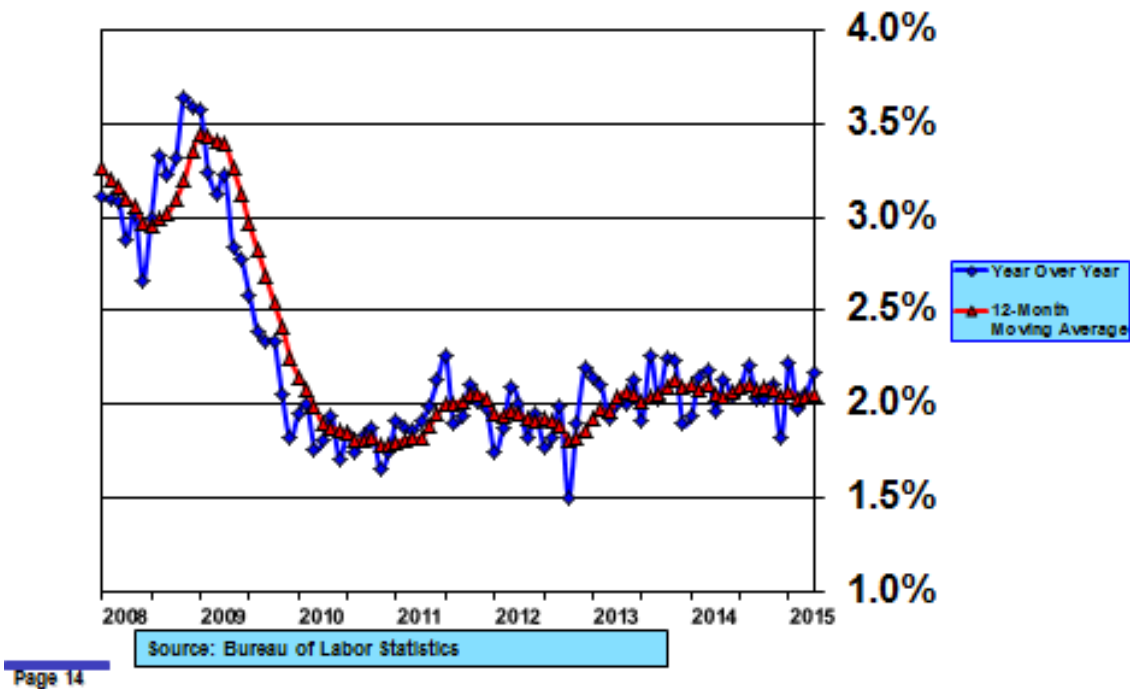
Weekly average wages for all employees has also grown 2.18 percent, reflecting no change in the length of the workweek over the last 12 months.

Chart 14 smooths trends in hourly wages by calculating a 12-month moving average. Over the last year the trend growth rate in hourly wages has not budged. Hourly wages were growing 2.06 percent in April 2014 and 2.06 percent in April 2015. Thus, in spite of expectations and commentary that wage growth is showing preliminary signs of acceleration, there is as yet no direct evidence that is actually occurring in the hourly wage data compiled by the BLS for all workers. Nonetheless, most expect that acceleration in wage growth will begin to show up during 2015 and that is certainly what **GS's** wage tracker suggests, although at 2.2 percent that measure is not indicating there is likely to be much near-term upward pressure on hourly wages.

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

First, employers did not reduce wages during the extended period of labor market weakness by as

CHART 14 – Hourly Wage Rate Growth – All Workers
(annual year over year and 12-month moving average rates of change)



much as the standard relationship between the supply and demand for labor implies. This relationship is described by the wage-unemployment Phillips curve. The explanation is that there is downward wage rigidity which simply means that employees resist wage cuts and employers tend to avoid doing things that create negative employee relations. This phenomenon leads to “pent-up wage cuts.” When the labor market improves, employers respond to pent-up wage cuts by waiting longer to raise wage rates or by raising them in smaller increments.

This pattern of employer behavior is well documented in a recent study authored by Mary C. Daly and Bart Hobijn, economists at the San Francisco Federal Reserve Bank.³ They marshal considerable statistical evidence that shows clearly that industries that lacked employment flexibility and were least able to cut wages during and just after the Great Recession, thus resulting in pent-up wage cuts, experienced much slower rates of wage rate increase as the labor market strengthened. In other words, industries that have limited wage flexibility, such as construction, perhaps because of union contracts, experience smaller reductions in wage growth during difficult times but also experience smaller gains during better times. Industries with considerable wage flexibility, such as financial, insurance and real estate services, experience much more wage flexibility.

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

Second, as logical as the “pent-up wage cut” theory is and the historical evidence that supports it, wage

³Mary C. Daly and Bart Hobijn. “Why Is Wage Growth So Slow?” Federal Reserve Bank of San Francisco Economic Letter 2015-01, January 5, 2015.

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

This is all about human psychology. An extended period of disinflation and perhaps even deflation is not a phenomenon we have experienced in our lifetimes, so it is difficult to speculate how this might impact the extent to which nominal wage growth accelerates in coming months.

What we do know is that when people expect prices to fall (deflation) they postpone purchases. This behavioral response depresses demand relative to supply and actually reinforces deflationary pressures. That is one of the reasons that policymakers focus so intently on trying to maintain expectations of gradual price increases and why the Federal Open Market Committee (FOMC) has a 2.0 percent inflation objective for monetary policy.

Although measured inflation in the U.S. has been below the 2.0 percent objective for some time, the threat of outright deflation remains remote. Nonetheless, there is increasing evidence that inflation expectations are becoming unanchored and moving lower. This development could well depress upward pressure on wage rate growth and if that, indeed, does occur, it will make it more difficult to drive inflation back up to 2.0 percent and correspondingly will increase the risk that the inflation rate falls rather than rises in coming months. It is this risk that underpins escalating worry about why interest rates are low and whether the collapse in oil and commodity prices might contribute to unanchoring inflation expectations to the downside.

g. Labor Market Conditions Index

For the first time since 2012, the Federal Reserve's Labor Market Conditions Index (LMCI) has been negative for two consecutive months. The LMCI is a composite of 19 labor market indicators. This is certainly bearish for the labor market. However, this index is relatively new and because of that its signaling dependability has yet to be established firmly.

3. Implications of Substantial Remaining Labor Market Slack

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

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

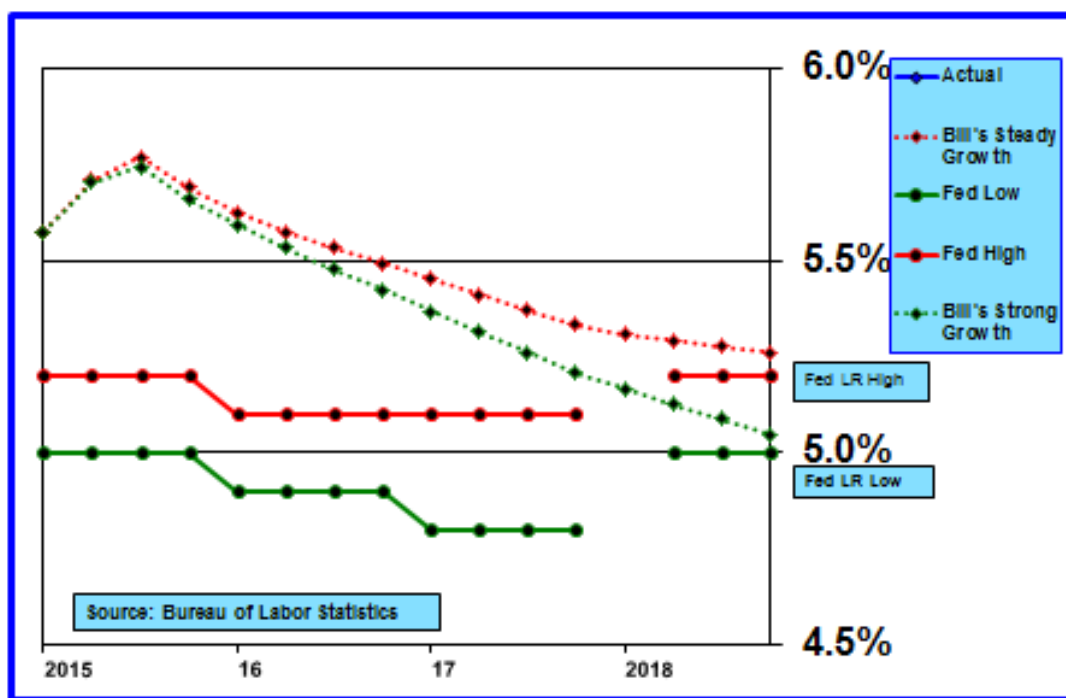
4. Outlook for the Unemployment Rate

One of the great unexpected surprises over the last two years has been how rapidly the U-3 measure of unemployment has fallen. It was 7.9 percent in December 2012, 6.7 percent in December 2013, and 5.6 percent in December 2014 and 5.4 percent in April 2015. The current U-3 unemployment rate is not much above CBO’s long-term full employment potential unemployment rate of 5.38 percent.

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

Chart 15 shows the FOMC’s high (red line and circles) and low (green line and circles) unemployment rate projections for 2015, 2016 and 2017. The FOMC expects further declines in the unemployment rate through 2017 to a level below its long-term expected range. That means that the FOMC expects growth to be above long-term potential and as slack in the economy diminishes, a tighter monetary policy will be required. A tight labor market is expected to take hold in 2016 and 2017, but because monetary policy operates with a 12 to 18 month lag, the FOMC’s unemployment rate projections imply that it will begin raising the federal funds rate during 2015.

CHART 15 – Unemployment Rate
(quarterly average)



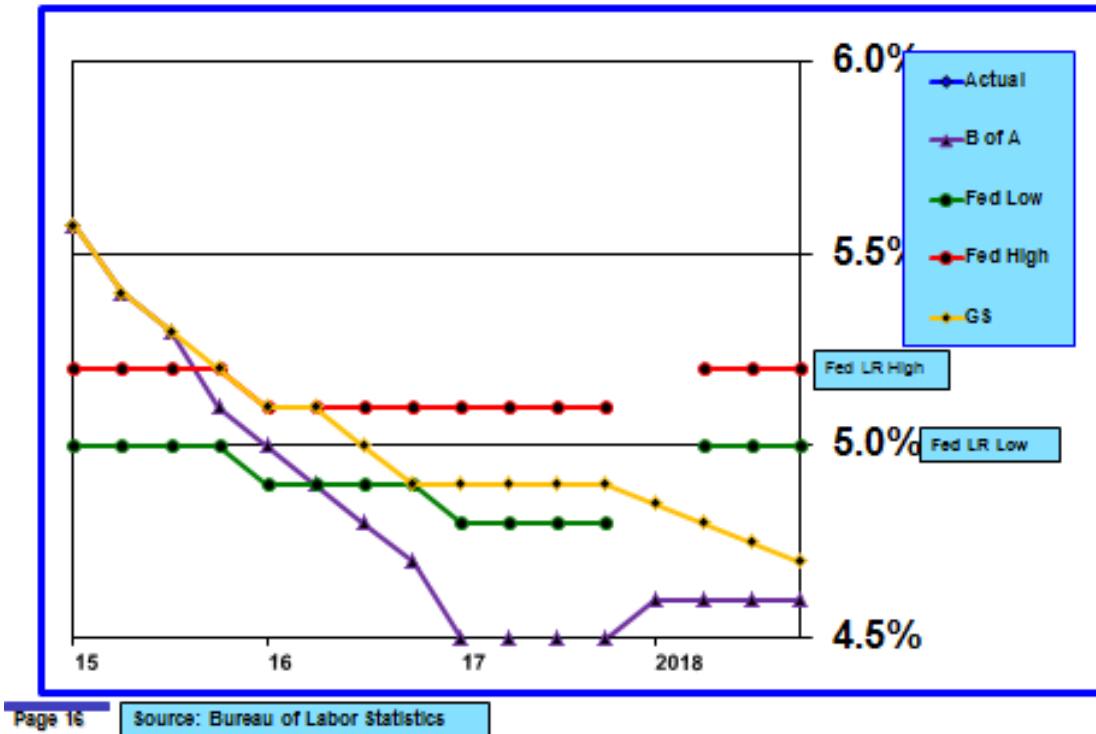
Page 15

I have included in **Chart 15** unemployment rate forecasts for both my “*Steady Growth*” (red dashed line and diamonds) and “*Strong Growth*” (green dashed line and diamonds) scenarios. Unemployment rate estimates in both scenarios are slightly above the FOMC’s projection range, but converge to the FOMC’s long-term full potential range of 5.0 percent to 5.2 percent in 2018.

Both **B of A** and **GS**, like all other forecasters, have repeatedly marked their unemployment rate

forecasts to market over the last two years. Both agree with the FOMC's projection range in 2015. **B of A** is more optimistic than FOMC projections and the **GS** forecasts in 2016 and 2017 (see **Chart 16**).

CHART 16 – Unemployment Rate
(quarterly average)



5. The Structural Unemployment Rate

Several times I have referred to CBO's structural unemployment rate, which currently has a value of 5.38 percent. Economists also refer to this value as the nonaccelerating inflation rate of unemployment (NAIRU). CBO expects NAIRU to fall to 5.17 percent by 2025. Also, the FOMC expects NAIRU in the longer run to be between 5.0 and 5.2 percent. The Fed staff's supply side macroeconomic model pegs the structural rate of unemployment currently at 5.0 percent.

NAIRU is important for the conduct of monetary policy. When the observed unemployment rate is above NAIRU, labor market slack exists and there is limited upward pressure on wages and inflation. The reverse occurs when the unemployment rate falls below NAIRU.

If NAIRU is 5.1 percent, the midpoint of the FOMC range, just 500,000 more jobs above the natural rate of employment growth from an expanding labor force would be required to reach NAIRU. The monthly natural growth rate is 150,000 currently. Thus, if employment growth averages 200,000 per month, which is close to this year's average monthly increase in payroll employment, NAIRU would be reached in 10 months.

This suggests that because monetary policy works with a lag of 12 to 18 months the FOMC should begin to tighten monetary policy soon.

However, the aging of the workforce may well push down NAIRU. Research conducted by Chicago Federal Reserve Bank economists indicates that the aging of the population has already driven NAIRU down to 4.9 percent and will result in a value for NAIRU of 4.5 percent by 2020. This translates into 800,000 jobs today and 1.4 million by 2020 that must be absorbed before NAIRU becomes binding and boosts inflationary pressures.

In addition, as discussed above, there are a great many people who are not counted as unemployed who are likely to reenter the labor force as the economy improves and the labor market tightens.

In conclusion, it is highly likely that a great deal of slack remains in the labor market and, although slack is diminishing, it will persist for an extended period of time. This means that inflation is likely to remain quiescent for a considerable period of time.

IV. Consumer Income and Spending

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

For all of these reasons, it is best to look at trends in consumer income and spending data. Data in **Table 7** compare year-over-year changes for 2012, 2013, 2014 and for the 12 months ending in January, February, and March 2015. The year-over-year changes are very sensitive to data anomalies in a specific month. That problem is particularly prominent in the 2012 data when the impending repeal of the Bush tax rate cuts for high income earners beginning in 2013 led to acceleration of income recognition in December 2012. This in turn affected the year-over-year change in December 2013 data. This kind of volatility often makes it difficult to discern trends.

To ameliorate volatility, I use moving averages in **Charts 17, 18A, 18B, and 19**. The policy impacts are visible in the charts, but it is easier to see the longer-term trends unfolding.

1. Year-Over-Year Percentage Changes in Personal Income, Disposable Income and Consumption — 2012, 2013, 2014 and 12 Months Ending in January, February and March 2015

Growth in nominal personal income is edging lower over the first three months of 2015, from 4.82 percent in December 2014 to 3.85 percent in March 2015. The same trend is occurring in nominal disposable income. Notice that the growth rate in nominal disposable income is about 20 basis points lower than the growth rate in nominal personal income. This difference results from the more rapid growth rate in personal taxes, which is probably an outcome of the U.S.'s progressive tax structure.

2. Consumption

Data in **Table 7** indicate that the growth rate in nominal consumer spending has been relatively stable over the last three years. However, growth in consumer spending has decelerated sharply over the first

Table 7
Percentage Change in Nominal Personal Income and Its Disposition for 2012, 2013 and 2014 and 12 Months Ending in January, February and March 2015

	2012 Pct. Change	2013 Pct. Change	2014 Pct. Change	Pct. Change Jan 14 - Jan 15	Pct. Change Feb 14 - Feb 15	Pct. Change Mar 14 - Mar 15
Personal Income	8.96%	-2.07%	4.82%	4.60%	4.45%	3.85%
Compensation	6.74%	0.75%	4.96%	4.64%	4.23%	3.70%
Proprietors' Income	8.40%	3.44%	5.29%	3.64%	2.80%	2.56%
Rental Income	8.42%	10.03%	7.32%	6.83%	6.51%	5.97%
Asset Income	24.43%	-15.49%	2.78%	2.84%	4.01%	1.98%
Government Transfers	3.12%	2.14%	5.52%	5.85%	5.79%	5.90%
Less: Personal Taxes	9.73%	9.02%	6.18%	5.52%	5.09%	4.57%
Disposable Income	8.62%	-3.05%	4.59%	4.38%	4.26%	3.65%
Less: Consumption	3.79%	3.88%	3.81%	3.73%	3.50%	3.18%
Personal Saving	79.50%	-61.90%	22.67%	17.01%	18.79%	12.89%
Personal Saving Rate	6.88%	5.41%	4.78%	4.84%	4.89%	4.95%
Adj. Personal Income[#]	8.81%	-1.06%	4.88%	4.59%	4.41%	3.81%

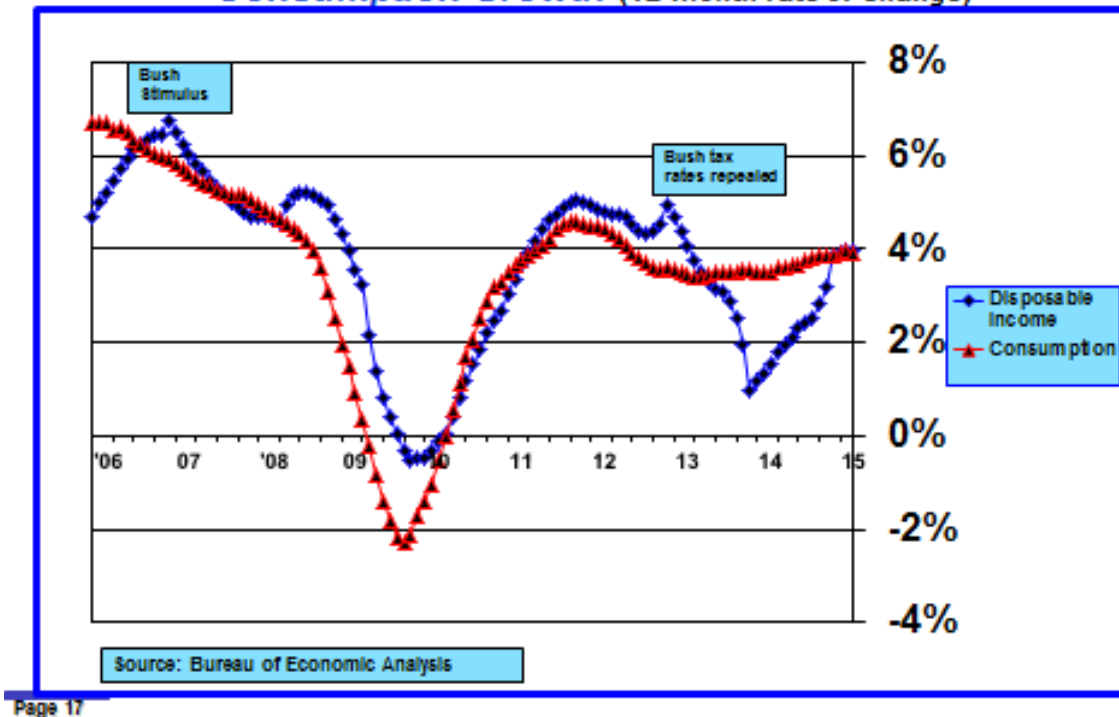
[#]Growth rate in personal income, assuming no change in the payroll tax rate. The payroll tax rate was lowered by 2 percentage points in 2011 and restored to its original level in 2013.

three months of 2015. This correlates with the unexpected shortfall in first quarter real GDP growth due in part to weak consumer spending. Weather impacts, seasonal adjustment anomalies and missing data could well be part of the story. In other words, there is a reasonable chance that the deceleration in consumer spending growth will melt away as the data are revised in the future.

3. Disposable Income and Spending

Chart 17 shows the nominal rate of growth in disposable income and consumer spending from 2006 to the present. Growth rates are calculated as changes in quarterly averages year over year. This method smooths timing anomalies to a certain extent, although major events such as occurred at the end of 2012 will still impact the observed trend for the following 12 months.

CHART 17 – Nominal Disposable Income and Consumption Growth (12-month rate of change)



Page 17

The annual rate of growth in disposable income began slowing in late 2011 and declined from 5.0 percent in November 2011 to 1.0 percent in December 2013, but then rebounded since then to 4.0 percent in March 2015.

Chart 17 shows that growth in nominal consumer spending, after peaking at 4.6 percent in October 2011, slowed to about 3.4 percent in May 2013 and has edged back up to 3.9 percent in October 2014 and has held at that level over the last six months.

4. Outlook for Nominal Disposable Income and Spending

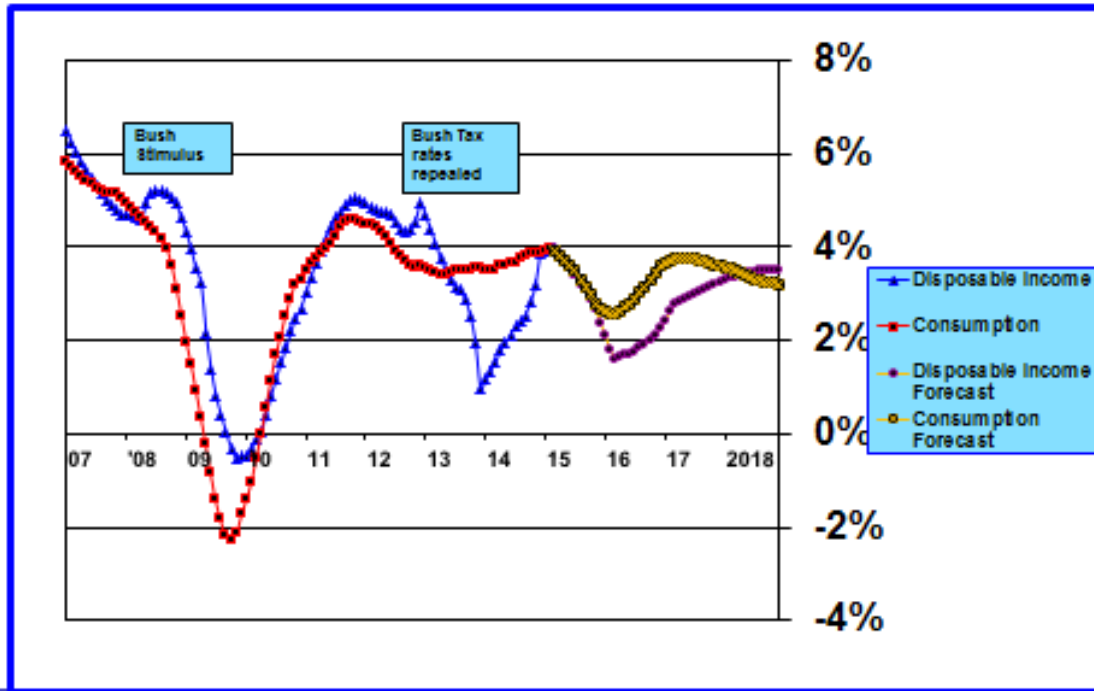
As can be seen in **Charts 18A** (“*Steady Growth*” scenario) and **18B** (“*Strong Growth*” scenario), my statistical model indicates that nominal consumer disposable income and spending growth will slow in coming months but then rise in 2016. This result is inconsistent with other forecasts which anticipate an acceleration in consumer spending in coming months.

My forecasts are derived from a model that includes hours worked, productivity, financial and housing wealth, the saving rate, and oil prices as variables.

As mentioned above, in the short run lower oil prices in my model depress consumer spending growth. This is not what other analysts expect but, at least for the time being, appears to be consistent with the reported weak consumer spending growth in the first quarter.

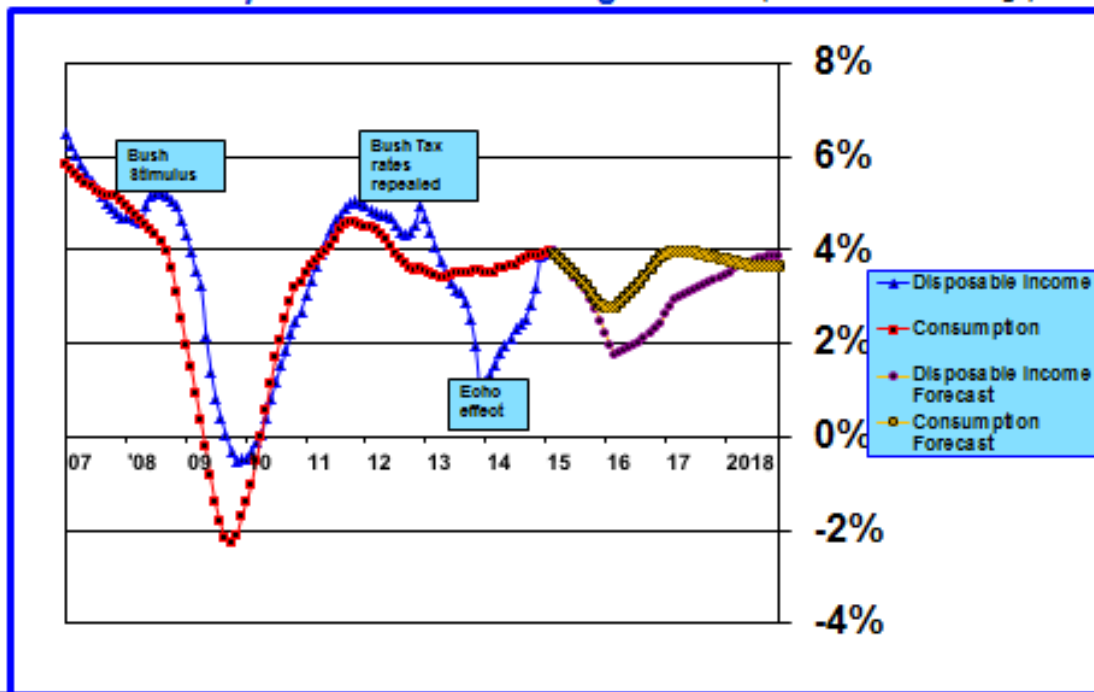
By 2016 consumer spending is boosted by the oil price effect.

CHART 18A – Forecast Nominal Disposable Income and Consumption Growth – Steady Growth (12-month rate of change)



Page 18

CHART 18B – Forecast Nominal Disposable Income and Consumption Growth – Strong Growth (12-month rate of change)



Page 15

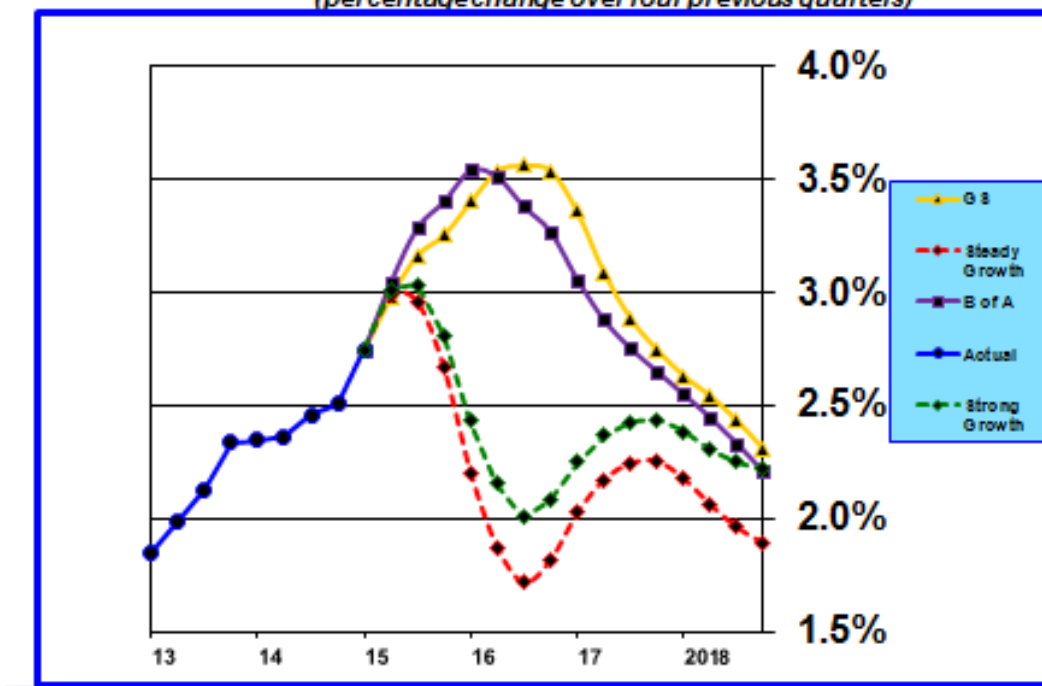
My model also indicates that the wealth effect of rising stock prices on consumer spending has been and will continue to be very significant. My model indicates that rising stock prices account for more than 30 percent of the increase in nominal consumer spending. This means that a near term bear market in stocks would have a sizable negative impact on consumer spending. In contrast the effect of housing prices is negligible.

Charts 18A and **18B** generally show that growth in nominal consumption will exceed growth in nominal disposable income in an expanding economy, which means that the saving rate will gradually decline over time. Notice that in both scenarios growth in nominal income and spending remains relatively stable over time at slightly below 4.0 percent. This is because inflation remains quiescent.

5. Real Consumer Spending Forecasts

Chart 19 shows forecasts for quarterly real consumer spending growth at an annualized rate. My “*Steady Growth*” and “*Strong Growth*” forecasts for real consumer spending do not appear to benefit as much by the impact of falling oil prices on inflation. Thus, my forecasts do not indicate the short-run peaking in the rate of real consumer spending growth that occurs in both the **GS** and **B of A** forecasts.

CHART 19 – Real Consumer Spending Growth - Forecast
(percentage change over four previous quarters)



Page 20

B of A and **GS** expect real consumer spending to rise 3.25 percent and 3.4 percent, respectively, during 2015. My “*Steady Growth*” forecast indicates growth of about 2.7 percent and my “*Strong Growth*” forecast is 2.8 percent.

Table 8 shows forecast real consumer spending growth rates for **B of A**, **GS** and my two scenarios.

Table 8
Real Consumer Spending Growth Rate Y/Y Forecasts — B of A, GS, Bill’s “Steady Growth” and Bill’s “Strong Growth”

Real Consumer Spending Growth	2011	2012	2013	2014	2015	2016	2017	2018
Actual	2.02	1.72	2.34	2.50				
B of A					3.40	3.27	2.65	2.20
GS					3.25	3.54	2.75	2.31
Global Insight					2.60	3.50	3.00	
Economy.com					2.50	2.80	2.70	2.60
Blue Chip					2.80	3.20	2.90	2.90
Bill’s Steady Growth					2.66	1.82	2.25	1.89
Bill’s Strong Growth					2.81	2.08	2.44	2.22

6. Consumer Confidence and Retail Sales

ISI’s weekly company surveys averaged about 55 during the middle part of 2014 but have eased back to approximately 52 over the last few months. The retail sales survey has been stuck in a narrow range of 51 to 52 for several months. The jump to 55 in December proved temporary and may have reflected an initial reaction to the plunge in gasoline prices (see **Chart 20**). These measures are indicative of slow growth.

V. Monetary Policy, Inflation and Interest Rates

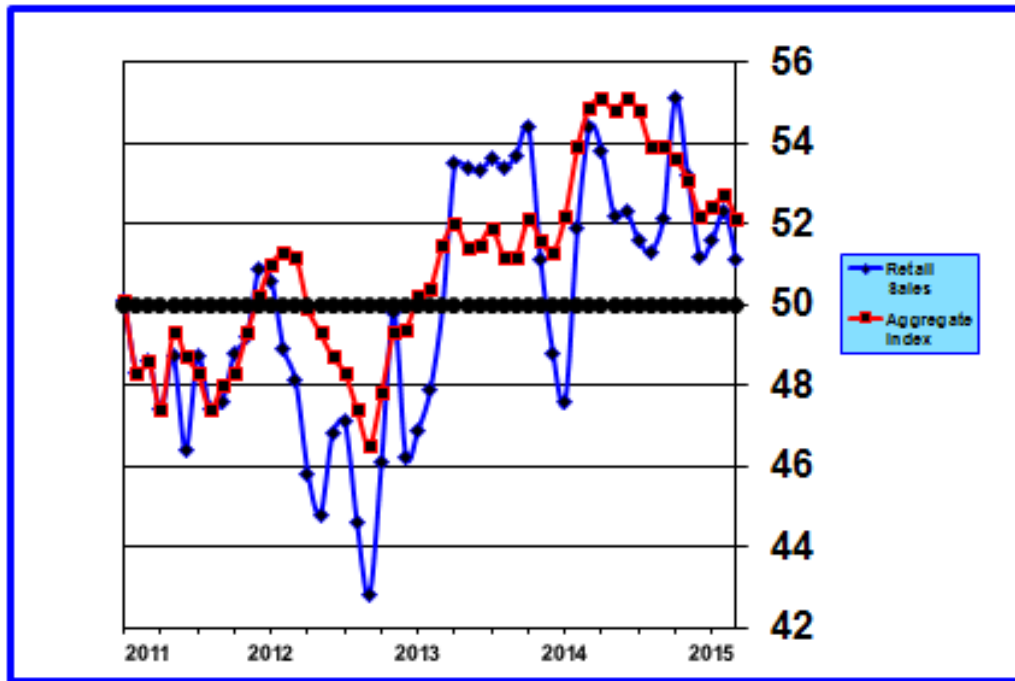
In the U.S. the major questions confronting policy makers is when to begin raising the federal funds rate and how fast to raise it. The answers depend upon the strength of labor market and inflation prospects. The employment market has improved considerably, but weaknesses in some measures, in particular wage rate growth, still persist. But the improvements, nonetheless, have been sufficient to warrant beginning to tighten monetary policy were it not for depressed inflation.

Fed watchers have pretty much concluded that the FOMC will not begin to raise interest rates until September and even that conviction is fraying. Speculation is rising that the date of the first rate increase will be pushed to later in 2015 or perhaps even to sometime in 2016.

1. Prospects for PCE Inflation

Core PCE inflation was 1.35 percent in March and total PCE inflation was -0.13 percent (see **Chart 21**). Compared to core PCE inflation, total PCE inflation is much more volatile and has been negative for short periods of time in the past. For that reason the FOMC prefers to focus policy deliberations on the core PCE inflation measure.

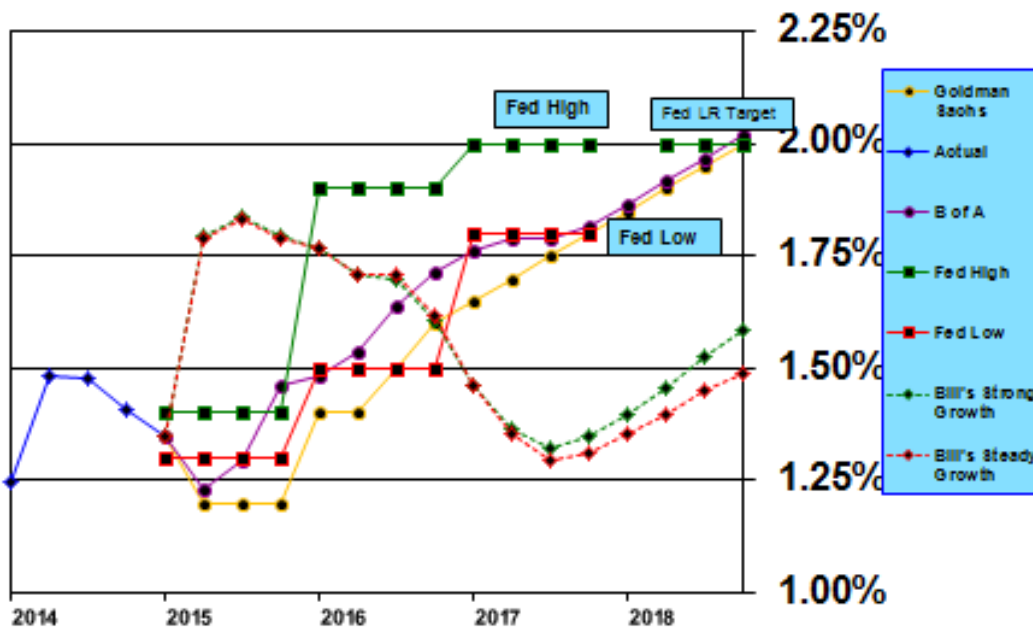
CHART 20 – Aggregate Index & Retail Sales (diffusion index)



Page 21

Source: ISI Company Surveys

CHART 21 – Core PCE Inflation Forecasts
(percentage change over previous 12 months)



Page 22

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

.As can be seen in **Table 9** (**Chart 21** 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 will change little during 2015. **GS** expects core PCE inflation to bottom out at 1.2 percent by the end of 2015 and then begin a very gradual rise, reaching 2.0 percent sometime during 2018. **B of A** does not expect core PCE inflation to fall quite as low but agrees with **GS's** forecast that core PCE inflation will not reach a 2.0 percent target until 2018. FOMC member projections also anticipate a gradual rise.

Risks of downward pressure on core PCE inflation relative to the forecasts and projections outweigh risks of upward pressure. The collapse in oil prices is contributing to downward pressure. The strong dollar will contribute further to downward pressure on inflation through lower import prices.

Table 9
Core PCE Inflation Forecasts — B of A, GS, Bill's "Steady Growth", Bill's "Strong Growth" and FOMC High and Low

Core CPE	2013	2014	2015	2016	2017	2018
B of A	1.3	1.4	1.5	1.7	1.8	2.0
GS	1.3	1.4	1.2	1.6	1.8	2.0
Global Insight (CPI)		1.6	-0.2	2.0	2.5	2.6
Economy.com (CPI)		1.6	0.4	2.6	2.7	
Blue Chip (CPI)		1.6	0.2	2.2	2.3	2.4
Bill's Steady Growth	1.3	1.4	1.8	1.6	1.3	1.5
Bill's Strong Growth	1.3	1.4	1.8	1.6	1.35	1.6
FOMC — High			1.4	1.9	2.0	
FOMC — Low			1.3	1.5	1.8	

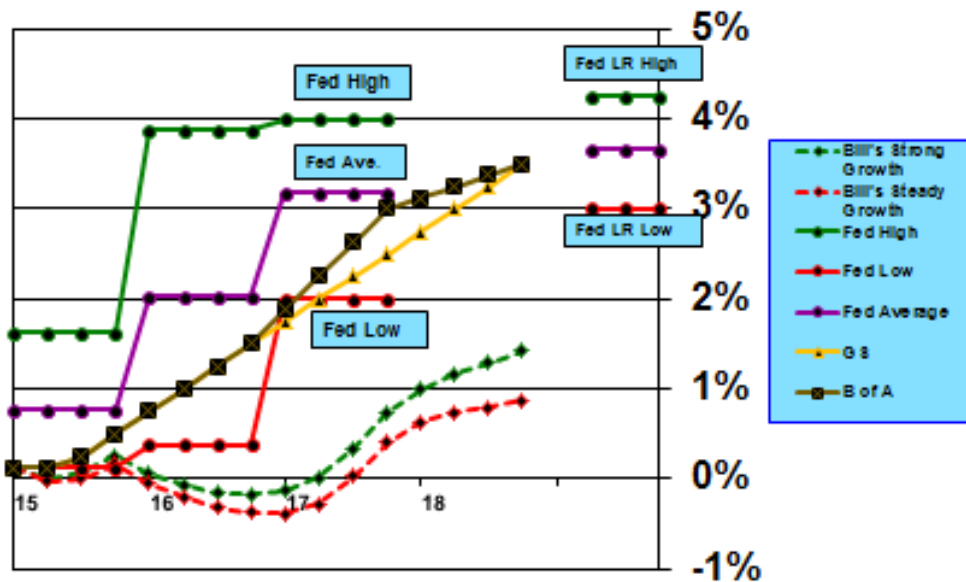
Although there was an expectation in the immediate aftermath of the plunge in commodity prices that real global GDP growth would benefit during 2015 as spending power was transferred to countries and consumers with a higher propensity to spend, this outcome has not materialized. Indeed, expected global real GDP growth has been scaled back from 3.7 percent to 3.2 percent.

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

2. Federal Funds Rate

Chart 22 shows the FOMC’s central tendency range for high and low projections for the federal funds rate for 2015, 2016, and 2017. The purple line (circles) is the average of projections for the 19 FOMC members (7 governors and 12 presidents — note that there are two vacancies on the Board of Governors currently which means the dots reflect only 17 participants). The projections imply that the first increase in the federal funds rate will take place sometime during 2015.

CHART 22 – Federal Funds Rate Forecast



Both **B of A** and **GS** expect the first federal funds rate increase will occur at the September 2015 meeting of the FOMC, although neither is strongly committed to that date.

But, the FOMC is not on a pre-ordained schedule. It has said time and again and Chair Yellen has emphasized repeatedly that the decision to raise interest rates is data dependent. This means that the first increase could occur even later than the September meeting if economic activity remains moderate and inflation falls more than expected.

The FOMC has a dual mandate — to achieve full employment and maintain stable prices. While the FOMC has no explicit employment goal, the CBO’s long-term U-3 full-employment potential unemployment rate of 5.38 percent serves as an imperfect proxy. Currently, the U-3 unemployment rate is 5.44 percent which implies that the FOMC is closing in on its full-employment mandate. However, as discussed above, other employment market measures indicate that considerable slack remains in the employment market. Until these other measures improve further the FOMC’s “data dependent” language gives it flexibility to delay a rate increase.

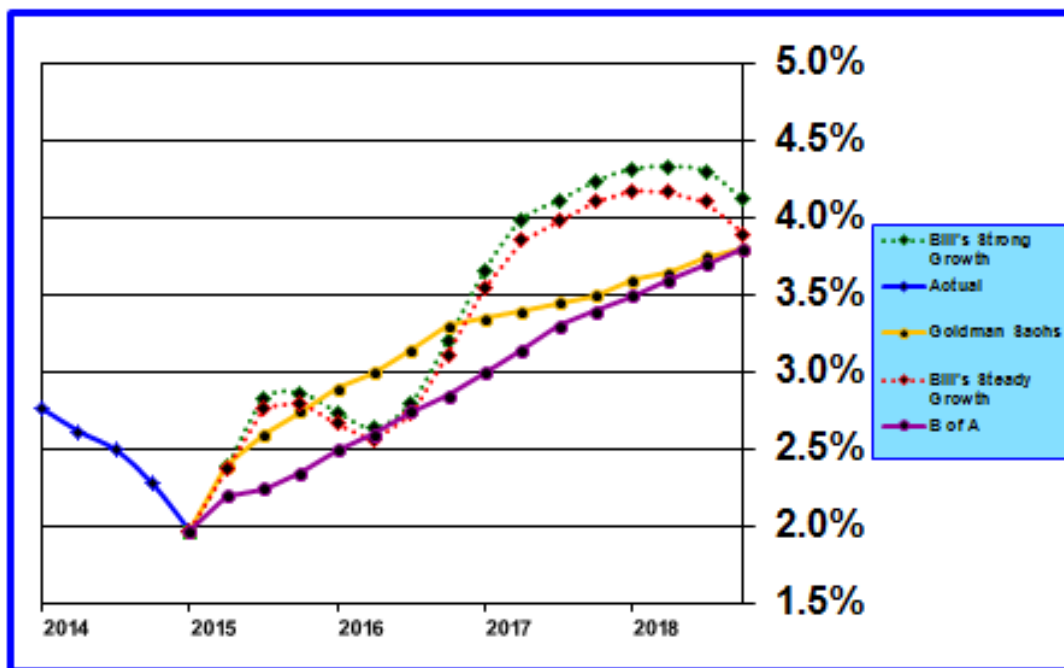
Inflation, or lack of it, is rapidly becoming the more important policy mandate. Core PCE inflation has persistently been below the FOMC’s explicitly stated 2.0 percent objective. While FOMC members have been steadfastly optimistic that core PCE inflation will return to 2.0 percent within a couple of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

My “*Steady Growth*” and “*Strong Growth*” forecasts are shown by the red dashed line (diamonds) and green dashed line (diamonds). My “*Steady Growth*” forecast indicates that the federal funds rate could rise a bit in late 2015 but further rate increases could be delayed until 2017 or later, which is inconsistent with FOMC guidance. In my “*Strong Growth*” forecast, the first increase in the federal funds rate occurs in late 2015 but there is little pressure to move it up rapidly.

3. 10-Year Treasury Rate

Chart 23 shows forecasts for the 10-year Treasury rate for my “*Steady Growth*” (red dashed line and diamonds) and “*Strong Growth*” (green dashed line and diamonds) scenarios. **GS’s** forecast (yellow line and circles) and **B of A’s** forecast (purple line and circles) are also shown.

CHART 23 – 10-Year Treasury Rate Forecasts



Page 24

As of May 20, the 10-year Treasury yield was 2.26 percent, up slightly from 2.17 percent at the beginning of 2015. Forecasts of the 10-year rate by the end of 2015 have been edging down and now range from 2.35 percent (**B of A**) to 2.75 percent (**GS**). the forecasts for my scenarios are just slightly above **GS’s** forecast.

The increased value of the dollar and very low long-term rates in Europe and Japan will continue in coming months to put a lid on long-term U.S. interest rates. All of these forecasts assume anchored inflation expectations. A step down in inflation expectations tends to have self-fulfilling behavioral consequences. Persistently low inflation, if that develops, would translate into lower inflation expectations eventually and that development result in lower long-term interest rates than those forecast in **Chart 23**.

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

Long-term rates can also be depressed by an intentional quantitative easing bond buying policy by a central bank. Quantitative easing usually results in depressing the value of a country’s currency. That has been an intentional part of Japan’s Abenomics. It is also an intentional result of the ECB’s aggressive quantitative easing bond buying program.

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

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

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

So what should the 10-year rate be today? If one simply adds the real rate of return to an expected inflation rate and ignores the nuances of all the other factors that influence long-term rates, the rate should be about 3.0 percent, assuming expected inflation is 1.5 percent and the real rate of return is 1.5 percent. That is why most conventional forecasts expect the 10-year rate to be between 2.75 percent and 3.00 percent within the next year. A current 10-year Treasury rate of 2.26 percent barely covers inflation and leaves little real return. Inflation would have to drop a lot from a 1.5 percent level to justify today’s rate and provide an acceptable real rate of return. Either the recent level of rates is the result of temporary factors and rates will soon return to a higher level or today’s low rates reflect forces afoot that are not transitory and which will have significant consequences.

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

VI. Fiscal Policy Developments

Federal tax revenues have been a little better than expected, which could push the fiscal year 2015 federal budget deficit below CBO's forecast of \$486 billion or approximately 2.7 percent of nominal GDP. Stronger revenues can be traced to capital gains realized in 2014, primarily a consequence of monetary policy's impact on inflating financial asset prices. Other favorable factors include growing corporate profits, some residual benefits of tax changes enacted in 2013, and the impact of progressive tax rates as individual incomes rise.

1. Congressional Dètente — At Least on Some Fiscal Policy Matters

We have entered the last two years of the Obama presidency with Republicans in control of both the House and Senate. Rather than gridlock what has emerged is a willingness of the Republican Congress to work and negotiate with President Obama and Democrats with the result that significant legislation has already been passed and other significant legislative matters are under serious consideration. What has happened is that a majority of centrist Republicans and Democrats has emerged that has proved willing to negotiate compromise legislation. The extreme right fringes of the Republican Party (tea party Republicans) and the left fringes of the Democratic Party have been marginalized and are not currently having significant impacts on legislation.

Public concern about deficits has been waning which has opened the door to some budget deals that don't have matching funding offsets. This is was the case for the doc fix and may be the case for approving higher defense spending above existing sequestration limits and for dealing with tax extenders when they come up for extension at the end of the year.

2. Key Fiscal Issues and Updates

- March 4 — Supreme Court heard arguments on Affordable Care Act subsidies; ruling will come before session ends in June (*The Supreme Court may invalidate the provision of the Affordable Care Act that provides subsidies for insurance purchased through federal exchanges. Invalidation is unlikely to have significant macroeconomic impact. But, it would require President Obama to negotiate Affordable Care Act reforms with Congress that would most likely go beyond resolving the subsidies issue. This most likely will happen in conjunction with budget reconciliation at the end of September and raising the risk of a potential government shutdown on October 1, 2015.*)
- March 16 — Federal debt ceiling reinstated at then current level of debt (*Tax revenues were stronger than expected in April which probably delays the date when the debt ceiling becomes binding until November or December. Neither party is enthusiastic about messing with the debt ceiling. Thus, it seems likely that when time runs out later this year Congress will suspend the debt ceiling until some future date, probably following the 2016 presidential election.*)
- March 31 — Medicare “doc fix” expired (*The centrist Republican-Democratic coalition negotiated a compromise that resolved this issue, which had been changed temporarily 17 times since 1997. The permanent fix replaced the sustainable growth rate formula with one that better compensates doctors and will keep pace with changes in medical costs. Democrats agreed to the permanent fix in exchange for a short-term extension of the Children's Health Insurance Program. Importantly, Congress ignored the pay-go requirement so that not all of estimated cost of \$213 billion over the next ten years will be offset by increased revenues or other spending reductions. Not surprisingly, congressional anxiety about increased budget deficits has abated as public interest has waned.*)

- April — Fiscal Year 2016 budget resolution — (For the first time in many years both houses of Congress passed a budget resolution which sets overall spending limits and provides policy guidance. Notably, the budget resolution provides for \$30 billion in additional defense spending above the budget caps established in the Budget Control Act. The resolution also directs repeal and replacement of the Affordable Care Act. The next step is for Congress to adopt a series of appropriations bills, which require 60 votes in the Senate, that implement the guidance contained in the budget resolution and to pass a budget reconciliation bill, which requires only 51 votes in the Senate. These steps will probably be accomplished just prior to the start of the new fiscal year on October 1, 2015. However, Senate Democrats say they will oppose any appropriation bills that do not boost non-defense spending. This raises the possibility of impasse and potential shutdown of the government on October 1, 2015. However, the more likely outcome is some kind of a deal that gains sufficient support from Senate Democrats to reach the 60 necessary vote total.)
- May — Highway Trust Fund depleted (Both parties want to fund the highway trust fund on a long-term basis; however, no agreement exists with respect to a funding source; President Obama wants to use repatriation of foreign earnings as a source, but Republicans are firm that repatriation must be linked to corporate tax reform. At this juncture Congress intends to provide temporary funding until July. Further temporary funding extensions seem probable until comprehensive tax reform is enacted.)
- May 31 — Highway legislation expires (This legislation will be extended but it is linked to the Highway Trust Fund, which means it will be renewed for short time periods until the larger issue of tax reform is addressed.)
- June 30 — Export-Import Bank charter expires (While extension is likely because a bipartisan majority in Congress supports the bank, it is not guaranteed. House Financial Services Committee Chairman, Jeb Hensarling, and House Ways and Means Committee Chairman, Paul Ryan, oppose re-chartering the bank.)
- October 1 — Spending authority expires requiring either a continuing resolution or appropriation legislation; next phase of budget sequester kicks in (House and Senate Budget Committees passed fiscal year 2016 budget proposals; the proposals boost military spending above sequestration caps. Congress needs to adopt detailed appropriation bills that implement the intent of the budget resolution prior to the start of the next fiscal year on October 1, 2015.)
- December 31 — Tax extenders — latest date for renewal for calendar year 2015
- Late 2016 — Social Security Disability Insurance Trust Fund becomes insolvent

3. Trade

At long last trade legislation is moving and the prospects are favorable for several bills to become law.

Most important is passage of Trade Promotion Authority which would define in considerable detail guidelines the Administration must meet in negotiating trade treaties with foreign countries. Importantly, the legislation requires Congress to approve without amendment or disapprove trade treaties within 60 days of submission. Its passage, which is still pending, would set the stage for completing negotiation of the Trans-Pacific Partnership, intended to increase U.S. trade with Asian nations, and the Trans-Atlantic Trade and Investment Partnership, which has a similar objective with respect to European countries.

Because of the 60-vote super majority requirement, ultimate enactment of legislation depends upon the support of a sufficient number of Democratic Senators. On May 14, the Senate passed by a vote of 78-20 the customs/enforcement bill that addresses currency manipulation in the Trans-Pacific Partnership and other future trade deals. The Senate also passed an extension of the African Growth and Opportunity Act legislation which facilitates trade and eliminates investment barriers with sub-Saharan Africa and two companion trade bills dealing with Haiti, and other developing countries. Passage of these four bills was key to gaining Democratic Senator support for Trade Promotion Authority legislation. The House is expected to pass all four bills during June. The stage is now set for bi-partisan support of Trade Promotion Authority and Trade Adjustment Assistance legislation, which are expected to become law within the next month. The Senate voted 62-38 on May 21 to shut off debate. Senate passage is now expected to occur on May 22.

4. Tax Reform

The probability of significant tax reform legislation being enacted by late 2015 or early 2016 is rising. That is because serious proposals are under development in the Senate and also because of the recent détente between centrist elements of Republicans and Democrats in both houses of Congress. Whether this is a reasonable expectation or not should become clear by June and will depend upon whether Senate Finance Committee Democrats decide to support Senator Hatch's tax reform legislation. Currently, Senate Finance Committee Republicans and Democrats are working in several bipartisan groups and that could lead to a bipartisan consensus to support comprehensive tax reform.

In response to President Obama's proposal that the highway trust fund be financed through repatriation of approximately \$2 trillion in U.S. corporate foreign earnings, House Republican Majority Leader McCarthy recently said: "I see a path to a long highway bill that lines up at the same time [as tax reform] — has to be at the end of the year — because if you want repatriation, you gotta have tax reform to do repatriation, do you not" ... [T]hat's a big chunk of money that can get you funding for highways. That's why if those two lined up in that matter it makes a path to be able to accomplish it."

Key to timing of tax reform is whether Senate Democrats decide to support reform in the Senate Finance Committee. If they do, passage of reform is likely to occur over the next few months. But, if they do not, consideration of tax reform will be deferred until 2017.

VII. Greece's Fiscal and Economic Crisis Continues to Unfold Very Slowly

Well, a month has passed since I provided detailed commentary about the gamesmanship surrounding Greece's fiscal and economic crisis (see *April Longbrake Letter*). No substantive solutions to the crisis are yet in sight and the situation continues to deteriorate. As expected, both sides are engaged in delaying tactics dictated by political considerations. The ultimate and unavoidable solution is either substantial debt forgiveness or default. The Europeans, particularly the Germans, are unwilling even to discuss such a possibility. The Greek government is unable to play hardball because the majority of the Greek electorate want a solution that keeps Greece in the European Union (EU) and without the people's willingness to entertain the possibility of exit, the government has little credible negotiating power.

In the first quarter of 2015, Greece's economy, which has shrunk by a quarter since 2008, after stabilizing briefly in 2014, resumed its downhill slide. The economy contracted 0.2 percent. While that is a seemingly small amount, this new decline has been accompanied by an even larger decline in government tax revenues.

Making debt repayments out of government revenues is simply out of the question but that is what creditors continue to demand. Unfortunately, the ongoing stalemate provides no reason to be optimistic that the Greek economy will resume growing during the rest of 2015. So, the ability of the Greek government to meet creditors' obligations simply gets harder by the day.

Capital outflows continue at Greek banks but a full-scale banking crisis has been avoided by the European Central Bank's (ECB) willingness to raise the limit on emergency liquidity funds available to Greek banks on May 13 and raised it further on May 20. The situation is contained for now but is very fragile. A full scale banking crisis could erupt with enormous ferocity at the first hint that Greek default is more likely than not or if the ECB reneges on finding ways to provide sufficient liquidity funds to cover capital outflows from Greek banks.

To recap the situation, the current Greek bailout plan terminates on June 30, 2015. Under the plan, Greece is to receive € 7.2 billion additional euros which would be just sufficient to meet scheduled repayments to the ECB in July and August and the € 305 million owed to the IMF on June 5 and government worker wage and pension payments. On May 19 an EU Commission plan to prevent Greek default was leaked. It indicated that the remaining € 7.2 billion payment was contingent on the Greek parliament's cutting government expenditures by an additional € 5 billion. Included is insistence that Greece adopt significant labor and pension reforms, which is contrary to the ruling party's, Syriza, policy and commitment to Greek voters.

Prime Minister Alexis Tsipras after a long cabinet meeting on May 12 apparently backed off of talk about the possibility of early elections or a referendum on Greek membership in the EU. The calculus seems to be that Tsipras needs a "Yes" vote to exit to drive a hard bargain with the EU, but the likelihood of a "Yes" vote is low. It's a matter of the devil you know — EU membership — versus the devil you don't know — the trauma of working through the significant consequences of exiting the EU. It's easy for economists to observe that after an initial nasty period of adjustment following default and exit from the EU, and return of the drachma as Greece's currency, Greece would likely emerge in a stronger position. But it's hard for voters to see past the very obvious short-term difficulties that exit would bring. Besides, there are other reasons, such as Greece's historic relationship with Turkey, that influence Greek voters' preference to remain in the EU.

My sense is that Prime Minister Alexis Tsipras is intentionally stretching out negotiations with the euro group for as long as possible for two reasons. The first reason is obvious. If he caves in too soon to creditor demands for labor and pension reforms, he will split Syriza. He might survive as prime minister by assembling a new coalition that includes members of the discredited centrist parties. Second, if he takes too hard a stance too soon with creditors he risks Greece being forced into default before the Greek electorate is ready to accept the consequences. This, too, would have negative political consequences for Tsipras and Syriza.

Scrapping together enough funds to pay the next debt payment due on June 5 and pay a month's worth of wages and pensions by ordering state entities to transfer cash balances to the Greek central bank is consistent with a strategy to stretch out negotiations as long as possible. To preserve his governing coalition and put maximum pressure on creditors he needs to convince the Greek electorate that creditors are being unreasonable and that the alternative of exit from the EU is less dire than the consequences of acceding to the requirements of the creditors.

This process of brinksmanship could go on for several more months, although the current bailout program expires on June 30 and a new one will need to be negotiated. Creditors rightly fear the consequences of Greece's potential exit from the euro and the EU but not so much so yet that they are willing to concede

much.

So, my overall sense is that the crisis will continue to lurch on with both parties letting it extend by making inconsequential concessions. But, because there are few such concessions remaining this process cannot extend for very long.

Because I see no hope for the EU to cure its fundamental flaws and I am doubtful that Germany can overcome its own political constraints, my sense is that ultimate resolution involves Greece's exit from the euro and perhaps the EU as well. If and when this event occurs, what else it leads to is uncertain, but what I can say confidently is that the risks are extremely high.

VIII. UK Election Surprise — Challenges Ahead

David Cameron and the Tories won the U.K. parliamentary election outright. The pollsters weren't even close. The financial markets are sanguine. Seems like a good result — no hung parliament; no messy coalitions. Actually, the conclusion of many analysts is quite the contrary. It is not a good result at all and increases considerably the centrifugal forces that are in the process of tearing the United Kingdom apart and setting it on a course that may result in exit from the EU.

Although the Tories now have a parliamentary majority, that majority is narrower than what the Conservative/Liberal Democratic coalition had in the previous parliament. What that means is that Cameron is more likely to be held hostage by a few renegade Tory members. Just as the Republicans have had to contend with Tea Party Republicans in the House of Representatives, there is also a contingent of extreme right Conservatives who are apoplectic about exiting the EU. The United Kingdom Independence Party's (UKIP) main policy objective is exit from the EU. It polled 14 percent of the total vote in the election but gained only one seat in parliament because of the U.K.'s "first past the post" election rule. Nonetheless, even though UKIP has little outright voice in parliament it will still be a powerful force to be reckoned with when a referendum is held on EU membership.

Cameron was able to contain the Euroskeptic part of his party in the previous parliament because the Liberal Democrats are strong supporters of EU membership. Part of Cameron's containment strategy involved the gambit of promising a voter referendum on EU membership by 2017. It also served the purpose of gaining negotiating leverage with the EU. Now, he no longer has the Liberal Democrats to balance off the Euroskeptics and has no choice but to proceed with holding a referendum as promised.

EU membership brings with it many economic benefits for the U.K. economy, particularly financial institutions, as many international businesses coordinate their engagement in EU markets through British institutions. Thus, on balance U.K. departure from the EU would not be helpful for the British economy. Nonetheless, a referendum will be held. It seems likely that the timing will be advanced to some time during 2016 for two reasons. First, while far from certain, the referendum could fail. However, analysts believe that as time passes the probability of a favorable vote will increase. Second, the possibility of exit will cause international businesses to put further U.K. investment activity on hold pending the outcome. This will be harmful to economic growth in the U.K. and the damage will accumulate the longer the interval is prior to the referendum.

Then there is the issue of Scottish independence. Scots defeated an independence referendum last year by a 55-45 margin. However, the Scottish National Party (SNP) swept 56 of the 59 Scottish parliamentary seats. The SNP is committed to independence. It is also committed to EU membership. The Scottish economy is heavily dependent on the price of oil and with the recent plunge in oil prices Scotland is in no

position economically to fare well as an independent nation. SNP understands this and will not press hard right away for independence but instead will seek further devolution of powers to the Scottish parliament. However, economic realities could be trumped by political considerations if the U.K. ends up voting to exit the EU.

And, then there are the austerity economic policies that the Tories have championed for the last five years. Cameron will surely interpret the election outcome as voter endorsement of those policies and will continue them. That will be unfortunate and will relegate the U.K. to slow growth and dismal improvement in real incomes in coming years.

From an economics analytical perspective there is strong evidence that austerity, coupled with loose monetary policy, depresses capital investment in productive assets. This translates, over time, into lower productivity growth and greater income and wealth inequality. Both of these outcomes are fully evident in the U.K. However, over the last two years the U.K. economy has grown at a faster rate than the EU and the U.S. This has been touted as vindication for the implementation of austerity policies from 2009 to 2012. Cynics are quick to point out that Chancellor of the Exchequer George Osborne's budget two years ago was intentionally designed to push up housing prices and wealth. And it worked as intended to boost economic growth. But it was not sustainable growth based on investment in productive capacity but growth based on asset price speculation. This is the stuff of bubbles and bubbles burst. Unfortunately, the U.K. economy appears to meet to a "T" Lawrence Summer's description of secular stagnation: low growth, tepid productivity, punctuated by periodic bursts of economic activity that are driven by price bubbles.

Stay tuned, but if the secular stagnation story fits the U.K., the 3.0 percent real economic growth, which has already declined to 2.4 percent, will become only a memory shortly. Low productivity and increasing inequality, which have characterized the U.K. economy throughout the last five years, will continue unabated, but will probably be accompanied by much slower real GDP growth.

In summary, the decline of the U.K. as an economic and political power, which has been underway since the end of World War II, is now at the threshold of a new stage which may result in its disintegration.

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

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

1. U.S.

- **2015 real GDP Y/Y** growth projections range from 2.7% to 3.5%. The FOMC’s central tendency Q4/Q4 projections range from 2.6% to 3.0%. (Q4/Q4 projections are highly dependent upon potential anomalies in Q4 data; therefore, Y/Y estimates, which average all four quarters, are more stable estimates.) Because the substantial decline in oil prices is likely to boost consumption growth more than it depresses investment growth, actual 2015 real GDP growth is likely to be at the high end of the forecast range.
 - *The Federal Reserve lowered its GDP forecast range to 2.3% to 2.7%;*
 - *Other forecasts are now well below the lower end of the original forecast range: GS = 2.4%; B of A = 2.4%; Bill’s Steady scenario = 2.4%; Bill’s Strong scenario = 2.5%*
- **Real GDP output gap** will remain high, but will close rapidly during 2015 from about 3.4% to 2.0%. (The exact size of the output gap will be revised by CBO, probably in February 2015).
 - + *CBO revised the output gap down by 1.1 percentage points in February; output gap should decline to between 1.4% and 1.1% by the end of 2015*
- **Potential structural rate of real GDP growth** has declined significantly in recent years. I expect potential growth to be about 2.0% in 2014. Long-term potential real GDP growth will edge up in coming years to between 2.0% and 2.3%.
 - + *CBO reduced 2015 potential growth from 1.8% to 1.7%*
 - *Potential growth for my scenarios for 2015 is 1.3%*
 - + *Long-run potential growth for my scenarios is between 2.0% and 2.2%; it is between 2.0% and 2.2% for the Federal Reserve; and it is 2.1% for CBO*
- **Productivity** should rise during 2015 as growth improves and investment increases, but should still fall well short of the historical 2.1% average.
 - + *Nonfarm productivity declined 1.9% in the first quarter of 2015, but the four-quarter change in productivity rose from -0.1% in 2014 to 0.6% in the first quarter of 2015*
- **Employment** growth should slow during 2015 as full employment approaches and grow about 185,000 per month.
 - + *Payroll growth has averaged 194,000 over the first four months of 2015*
- **Employment participation** will rise slightly during 2015 as the unemployment rate falls, labor market conditions tighten and discouraged workers find jobs. These cyclical factors will more than offset the downward pressure on the participation rate stemming from an aging population.
 - + *The participation ratio has not changed; it was 62.70% in December and 62.76% in April*

- **Unemployment rate** should edge down to about 5.25%. A higher rate could occur if substantial numbers of discouraged workers re-enter the labor force.
 - + *The unemployment rate has fallen from 5.56% in December to 5.44% in April*
- **Nominal consumer disposable income**, measured on a Y/Y basis will rise about 3.2% (roughly 1.2% increase in hours worked; 1.8% increase in CPI inflation and .2% increase in the hourly wage rate).
 - *12-month rate of change is 4.0% through March; total hours worked are growing at a 2.2% annual rate*
- **Nominal consumer spending growth** on the Y/Y basis will grow slightly faster at approximately 3.5%, but could grow slightly faster if low oil prices persist.
 - ? *12-month rate of change is 3.9% through March*
- **Household personal saving rate** will decline slightly as growth in spending exceeds growth in disposable income.
 - *Saving rate averaged 5.5% over the first three months of 2015 compared to 4.8% in 2014; consumers are not yet spending the oil price decline windfall*
- **Stock prices**, as measured by the S&P 500 average, should rise between 0% and 5%.
 - + *Through May 19, stock prices were up 3.3%*
- **Manufacturing** growth will continue to be relatively strong and the PMI index will exceed 50.
 - + *The ISM manufacturing index has softened since the beginning of the year but was still at an expansionary level of 51.5 in April*
- **Business investment** spending growth should remain relatively strong in a range of 4% to 6% as employment and consumer spending growth gathering momentum; however, low oil prices will depress energy investment.
 - *Business investment declined at an annual rate of 3.4% in Q1 as energy capital investment plunged; forecasts for 2015 have been lowered to a range of 2% to 3%*
- **Residential housing investment** should improve over 2014's disappointing level by 8% to 10%; residential housing starts should rise 15% to 20%.
 - *Residential investment grew at an annual rate of only 1.3% in Q1; forecasts for 2015 have been lowered to a range of 3% to 7%*
 - *Over the first four months of 2015 total housing starts were 1.4% above and single-family housing starts were 3.1% above the 2014 level*
- **Residential housing prices** should rise about 2% to 4% in 2015, more slowly than 2014's projected 4.5% increase.
 - ? *Housing price data for 2015 are not yet available; housing prices rose 6.4% in 2014 according to the Federal Housing Finance Agency and 6.6% according to the S&P Case/Shiller Index*
- **Trade deficit** should be slightly higher in 2015 as economic growth improves growth in imports and the rising value of the dollar depresses growth in exports. The **dollar's value** on a trade-weighted basis should continue to rise.
 - + *The trade deficit for goods edged up slightly from 2.85% in December to 2.89% in March*
 - + *The trade weighted value of the dollar rose 7.9% from December through April and is 19.0% higher than April 2014*

- **Monetary policy** — the Federal Reserve will raise the federal funds rate at its June, or possibly, September 2015 meeting. Because inflation is likely to continue to fall short of the Federal Reserve's expectations, the pace of increases in the federal funds rate is likely to be slow.
 - + *Most expect the first increase in the Federal Funds rate to occur in September, although recent weaker data reports could delay the first increase to an even later date; FOMC members lowered projections for the level of the Federal Funds rate in the future*
- **Total inflation** measures (CPI and CPE) will fall sharply during the first half of 2015, reflecting the significant decline in oil prices. **Core PCE inflation** will be stable to slightly lower in a range of 1.3% to 1.5%, reflecting global disinflationary trends. Core PCE inflation will remain well below the FOMC's 2% objective at least through 2017.
 - + *Total CPE was down -0.1% in March compared to March 2014 and is projected to decline -0.4% by June and rise 0.8% for all of 2015*
 - + *The annual rate of change in core PCE was 1.35% in March and should dip to 1.25% by June before ending the year at 1.45%*
- The **10-year Treasury rate** is likely to fluctuate in a range between 2.0% and 3.0% in 2015. Faster than expected real GDP employment growth will push the rate toward the top end of the range; greater than expected declines in inflation and/or heightened financial instability will push the rate toward the bottom end of the range.
 - + *The 10-year Treasury rate was 2.27% on May 19; because of low rates globally and aggressive quantitative easing by the European Central Bank and the Bank of Japan, the 10-year Treasury rate is likely to remain near the lower end of the 2.0% to 3.0% range during 2015*
- **Fiscal policy** will have limited impact on real GDP growth during both fiscal year and calendar year 2015. The deficit as a percentage of nominal GDP will probably decline from fiscal year 2014's level of 2.75% to 2.50%. The decline could be greater if economic growth and tax revenues exceed expectations or less if Congress increases spending without offsets as it did in approving the tax extenders bill for 2014.
 - + *The 2015 fiscal year deficit is on track to match 2014's deficit of 2.75% based on a recent small increase in CBO's estimate of the expected 2015 deficit; the 12-month deficit through April was 2.57%*
- **State and Local investment** spending growth rises slightly from 0.5% in 2014 to 1.0% in 2015, which is still well below the long-term average of approximately 1.4%.
 - *State and local investment declined at an annual rate of -1.5% in Q1; forecasts for all of 2015 have been revised down to a range of 0.4% to 0.6%*

2. Rest of the World

- **Global growth** is likely to improve to 3.7% in 2015 from 3.2% in 2014. Risks are tilted to the upside because of the substantial decline in oil prices.
 - *Global growth forecast has been lowered further to 3.2%; improvement in Europe has been more than offset by slower growth in China and the U.S.*
- **European growth** will be positive but will be likely to fall short of the consensus 1.2%.
 - *Europe's growth forecast has been raised to 1.6%*
- **European inflation** will continue to decline and may even turn into outright deflation. Quantitative easing, assuming it occurs, may be too late and have too limited an impact to deflect emerging deflationary expectations. Europe may well be headed to the kind of deflationary trap Japan has been in for the last 20 years.

+ Consumer prices in Europe are expected to be unchanged during 2015

- **European financial markets** may face renewed turmoil. Markets expect the ECB to begin purchasing large amounts of securities, including sovereign debt, by March. This presumes that legal hurdles and German opposition will be overcome. Assuming that quantitative easing actually occurs, its impact is likely to disappoint.

- The ECB has embarked upon a massive quantitative easing program; there has been some recent market turbulence as speculative positions, which had driven interest down to nearly zero were unwound; credit and financial conditions have eased; the decline in oil prices and the exchange value of the euro are also helping boost growth to a higher than expected rate

- **European political dysfunction, populism and nationalism** will continue to worsen gradually. Countries to watch include the U.K., Greece, Spain, Italy and Portugal.

+ Centrists lost the Greek election; the National Front party is gaining ground in France; centrist parties are likely to lose the Spanish elections scheduled for late 2015; the Conservative Party won an outright majority in the UK parliamentary elections but political fragmentation grew as the Scottish National Party won 56 seats

- **U.K. growth** is expected to slow from 3.0% in 2014 to 2.6% in 2015; however, political turmoil, should the May parliamentary elections be inconclusive, could drive growth lower.

? Expected 2015 real GDP growth has been revised down to 2.3%

- **China's GDP growth** will slow below 7% and gradually moved toward 6% as economic reforms are implemented and the shift to a consumer-focused economy gathers momentum.

+ Year over year growth in the first quarter of 2015 was 7.0% but annualized first quarter growth was 5.3%

- **China's leadership** will focus on implementing **economic reforms** and will overcome resistance and maintain stability.

+ Chinese reform policies are being implemented slowly; the anti-corruption campaign continues and has had a chilling impact on speculation in commodities

- **Japan's** economic policies may be successful in defeating deflation, but GDP growth will be hard pressed to achieve the expected 1.6% rate in 2015 if Abenomics' third arrow of economic reforms fails to raise the level of potential growth sufficiently to overcome the effect of negative population growth on labor force growth.

+ Japanese expected growth has been lowered to 1.1%; the Bank of Japan is likely to fall short of its goal to raise inflation to 2.0% inflation expectations currently are about 0.8%

- **India** should experience an improvement in real GDP growth to 6.3% in 2015.

? Too early to determine

- **Emerging market countries** that are energy consumers will experience greater growth, as long as the U.S. does better in 2015; energy producing countries and those heavily dependent upon commodities exports for growth will do less well.

? Preliminary data indicates that slower growth in China, Japan and the U.S. is dragging down growth in emerging markets

3. **Risks** — stated in the negative, but each risk could go in a positive direction.

- **U.S. potential real GDP growth** falls short of expectations

+ Q1 GDP and forecast revisions for all of 2015 indicate this risk will be realized

- **U.S. employment growth** is slower than expected; the **participation rate** is stable or declines rather than rising modestly
 - ? *Participation rate has been stable; employment growth only slightly above expected level through the first four months of 2015*
- **U.S. hourly wage rate growth** does not rise materially over its 2014 level of 2.1%
 - + *Through April this risk is being realized — wage growth remains unchanged at 2.1%*
- **U.S. unemployment rate** falls less than expected
 - *Through April the unemployment rate remains within the expected range*
- **U.S. productivity** remains low in the vicinity of 1%
 - ? *Q1 productivity was -1.9% and is up only 0.6% over the last 12 months*
- **Real U.S. consumer income and spending** increase less than expected
 - *Data for Q1 suggest that consumer disposable income and spending may rise more than expected*
- **U.S. financial asset prices** rise more than expected posing increased bubble risks
 - + *Bond prices have risen somewhat more than expected*
 - *The increase in stock prices is within the expected range*
- **Growth in U.S. residential housing investment and housing starts** is less than expected
 - + *Housing starts and residential investment are well below expectations*
- **U.S. residential housing price increases** slow more than expected
 - *Preliminary evidence suggests that home prices may rise more than expected*
- **U.S. private business investment** does not improve as much as expected
 - + *Private business investment fell at an annual rate of -2.5% in Q1; forecasts for all of 2015 have been revised down*
- **Oil price declines** in the U.S. trigger bankruptcies and cause tight financial conditions with negative implications for economic activity and growth
 - *There is no evidence yet of significant disruptions stemming from the fall in oil prices*
- **U.S. manufacturing growth** slows as the value of the dollar rises and global growth slows
 - + *ISM manufacturing index remains above 50 but is softening*
- **U.S. trade deficit** widens and the **value of the dollar** rises more than expected
 - + *The value of the dollar has risen more than expected*
 - *The trade deficit has widened slightly*
- **U.S. monetary policy** spawns financial market uncertainty and contributes to financial instability
 - *Volatility has increased somewhat but there is no indication of financial instability; however, worries are growing*
- **U.S. inflation** falls, rather than rising, and threatens deflation
 - ? *Total PCE inflation is falling, but core PCE inflation is relatively stable and positive; deflation is not a threat*
- **U.S. interest rates** fall or rise more than expected
 - + *Long-term interest rates have fallen more than expected*
- **U.S. fiscal policy** is more restrictive than expected and the **budget deficit** falls more than expected

- *This risk has not materialized; recent legislation will probably put modest upward pressure on the deficit*
- **U.S. state and local spending** does not rise as fast as expected
 - + *State and local spending fell at an annual rate of -1.5% in Q1; forecast growth has been revised lower for all of 2015*
- **Global GDP growth** does not rise as fast as expected
 - + *The global GDP growth forecast has been reduced from 3.7% to 3.2%*
- **Europe** slips back into recession
 - *Growth is improving in Europe because of the decline in the value of the euro, easier financial and credit conditions, and less fiscal drag*
- **ECB** does not engage in quantitative easing or the quantitative easing program it decides to pursue lacks market credibility
 - *This risk will not materialize because the ECB has initiated a massive quantitative easing program*
- **Europe** — financial market turmoil reemerges
 - *Speculation drove interest rates on long-term bonds too low and was followed by a short but relatively violent correction; however, this turmoil was short-lived*
- **Europe** — political instability and social unrest rises more than expected threatening survival of the Eurozone and the European Union
 - ? *Political fragmentation is building slowly but does not yet threaten the survival of the Eurozone and the European Union*
- **Acute political turmoil** engulfs the **U.K.**
 - *The Conservative Party won an outright parliamentary majority; however, political fragmentation is increasing slowly*
- **Chinese** leaders have difficulty implementing **economic reforms**
 - *This risk has not materialized*
- **China's growth** slows more than expected
 - + *While year over year growth in the first quarter was 7.0%, the annualized rate of growth in last year's fourth quarter and the first quarter of this year have been well short of 7.0%*
- **Japan** — markets lose faith in Abenomics
 - *This risk has not materialized; however, both real growth and inflation are less than expected*
- Severe and, of course, unexpected **natural disasters** occur, which negatively impact global growth
 - *This risk has not materialized*

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